Study Report

SR434 [2020]

Creating improved housing outcomes: Liveable medium-density housing residents' survey

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Abstract

Medium-density housing (MDH) is an increasingly common housing typology as New Zealand's towns and cities respond to growth challenges, yet little is known about the success or otherwise of past and present MDH developments. Specifically, opportunities exist to better understand the degree of liveability being achieved by MDH developments and how this contributes to the wellbeing of residents, neighbours and wider communities.

This report describes the findings of a nationwide survey of 500 current MDH residents. Findings are intended to inform the building and construction industry, developers and policy makers at the national and local levels, enabling the settings necessary to design and deliver liveable MDH.

Keywords

Medium-density housing, MDH, liveability, dwelling liveability, neighbourhood liveability, urban liveability, post-occupancy evaluation, liveable cities.

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Executive summary

This report presents the findings of the fourth of five research reports (Allen & O'Donnell, 2020a, 2020b, 2020c, 2020d) commissioned by BRANZ to understand the degree of liveability currently being achieved by medium-density housing (MDH) developments across New Zealand. These reports also identify how the liveability of MDH could be improved. Specifically, this report describes the findings of a nationwide survey of 500 MDH residents to understand their experiences and opinions of day-to-day living. Key insights from the survey of MDH residents can be summarised as follows:

Insight 1: Those MDH residents who defined liveability considered it to mean 'the ease of living in a place'

The majority of survey respondents defined liveability as 'the ease of living in a place', connecting convenience and ease of living with an innate place-based understanding of liveability. A large number of respondents, however, indicated that they did not know or were not sure about what liveability meant. It would be interesting to explore this divergence further to understand what factors may contribute to inconsistency between MDH residents regarding what liveability is and what it means to them.

Insight 2: Dwelling liveability is important but so too is neighbourhood liveability

The MDH residents' survey highlighted that the location of a dwelling within a neighbourhood (neighbourhood liveability) was just as important as dwelling liveability. Responses about the importance of features within their home, such as kitchens, were balanced with responses about the value of location and access to neighbourhood amenities.

Insight 3: Satisfaction with MDH was high

Overall, the satisfaction of residents with their MDH dwellings was high. Older and younger respondents were most likely to experience housing satisfaction with their MDH. Looking at ethnicity, New Zealand European were also more likely to be satisfied with MDH as compared to Māori and Pacific respondents.

Insight 4: MDH is largely considered to be as liveable as stand-alone housing

The majority (79%) of survey respondents felt that their MDH dwelling was as liveable as a stand-alone home. This may indicate a growing acceptance of MDH as a housing typology in New Zealand, moving away from expectations of a stand-alone home.

Interestingly, owner-occupiers were highly likely to find their MDH as liveable as a stand-alone house, alongside the majority of respondents living in private or social rental dwellings. However, a significant minority of tenants living in private or social rental MDH indicated they felt a stand-alone dwelling was more liveable than their current medium-density dwelling. This was largely due to factors such as the proximity of neighbours, room size and access to private open space.

Insight 5: Factors to consider when designing liveable MDH include indoor environmental quality, privacy and parking

Natural light and thermal comfort were most commonly ranked as the environmental aspects having the most impact on MDH liveability. Visual privacy was also very important to a large majority of respondents, and many found the temperature control

of their dwellings difficult (particularly cooling). When it came to perceptions of MDH design, parking was a significant issue. Interestingly, noise and hearing neighbours or the street were not significant concerns for respondents.

Insight 6: Owner-occupier and renter experiences are different and not always directly comparable

The survey identified that there are significant differences between owner-occupiers' versus renters' experiences of living in MDH, and the perceived liveability experienced by these groups is most often directly proportional to tenure type. Renters across categories were more likely to view the build quality of their dwelling to be an issue and were more likely to find aspects of their size and storage needs not being met. Concerns about thermal comfort were also significantly more noticeable among renters than owner-occupiers.

Insight 7: A range of housing solutions to meet the needs and preferences of MDH residents is required

One of the most interesting insights from the data was just how varied preferences and experiences were when compared across regional locations, ages, life stages and housing type and tenure categories. This also links to literature emerging out of the Building Better Homes, Towns and Cities National Science Challenge research programme about housing choices and trade-offs. It connects the idea of New Zealand being a diverse nation to the idea that our housing also needs to be varied, and MDH as a typology offers part of this solution.

These key insights from MDH residents provide valuable understanding of the lived experiences of those people directly experiencing MDH liveability on a day-to-day basis. Understanding such liveability considerations provides a starting point from which the building and construction industry, developers and policy makers at the national and local levels can understand and create the settings necessary to consistently design and deliver liveable MDH across New Zealand.

1. Introduction

In 2017, BRANZ commenced a research programme focused on medium-density housing (MDH). This programme was designed to provide background information regarding MDH in the New Zealand development context, along with a suite of tools to enable the construction industry to build liveable MDH. It also sought to ensure that MDH in New Zealand would meet the needs of the people who live in it and be accepted by wider communities as an alternative to traditional stand-alone housing (BRANZ, n.d.).

In order to ascertain whether MDH is meeting the needs of its inhabitants, it is important to gauge the liveability of current MDH developments across the country. This will enable an understanding of the ability of this form of development to contribute to wider social, economic, environmental and cultural wellbeing. This is particularly topical given the strong focus of the current government on achieving wellbeing for all New Zealanders, as evidenced by initiatives such as the Wellbeing Budget 2019 (The Treasury, 2019), the Living Standards Framework (The Treasury, 2018) and the reinstatement of wellbeing into the purpose of local government under the Local Government Act 2002.

To this end, BRANZ commissioned an MDH liveability project to answer two questions: How liveable is the MDH we are building? How can we do better?

The MDH liveability project was then divided into four separate phases to address the above research questions. These included:

- a national and international **literature review** of opportunities and challenges for MDH to improve liveability and enhance the wellbeing of residents and communities
- a review of current **legislation and regulation** applicable to MDH in New Zealand to understand any impacts of such on liveability and wellbeing
- **focus groups** conducted with representatives from New Zealand's most populous territorial authorities (Auckland, Christchurch and Wellington) to obtain insight into opportunities and challenges to achieving the consistent delivery of liveable MDH
- completion of a **residents' survey** to understand the experiences and preferences of existing MDH residents and how they perceive liveability and wellbeing (this report).

Information from each of these four phases of the MDH liveability research project provides a comprehensive picture of MDH liveability and wellbeing from the perspectives of those planning for it, authorising it and living within it. It is intended to enable policy makers at the national and local levels to create the settings necessary to deliver liveable MDH. This research also provides a voice for the building and construction industry and for the residents of MDH developments nationwide to express their unique perspectives and lived experiences.

1.1 This report

This report represents the fourth phase of the wider MDH liveability project. It includes findings from a survey of 500 MDH residents from across the country regarding their perceptions and experiences of living in MDH developments. It adds a valuable qualitative voice to the overall research findings, ensuring that the views of the people living in MDH day to day are heard.

The outputs of this survey provide a rich qualitative data source for understanding lived experiences in MDH across New Zealand. This has the potential to shape how we design and deliver MDH in the future.

For the purposes of this report, medium-density housing is defined as multi-dwelling units of up to 6 storeys (Bryson & Allen, 2017).

1.2 Methodology

To undertake this research, an online survey of MDH residents across New Zealand was completed. The survey was distributed via a targeted digital mail-out[1] and attracted 500 respondents.

The survey asked a series of questions regarding the preferences and attitudes of MDH residents towards various aspects of dwelling liveability. These aspects were identified in the literature review completed in the first phase of this wider research project (Allen & O'Donnell, 2020a; Bennett, 2010). The survey design also complements the research conducted for phases two and three of this project.

The survey questions included a combination of multiple-choice and open-ended options (see Appendix A). They covered current housing type and scale, tenure type, tenure length and household composition information. They also asked for a qualitative definition of liveability early in the questions to establish an initial baseline regarding people's perceptions of what liveability meant to them. This was followed by questions that asked respondents about aspects of:

- dwelling liveability, including dwelling design (size appropriateness, layout and storage)
- visual privacy and outlook
- acoustic privacy
- the indoor environment (air quality, ventilation, temperature control, thermal comfort and natural light)
- build quality and maintenance, and
- building services and amenity within the dwelling.

The significance of location and access to local amenities were also included to address wider neighbourhood liveability.

Both quantitative and qualitative outputs from the survey are included in this report. To establish whether any patterns existed in the data, the findings for each of the questions were sorted and compared by age, gender, ethnicity, regional location, length of time in New Zealand, tenure type, tenure length and household composition. Where specific trends emerged, they are reported in section 1.3 of this report.

Multiple-choice questions were ranked by the number of responses, whereas answers to open-ended questions were sorted by themes. These themes were identified through a process of line-by-line coding and are identified in Appendix B. Each response was allocated to one theme (i.e. responses were not coded to multiple themes).

By undertaking such an extensive survey, this report provides new primary qualitative data to industry regarding the liveability priorities and expectations of MDH residents.

1 ResearchNow is a global online sampling and digital data collection company. BRANZ contracted its New Zealand branch to carry out the online survey data collection.

In this way, it advances our understanding of how liveability is perceived by residents in the changing context of our growing cities.

1.3 Respondent profiles

In this section, participant demographic profiles are developed to provide readers with an understanding of the representativeness of the survey. In total, 500 responses to the survey were sought and received.

Age and gender

Figure 1 shows the age group and gender split of respondents. In terms of age, there was a relatively even split of those aged 18–44 and those aged 45+. The largest respondent group was aged 25–34 years at 23% (n=113) of the total. Mostly, each 10-year age grouping was 15–18% of the total. The broad range of ages was targeted to ensure equal representation – something that has been problematic for previous resident surveys, where responses were predominantly older owner-occupiers (Bryson and Allen, 2017). Gender was spilt 53% female and 47% male in line with national figures (Statistics New Zealand, 2019). There was one participant who identified as gender diverse.

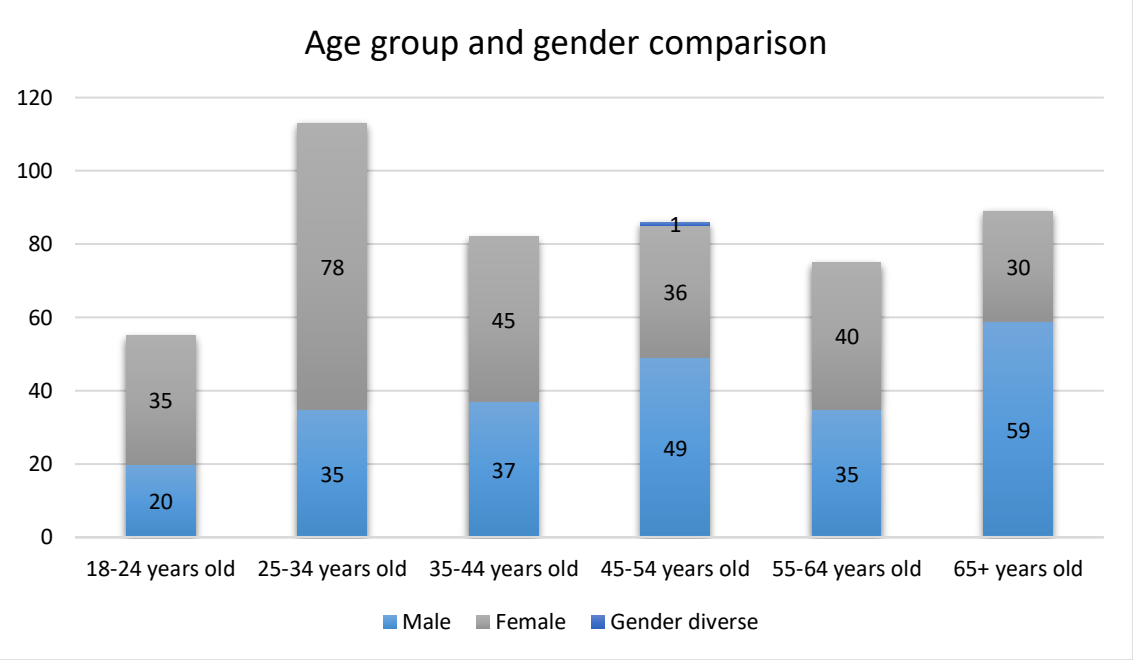

Figure 1. Comparison of respondent gender split across age groups.

Ethnicity

The ethnic affiliation of respondents is identified in Figure 2. This generally conforms to the ethnic structure of New Zealand (Statistics New Zealand, 2019). Again, it was important for this study that the sample group was diverse. In total, 47 respondents identified as more than one ethnicity. Overall, 347 respondents were born in New Zealand and 153 were born overseas (Figure 3). The majority of immigrants from this study arrived in New Zealand between 2000 and 2019, as also identified in Figure 3.[2]

[2] In total, 136 of the 153 immigrants in the study responded to the question about length of time in New Zealand, and 17 did not respond.

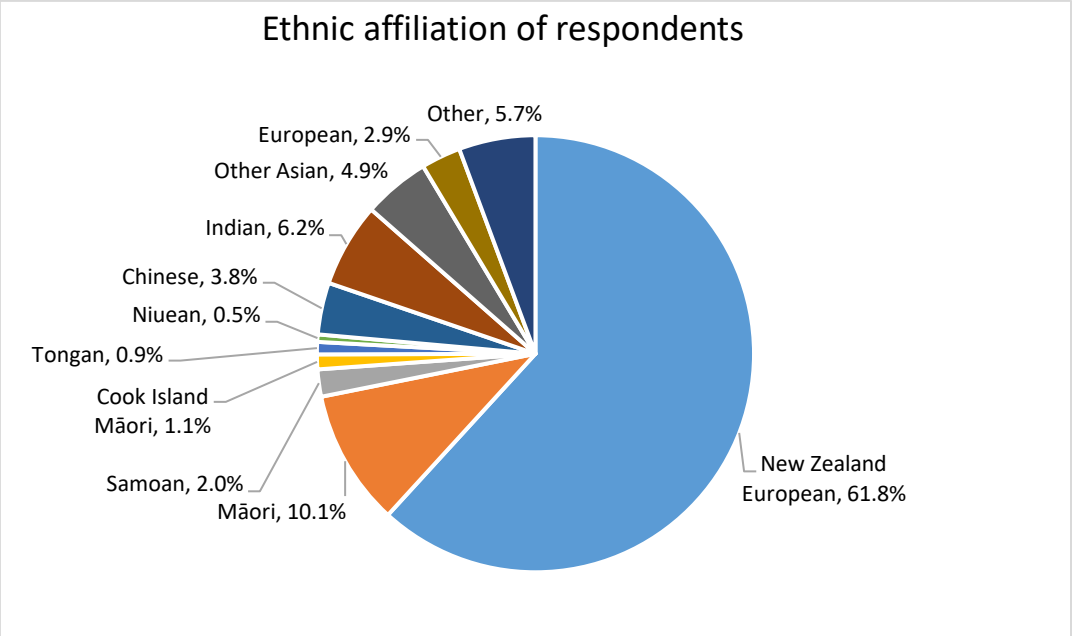

Figure 2. Respondent ethnicities.

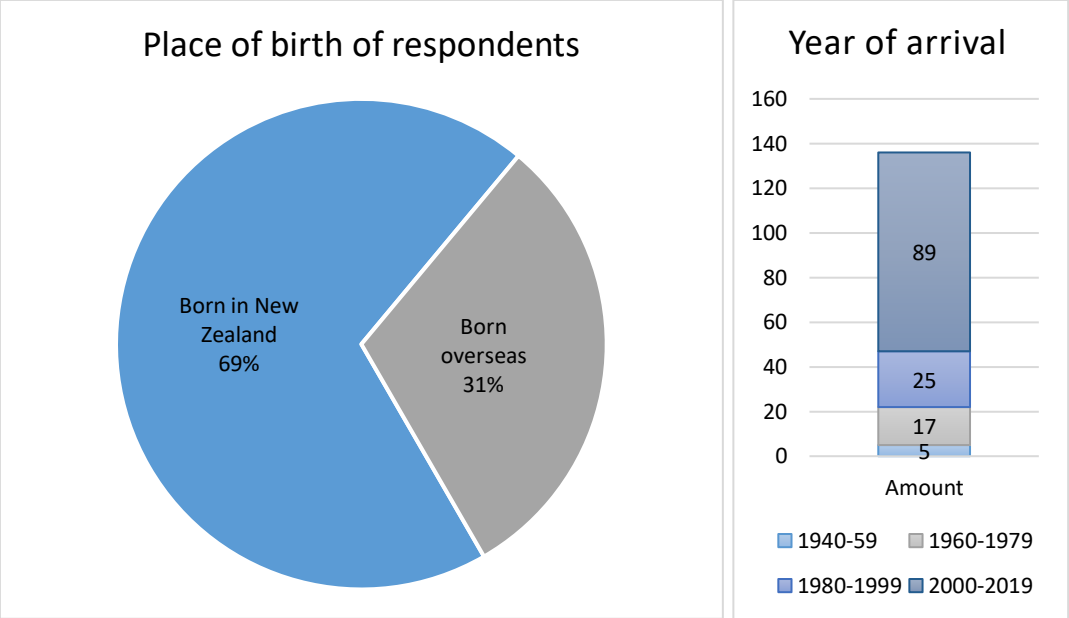

Figure 3. New Zealand born versus overseas born respondents, and year of arrival.

Location within New Zealand

Respondents were also asked to identify their location within New Zealand (see Figure 4). The responses were largely representative of New Zealand's population distribution. The largest single group of respondents by location were from Auckland, and 74% of respondents were from North Island towns and cities compared with 26% from South Island towns and cities.

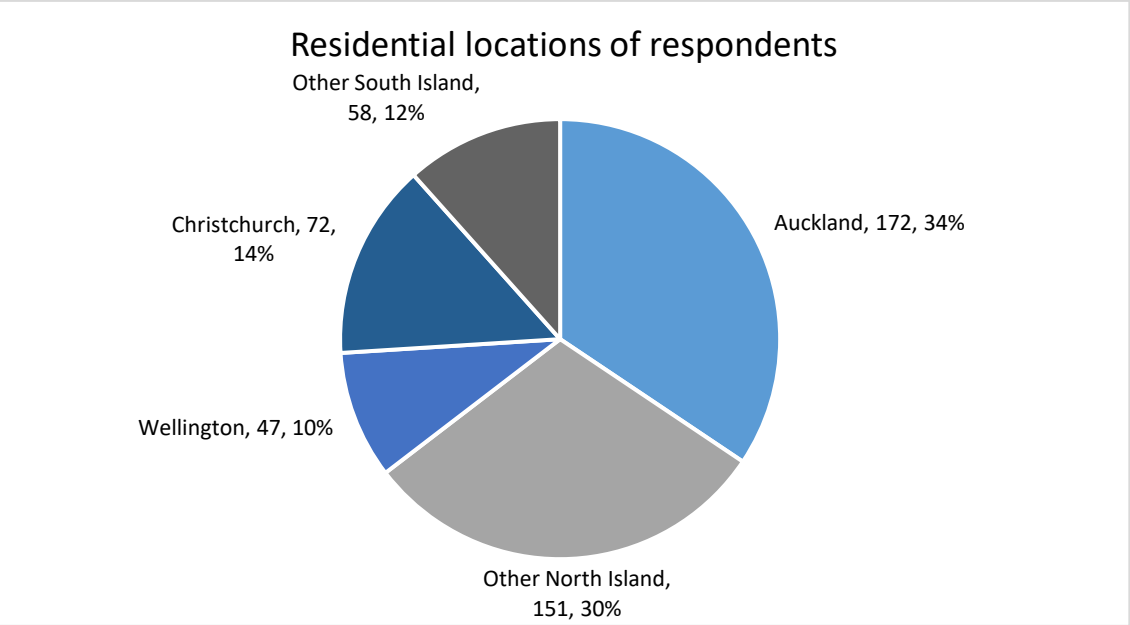

Figure 4. Residential locations of respondents.

Dwelling type

When commencing the survey, potential respondents were asked to confirm that they lived in an MDH typology and were asked a series of questions (see Appendix A) to describe their dwellings. There are a wide variety of MDH dwelling typologies in New Zealand, and this was echoed in the responses provided. In terms of horizontally attached MDH, the majority of reported dwellings represented the most common dwelling types: duplexes and 2-storey terraces. Vertically attached responses were more varied, and it became clear that there was a small level of reporting error in this data. Notably, 6.4% reported their vertically attached MDH building was 1 storey high, which seems anomalous. We expect that this is a reporting error based on the participant's misunderstanding of the question and instead reporting the number of storeys of their individual dwelling. Images of different typologies may have made this question easier to answer. Working with the data as is reveals that, of 390 respondents, 78% identified as having horizontally attached dwellings and 22% identified that their dwellings were vertically attached (see Figure 5).

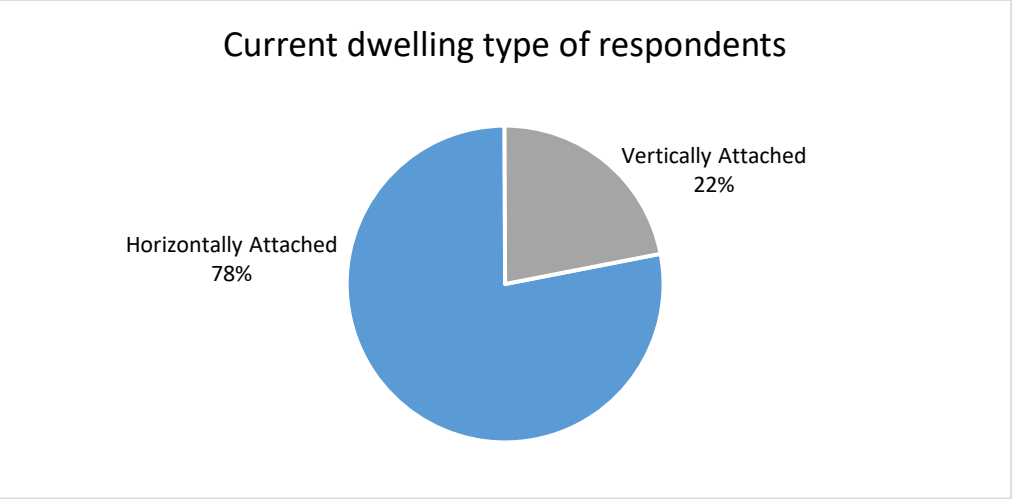

Figure 5. Current dwelling type of respondents.

Length of tenure

The length of tenure data matches existing tenure/dwelling length expectations more broadly, with owners of MDH being more likely to have lived the longest in their dwellings compared to renters (see Figure 6).

Private renters of MDH experience more diversity in length of tenure but mostly have shorter 1 to 2-year occupancies. Social renters of MDH are a mix of both long-term and short-term occupancies, and those living in retirement villages are likely to be longer-term occupants.

'Other' categories, identified by five respondents, consisted of those living in a family-owned home (n=2) and those stating they rent a council-owned flat (n=2), which would be considered a social rental tenancy.

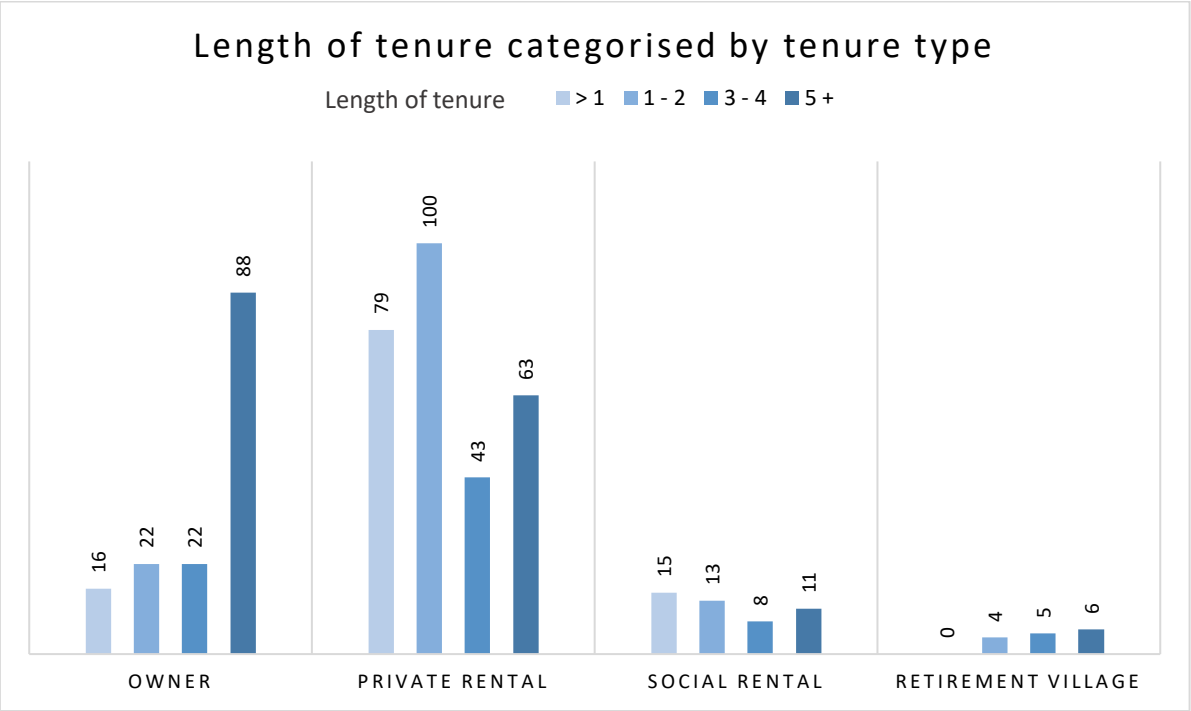

Figure 6. Length of tenure versus tenure type of respondents.

Household composition

Respondents were asked a series of questions to identify their household composition. To build a more complete picture of this composition, the data on who respondents lived with, number of occupants and number of bedrooms was correlated.

Table 1 shows household composition alongside number of bedrooms. The 'other' category consisted of couples/families with boarders or flatmates (n=5) and those living with family (n=3) or having an adult child living with them (n=2). The data shows mostly an expected trend with dwellings with greater numbers of bedrooms being occupied by a greater number of occupants. The majority of respondents across all household types had two-bedroom dwellings, other than those living alone, which were spread across one and two-bedroom dwellings evenly. Couples with one or more children and multi-generational homes had the most numbers of three-bedroom homes. Those flatting were the most common occupants of dwellings with four or more bedrooms.

Table 1. Household composition compared to number of bedrooms.

	Number of bedrooms			
Household	1	2	3	4+
One parent with child(ren)	6.5%	74.2%	12.9%	6.5%
Couple with child(ren)	6.1%	41.4%	39.4%	13.1%
Couple only	14.5%	58.9%	22.6%	4.0%
Living alone	47.7%	46.4%	5.2%	0.7%
Multi-generational home	0.0%	50.0%	38.9%	11.1%
Flatting/group of individuals	5.0%	41.7%	21.7%	31.7%
Boarding	25.0%	75.0%	0.0%	0.0%
Other	0.0%	45.5%	45.5%	9.1%

When considering the data on the number of bedrooms versus number of occupants other than the respondent, it became evident that there are examples displayed within the data of what could be considered overcrowding (Table 2). For example, a not insignificant number of respondents living in a two-bedroom house shared with four or more other occupants. It is also not clear what respondents defined as a bedroom and whether in fact some of these responses included rooms that had been repurposed as bedrooms within a home.

Table 2. Number of bedrooms versus number of other occupants.

		Number of other occupants					
		None	1	2	3	4	5+
Number of rooms	1	64.1%	24.3%	5.8%	3.9%	0.0%	1.9%
	2	24.8%	37.6%	20.4%	10.4%	5.2%	1.6%
	3	4.8%	22.1%	25.0%	25.0%	10.6%	12.5%
	4+	0.0%	11.6%	9.3%	16.3%	34.9%	27.9%

What this data shows is that a conventional understanding of housing needs to match household composition with dwelling size/number of bedrooms does not completely correlate with housing choices displayed in the data. For example, the data shows singles having a housing need of one bedroom but a housing choice of two bedrooms and couples having a housing need of one bedroom but a housing choice of two or three bedrooms. Conversely, it also shows three-bedroom homes being shared by five or more occupants where it is difficult to determine whether this is three couples sharing in a flatting situation or blended families with multiple children. The diversity of data and permeations of housing compositions shows that predicting housing demand requires a far more nuanced understanding of housing choices.

The respondent profiles demonstrate the broad reach of the survey across New Zealand across age groups, gender, ethnicity, locality and length of time in New Zealand, housing types, tenure types and durations and household compositions. This diversity is useful in a study of this nature that seeks to understand whether comparable patterns can be determined according to varying profiles and categories. It is also more representative of projected demographic trends and the diverse perceptions of medium-density housing from those that live in that typology, both in terms of liveability and uptake in New Zealand.

2. Survey findings

2.1 Defining liveability

Survey respondents were asked an open-ended question about what they understood the term liveability to mean before being asked other questions related to the understanding of liveability established in previous phases of this research project. The responses were coded on a line-by-line basis to establish various coding categories (see Figure 7 and Appendix B). Each response was coded to one category only.

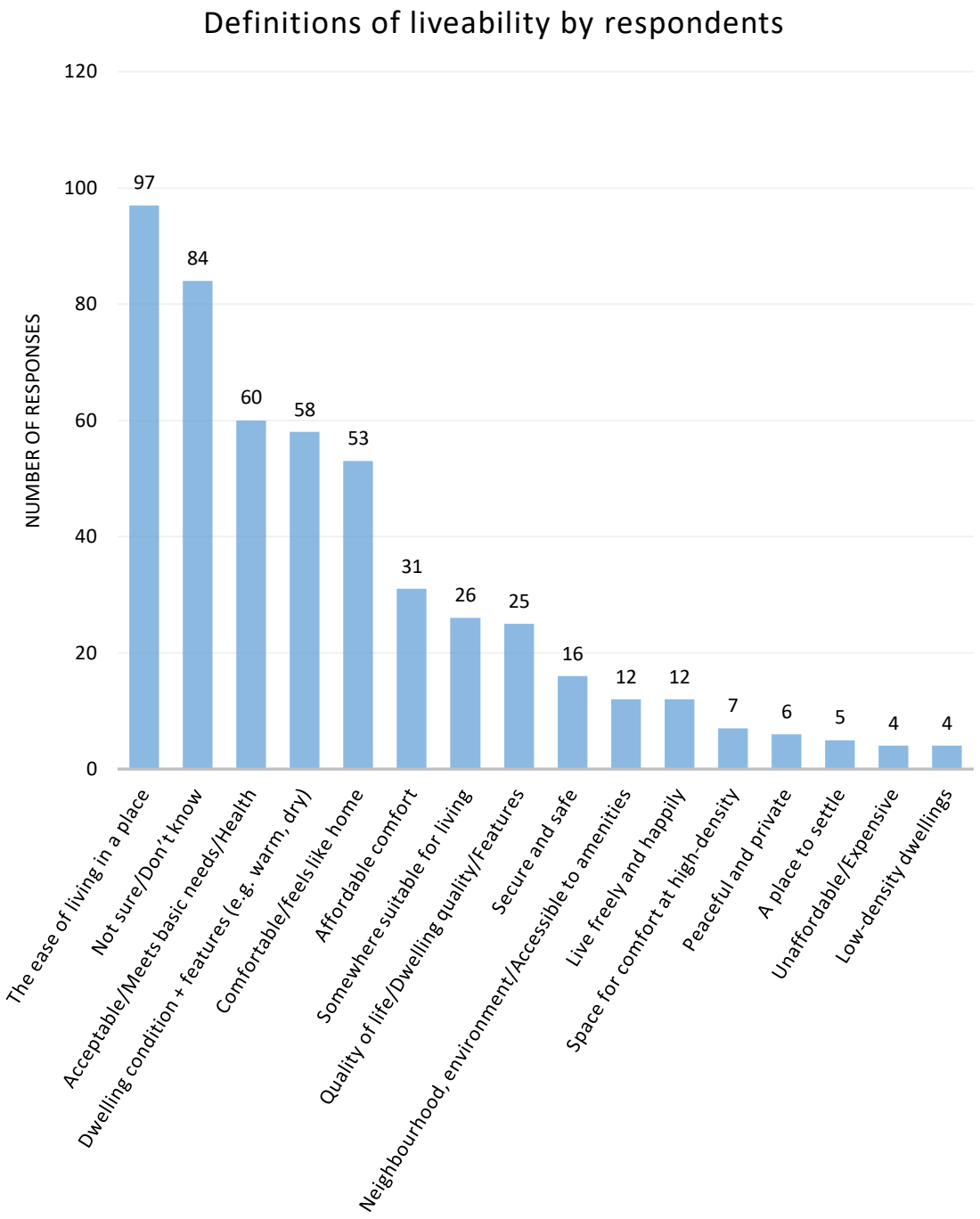

Figure 7. Categories of descriptions of liveability that emerged from coding the data.

2.1.1 What does liveability mean to MDH residents?

The majority of respondents defined liveability as 'the ease of living in a place' (n=97), connecting both the idea of convenience and ease of living with an innate place-based understanding of the concept. Others aligned ideas of liveability to the meeting of basic needs for comfort and/or for health (n=60), one respondent noting that liveability meant to them "somewhere that you can live happily, healthily".

Similarly, physical dwelling features (warm, dry, secure) and dwelling condition featured commonly among the responses (n=58). One respondent wrote, "I would expect the dwelling to be dry and free from mould and mildew/clean and has all the necessities/to be able to live in it." The idea that liveability meant a comfortable environment or one that "felt like home" was another popular definition (n=53). The same number of respondents (n=84) indicated that they did not know or were not sure about what liveability meant.

A significant number of respondents (n=31) linked liveability with affordability. They made connections between their ability to live in their dwelling and also get by financially, citing issues from "reasonable rent" to being able to cover "the expenses related to the cost of living". They stated that, if the dwelling was liveable, it would be both affordable and comfortable. This nuanced perspective of liveability related to affordability has seen less attention in the literature and offers a novel perspective on what it means to attain liveability in a dwelling.

Other less-common responses included liveability as the suitability of the home based on one's individual preferences and life stage and lifestyle expectations (n=26) and liveability as security and safety (n=16), where one could live "in a safe, secure and healthy place" or "within a dwelling that is safe, secure and meeting the purpose of its inhabitants". The terms 'quality of life' and 'dwelling quality' were also used to describe perceptions and definitions of liveability (n=25). One respondent described it as "neologism" and another denoted "that it isn't a real word".

Predominantly, the responses covered a similar range of issues as were identified through doing the literature review, where liveability was seen to mean ease of life, convenience and quality of life. They also show strong alignment across all four phases of this study.

Across categories, the role of the dwelling as a key part of the liveability experienced by residents featured strongly in responses. The emotional response to the importance of dwellings was represented in the large numbers of respondents who also aligned liveability with notions of comfort and ease. Affordability also appeared in a number of responses across categories, which denotes the embedded relationship between liveability and affordability.

2.1.2 MDH as liveable as stand-alone housing

As a further component of interrogating liveability, respondents were asked if they considered their current home to be as liveable as a stand-alone house (see Figure 8). In total, 79.4% felt that their MDH dwelling was as liveable as a stand-alone home would be, and 20.6% felt that their MDH dwelling was less liveable than a stand-alone home would be for them.

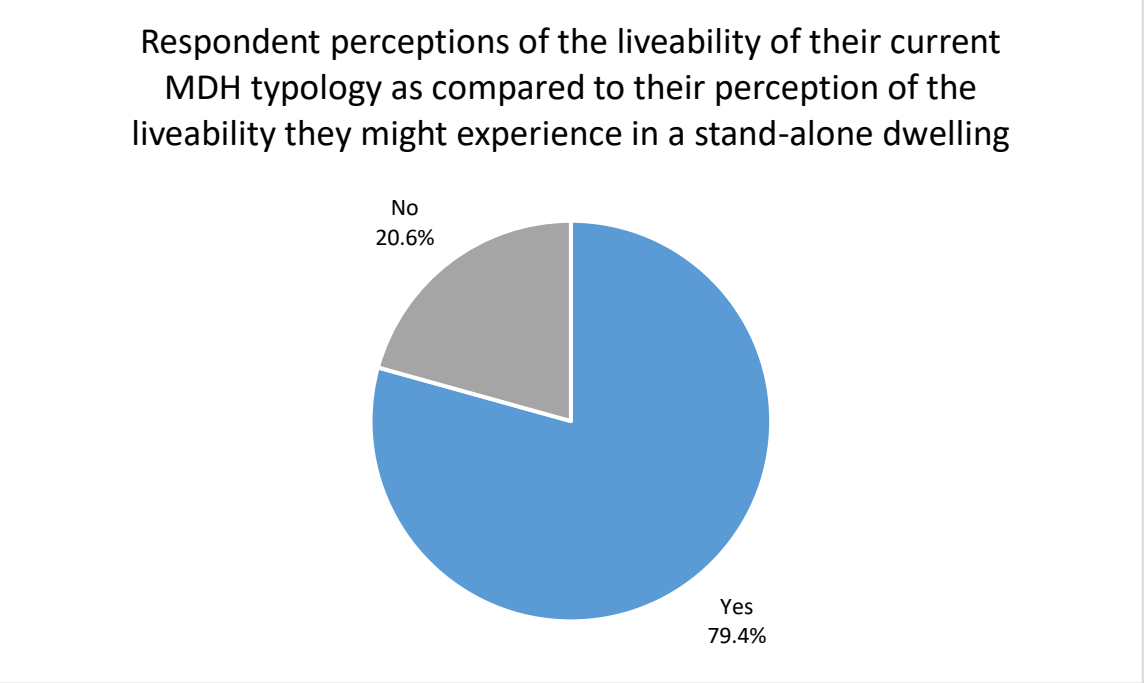

Figure 8. Respondent perceptions of the liveability of their current MDH typology compared to a stand-alone dwelling.

Those respondents living in retirement villages were the most likely to agree with the proposition that their MDH dwelling was as liveable as a stand-alone house, with all 15 respondents answering that they felt it was (see Figure 9). Owners of MDH were also highly likely to find their dwelling as liveable as a stand-alone house. While the majority of respondents living in private or social rental dwellings also answered in the affirmative, a significant minority from both tenure types indicated they felt a stand-alone dwelling was more liveable than their current MDH dwelling.

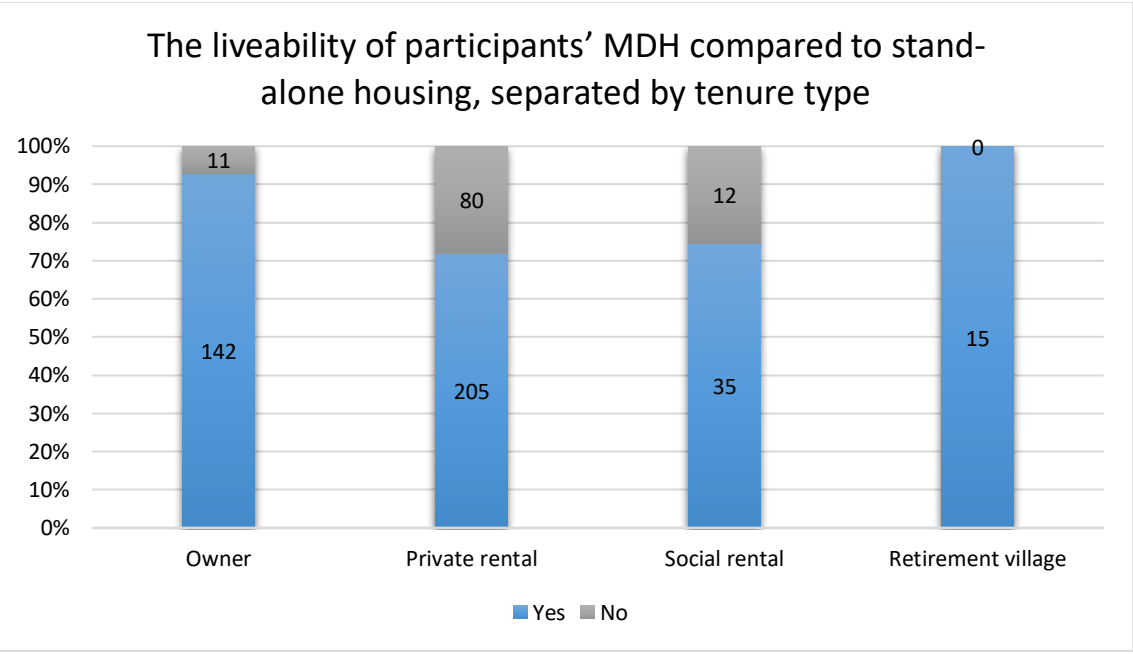

Figure 9. The liveability of participants' current MDH typology when compared to their perception of a stand-alone home separated by tenure type.

When asked to qualify their response, four key themes emerged regarding why respondents felt that their MDH dwelling was as liveable as a stand-alone dwelling.

Firstly, the liveability or suitability of their homes to meet their lifestyle expectations was felt to be the same as they imagined they would find living in a stand-alone home. One respondent, for example, commented "because it would make no difference to its liveability if it was separate", while another stated "it's all I need at present". Another respondent described their reasoning by saying, "It's a home my wife and I spent a lot of time on bringing it to the point that matches our lifestyle making it our dream home."

The second theme was that respondents considered there to be no difference between their homes and a stand-alone house. One respondent described this perception by stating "it doesn't matter if the house is stand alone or not, if it is safe, has all amenities then all are liveable". At a step further, others felt that their MDH dwelling was more liveable to them than a stand-alone house, one respondent commenting "it is probably better for me than a stand-alone house as it doesn't have too much ground to look after" and another saying "it has everything we need, no garden to maintain". Older respondents considered the liveability of their MDH dwelling choice to correlate strongly with their liveability requirements related to their life stage and health. One respondent commented "no stairs, great for my bad joints", and another observed that, even though they had lived in "a stand-alone house from my twenties to my fifties", now they "need something compact and easy-care that suits me".

The third theme was around privacy and comfort. Several respondents felt that their dwellings offered them an equal amount of privacy and comfort as they perceived a stand-alone home would. One respondent commented that they felt their dwelling was as liveable "because it is as private as a stand-alone home". Other respondents from horizontally attached terraces and duplexes observed "I have privacy and my neighbours are as close as they would be if it was a stand-alone property" and "it has the privacy and space of a stand-alone home without the extra work; no large yard to maintain and it comes with a great location".

A final theme emerging from this group of respondents was that the trade-offs they felt they had made when choosing MDH were, in their eyes, worth it because their dwelling had great features and amenities. Comments included the "ideal location" of the dwelling and the design being "double glazed windows and … well-insulated", which meant that their dwelling liveability was as good, if not better, than a stand-alone dwelling. One respondent added that "you don't feel like you are sharing a wall with neighbours due to clever design".

2.1.3 MDH not as liveable as stand-alone housing

From the respondents who did not feel that their MDH was as liveable as stand-alone housing, four themes emerged.

Issues were often related to proximity of neighbours. Comments included that "noise through the floor from upstairs neighbours" was a detrimental feature or that proximity led to feeling "awkward [about] having another person on the other side of your wall or by your entrance". One respondent commented "you are always thinking about or considering your neighbours as they are so close to you". Conversely, another expressed. "I am living in [an] eight-unit complex. I am really annoyed by the noisy neighbours. I wish I could move away one day."

Similarly, another respondent stated:

> I hate sharing walls with neighbours, have to put up with their noise, fights, food smells and unfortunately, they are recreational drug users, the smell of that wafts into our flat and affects my child. Completely unacceptable but despite my efforts to get this sorted no one can help.

A second category that emerged was the design and features of the dwelling. One respondent felt they did not have "enough outdoor space" and another identified that "due to the small size of the apartment there is insufficient storage space" to meet their needs. Another respondent wrote that the "lack of sound proofing and amount of sun during winter" meant that they thought a stand-alone house would be more liveable. A specific concern of one respondent was that their dwelling "doesn't have separate kitchen and you have to share one kitchen with about 20 others so it's annoying".

Related to this category was the idea that their MDH typologies were not the right size for their household, and this triggered the perception that a stand-alone home would be more liveable. One respondent described how they lived in a studio apartment and had a toddler who needed more space. Another noted that they felt their dwelling was too small for them to have visitors stay overnight and this meant they chose to respond no when asked if their dwelling was as liveable as a stand-alone home would be. This raises questions about the perception that a stand-alone home would solve many issues for MDH dwellers.

For some respondents, there was an embedded aspiration for stand-alone dwellings, one respondent confirming that they "would love to live in a stand-alone house but cannot afford the rent". Another question is whether the issue that many of these respondents had with MDH may be primarily caused by a lack of fit between their household size and the size of their dwelling and whether a larger and better-designed MDH dwelling could provide a more liveable experience for them.

2.2 Liveability features of dwellings

2.2.1 Environmental quality

Following their definition of liveability, respondents were asked to rank the different environmental quality aspects of their home in order of importance to liveability to provide a less abstract understanding based on specific physical characteristics of the dwelling (see Figure 10). The four aspects included indoor air quality, ventilation, thermal comfort (being the right temperature) and natural light.

Thermal comfort and natural light were equally ranked most often as the most important feature for respondents. Ventilation was not ranked the highest but also significantly not ranked the lowest either, so ventilation might be assumed to be of intermediate importance to the respondents. Indoor air quality was most often ranked as the least important. This could be because it is not an issue for respondents in their current dwellings. However, further reasoning for the responses was not possible in this survey.

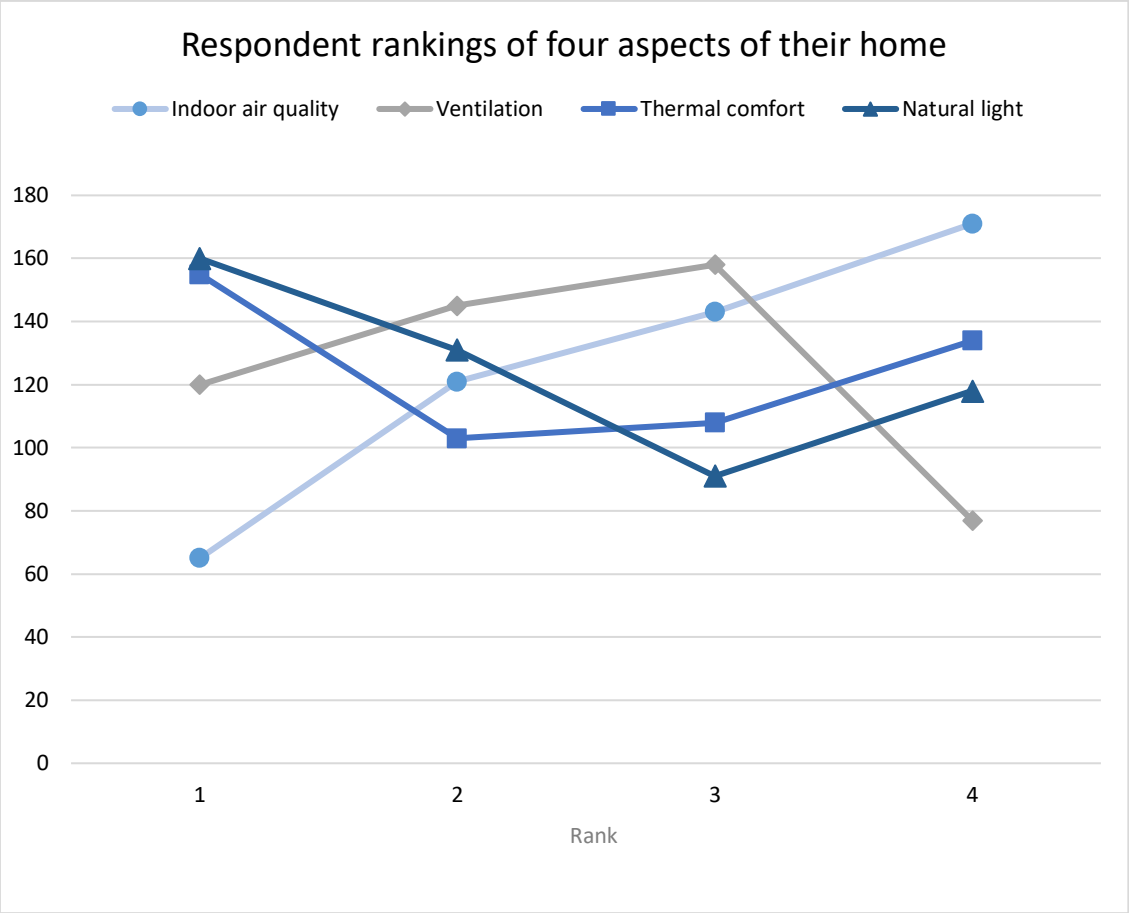

Figure 10. How respondents ranked the four aspects of their home in terms of their importance and impact on their sense of liveability.

2.2.2 Dwelling quality and neighbourhood liveability

The previous responses about dwelling features dealt with liveability as an environmental aspect of the home. Follow-up questions dealt with the broader characteristics of dwelling liveability as a whole and included the role of location as a component of neighbourhood liveability.

Included were questions asking respondents to rank aspects of their homes in order of importance to them (see Figure 11). The four dwelling characteristics related to liveability were:

- design (size and layout)
- quality
- age
- location and local amenities.

The age of their dwelling was by far the least important characteristic to respondents, rarely ranked above fourth. Design, quality and location were all ranked more closely, with location and the presence of local amenities being the most commonly ranked first in order of importance.

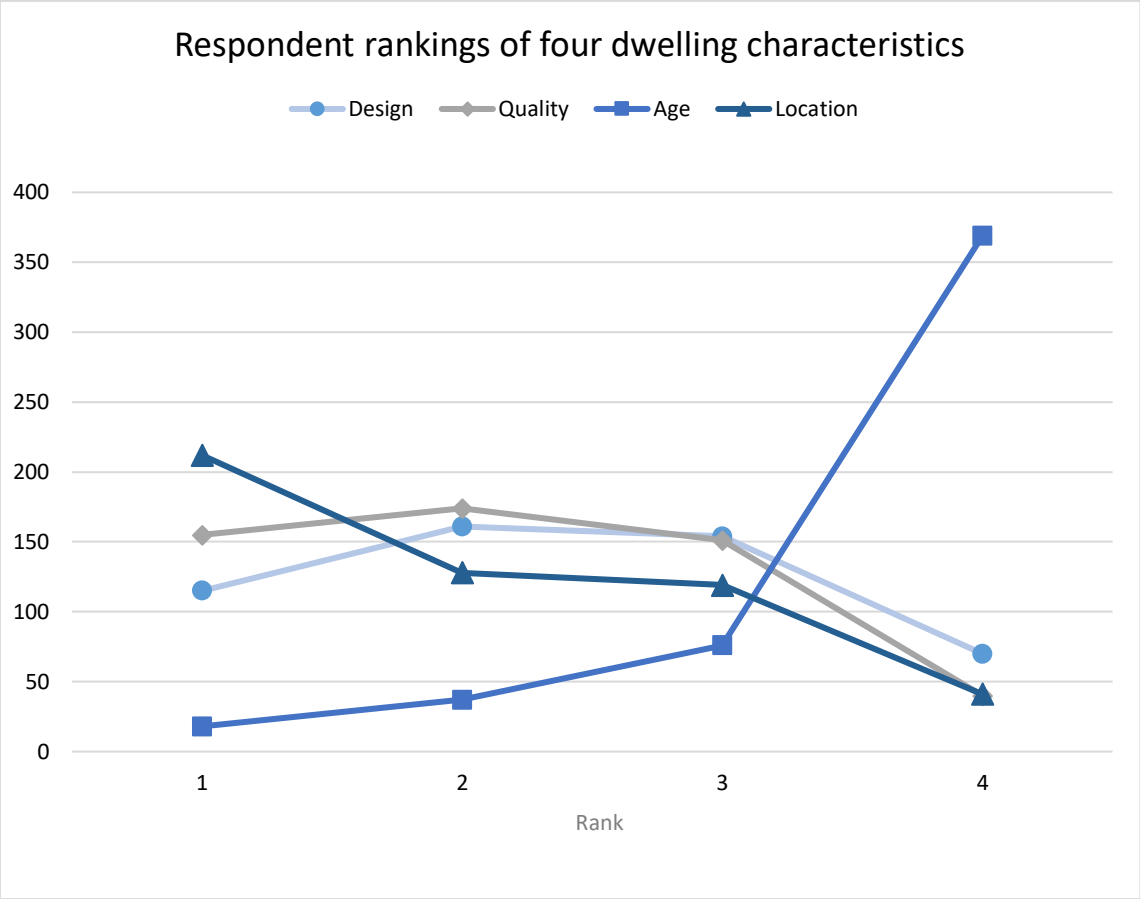

Figure 11. Ranking of dwelling characteristics.

To determine more about the rationale for these choices and how they might relate to the concept of liveability, respondents were also asked to explain the reasoning for their top-ranked characteristic.

The responses from participants who ranked location as the most important characteristic in determining their dwelling liveability were themed into four categories. Primarily, proximity to daily life amenities was considered to make everyday life easier. One respondent summed this up by saying "because it makes life easier if I am close to what I want and need". Other comments included the idea that "a location not too far to my work place and my wife's work place and easier for kids to go to school" added to the liveability they experienced.

Responses were often specific to one's life stage. For example, one respondent described their view that "being an older person, having all amenities close by is a bonus". Similarly, another commented "I am getting older, in the future I will need to be able to walk to Supermarket, Doctor, Chemist, Library and Bus Stop". A further example is provided by a respondent who stated "because I don't want a large commute time for work, I want to be in a nice area, and I want to be close to other amenities like parks/beach/shops". These findings are in line with other studies in New Zealand that also found daily life amenities to impact on convenience and, in turn, liveability experiences (Allen, 2016, 2017; Allen, Haarhoff & Beattie 2018; Haarhoff et al., 2019).

Participants also stated that their liveability was further improved by proximity because it also reduced living costs. For example, one respondent wrote "being close to these [amenities] reduces costs" and another wrote:

> Location can help with a lot of necessities and can help save money for things such as transport to school, university, the grocery store, malls, etc … as well as the quality of the location, nice people, nice environment, weather, etc."

Living in a safe community close to family and friends was also a reason cited by respondents as to why location was important to them. One qualified their choice of location as their most important liveability feature by saying "the area and community I live in is an important aspect to me". Another noted "I have family living close by and also regard this as a good area to live in". Embedded within responses was also the idea that familiarity with places made them liveable as did social connectedness in general beyond the family unit.

Not having a car and needing or wanting to walk more arose as a reason why location was strongly favoured. This perspective is summed up well by one respondent who wrote "location and amenities are the most important aspect because we compromise our living space for these, so we don't have to commute by car and don't have to use our car unnecessarily". Life stage was, once again, significant in predicting some responses citing the importance of walkability. For example, one participant stated "at my age, eighty-five, the need is great for proximity to transport, shopping, church and other local amenities".

Quality and design were both ranked highly. Building quality for comfort and healthy living was one of four themes identified as being the most important aspect of quality and design for some residents. One respondent holding this perspective stated "the better the quality, the safer, warmer, and more comfortable". Another wrote "this is the factor that most influences comfort and suitability". Quality was frequently aligned to health. For example, comments such as "I have ongoing health needs, so quality is important to avoid further sickness and discomfort" were not uncommon responses.

The other key aspect of quality was that quality materials were believed to facilitate liveability by providing a low-maintenance and easy life. One respondent wrote "the higher the quality, the better the standard of living".

Lastly, just as safety was tied to satisfaction with one's location, so too was safety tied to quality. The impact of the 2011 Christchurch earthquake emerged in some responses where respondents identified that they had ranked quality as the most important feature because staying safe in events such as a natural disaster was contingent on build quality.

Design was ranked first by respondents who felt that a good layout was the foundation of a good living environment and for healthy and happy residents. It was also important because "there's no fixing a non-functional layout" and "if the design and layout doesn't suit you then it makes living there a lot harder". The phenomenon of 'right sizing', where residents valued finding a home that was the right size for them, also emerged in the responses of participants who ranked design as their most important liveability feature. The right size also included the right number of bedrooms and space for storage. Thermal comfort was another aspect indicated as important to respondents ranking design first as was the importance of designing for accessibility and mobility.

Age was ranked first by fewer respondents. However, those who did rank age first did so for two main reasons. Firstly, age was seen to be a predictor of better quality and design, so that "how good the house is depends on the year it was built". Similarly, because new houses were seen to have fewer problems and be both warmer and drier, "the newer the property the fewer problems you will have with it".

2.3 Dwelling perceptions and satisfaction

Following the questions regarding liveability features, respondents were asked about their dwelling satisfaction. Respondents were asked if they thought their dwelling was the right size for them and if its design suited their needs. These questions included a ranking exercise where respondents were asked to rank key spaces in their dwelling (such as the kitchen, lounge, bedroom, entrance, etc.) in order of which were the most important to them. Subsequently, they were asked to indicate if they could improve one aspect of their dwelling design what it would be.

2.3.1 Dwelling size

When asked if their dwelling was the right size for them, 80% of respondents said yes and 20% said no. New Zealand European and the 'other' category respondents were most likely to find their dwelling the right size for them (see Table 3). Māori were least likely, followed by Pacific people and Asian people. Given the smaller size of most MDH housing and the larger average family size of Māori and Pacific people, it is possible these people would be more likely to find MDH less suited to their needs. The commonality of intergenerational families amongst Asian households might also explain their lower than average satisfaction with the size of their MDH dwelling.

Table 3. Dwelling satisfaction associated with size, sorted by ethnicity.

Stated ethnicity	Yes	No
NZ European	80.5%	19.5%
Māori	72.7%	27.3%
Pacific people	77.8%	22.2%
Asian	76.9%	23.1%
Other	83.8%	16.2%
Average	80.2%	19.8%

When considered by age, the 35–44 age group were most likely to be unsatisfied with the size of their dwelling, with younger (18–24) and older (55+) most likely to be satisfied (see Table 4). This corresponds to the age group most commonly associated with child rearing and family formation and is therefore suggestive of the continued potential issues of MDH for this age group. Nevertheless, the majority of respondents all found their dwelling size to be the right fit for them.

Table 4. Dwelling satisfaction associated with size, sorted by age.

Age group	Yes	No
18–24 years old	83.6%	16.4%
25–34 years old	77.9%	22.1%
35–44 years old	68.3%	31.7%
45–54 years old	77.9%	22.1%
55–64 years old	84.0%	16.0%
65+ years old	91.0%	9.0%

2.3.2 Dwelling design

As well as considering dwelling satisfaction as affected by the size of the dwelling, respondents were asked to identify whether they felt that the design of their dwelling suited their needs – 84% felt it did and 16% indicated it did not.

Respondents were probed further by asking for their reasoning. Those who were satisfied with the size of their dwelling stated reasons covered issues such as the low maintenance and hassle-free nature of the dwelling and its size and location making it more convenient. For example, one respondent wrote, "The rooms are laid out in a way that provides soundproofing and ease of access. The layout makes sense for your daily routine." One wrote "it is large enough and situated near shops and family". Conversely, another added, "It's small enough to keep warm during winter but big enough that everyone has their own space. It is just out of town, so we are away from the hustle and bustle but still close enough to all shops – walking distance."

Of those who did not feel their dwelling design suited their needs, the reasons given were predominantly centred around three issues: accessibility, size and layout. Accessibility issues that detracted from liveability included finding stairs frustrating to everyday routines, finding the dwelling too small for growing family sizes and the layout not facilitating ease of living.

2.3.3 Ranking the importance of room function

To understand how important particular areas in the home were to residents, respondents were asked to rank the spaces of their dwelling in order of importance to their liveability (see Figure 12).

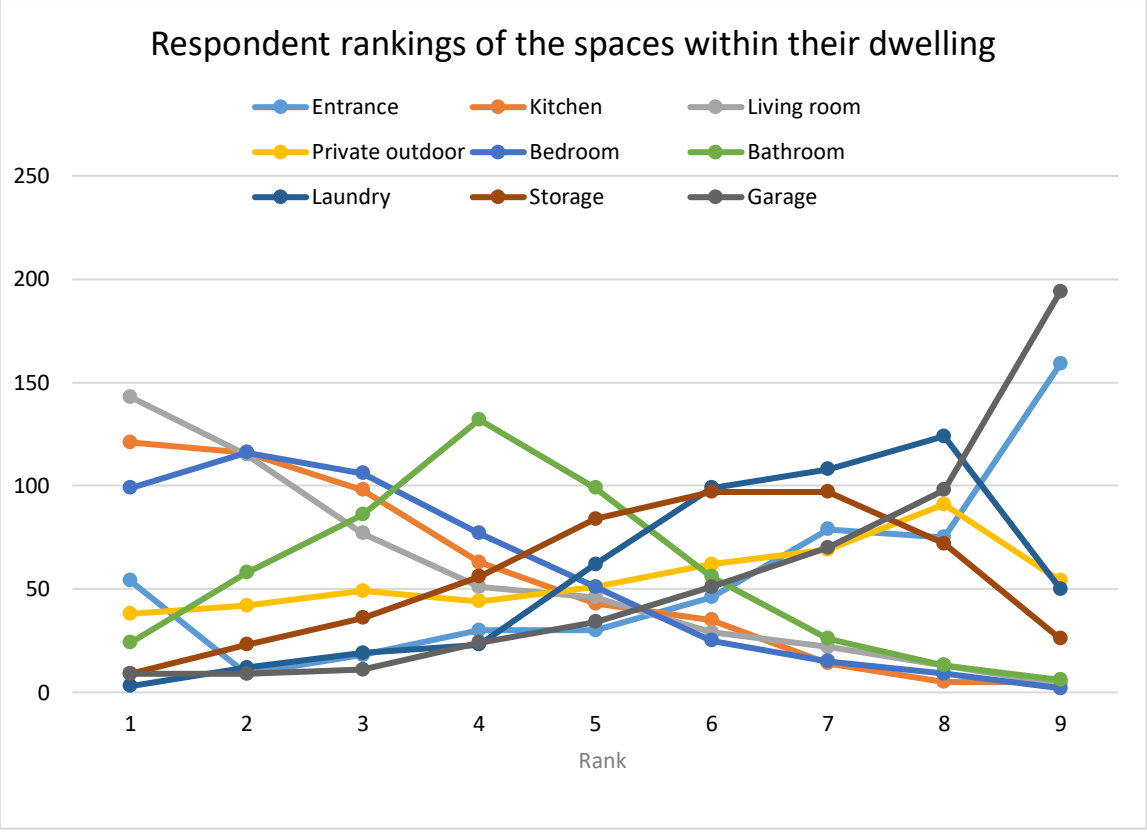

Figure 12. Ranking individual spaces in terms of their importance.

A cluster of spaces of key importance included the living room, kitchen and bedroom. These spaces were rarely ranked in the lower order, compounding their importance for the majority of respondents. Garage and entrance spaces were most commonly ranked the lowest. However, respondents not having such spaces in their homes to begin with could factor in this ranking position. Bathrooms were of clear mid-rank importance – not featuring highly in highest or lowest rankings but most significantly in the middle rankings. Private outdoor space was mostly ranked evenly across all categories.

The option to provide an additional dwelling space of importance to the participant was also given. Additional spaces identified within respondent dwellings were balcony/terrace or patio, office space, entertainment room, hallways, outside shed/workspace, rooftop and head space/ceilings.

2.3.4 Possible improvements

The dwelling satisfaction set of questions finished by asking respondents to identify any improvements they thought would help their dwelling better suit their needs and preferences (see Figure 13). Over 40% (41.7%) of the responses within the 'improving the dwelling' category referred specifically to either the kitchen or bathroom. A desire to upgrade the kitchen space of dwellings to provide a more useful layout, better quality or better size was particularly prevalent within responses.

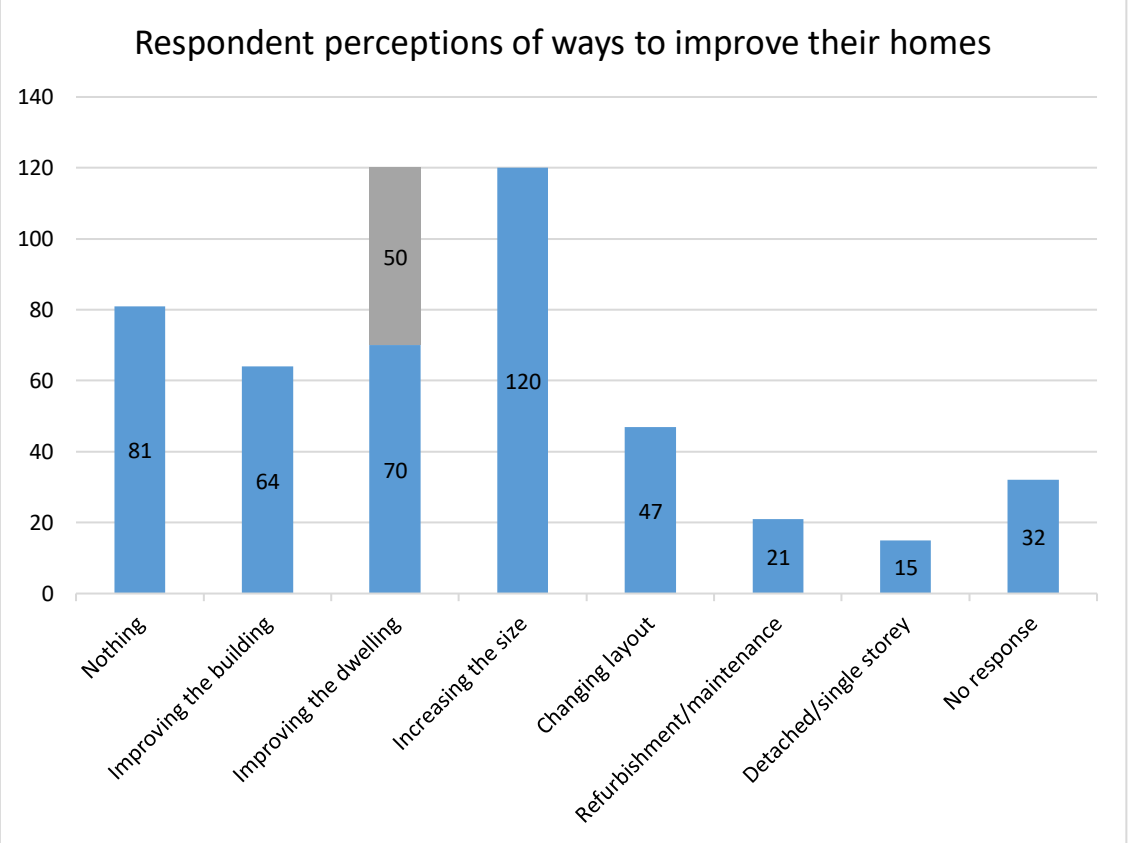

Figure 13. Responses about potential improvements to increase dwelling liveability.

Increasing the size of dwelling as a way to improve liveability was raised by 120 respondents. This is interesting given that, when asked if they were happy with the size of their dwellings in an earlier question, only 100 out of the 500 respondents were not satisfied with the size of their dwelling.

2.4 Specific features

The survey also delved into MDH residents' perceptions of specific features of their homes to add to the picture of how residents perceive their dwelling liveability and to understand how they define and compare different aspects of their home as impacting on the liveability experience.

2.4.1 Visual privacy and views

When asked how important visual privacy (privacy from being observed in one's home space) was to residents, 75% of respondents overall rated visual privacy as quite or very important (see Figure 14). When comparing by gender, 77.7% of female respondents rated visual privacy as quite or very important compared with 73.2% of males. Younger people (18–44) generally found visual privacy slightly less important than older people (55+). People aged between 45 and 54 were most neutral about visual privacy and least likely to find it very important (see Table 5).

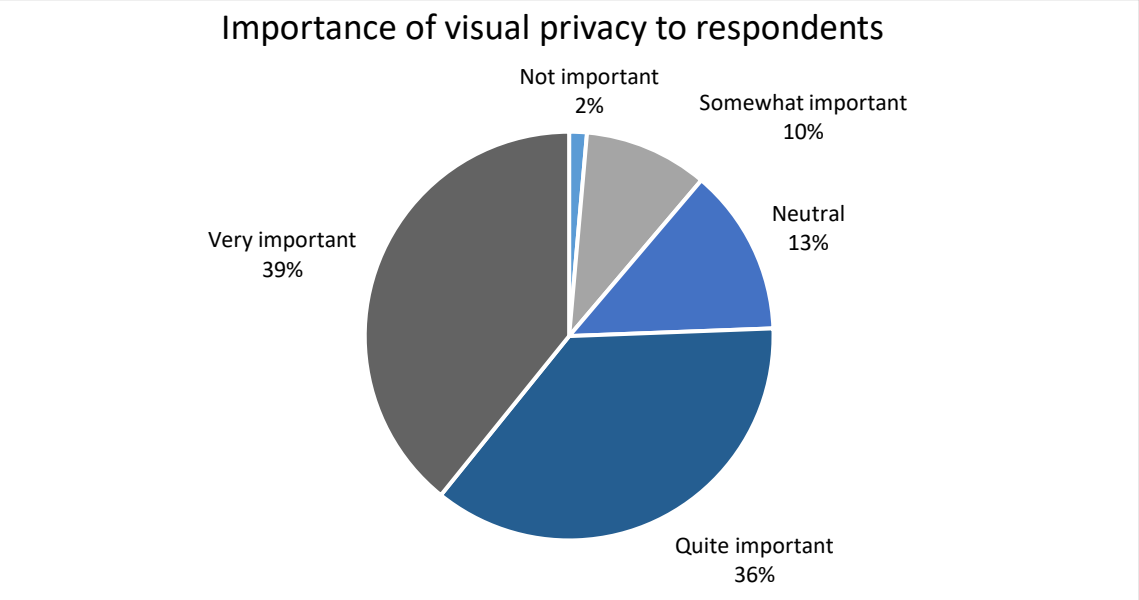

Figure 14. Likert scale ranking of the importance of visual privacy.

Table 5. Importance of visual privacy, rankings sorted by age range.

Age range	Responded quite or very important
18–24	70.9%
25–34	75.2%
35–44	78.0%
45–54	68.6%
55–64	80.0%
65+	79.8 %

Respondents were also asked to rank the following options in order of their importance for their privacy (see Figure 15):

- Not being able to see my neighbours outside.
- Not being able to see directly into my neighbour's windows.
- Other people not being able to see into my windows.
- Having a physical boundary (fence) between my home and public spaces (street).

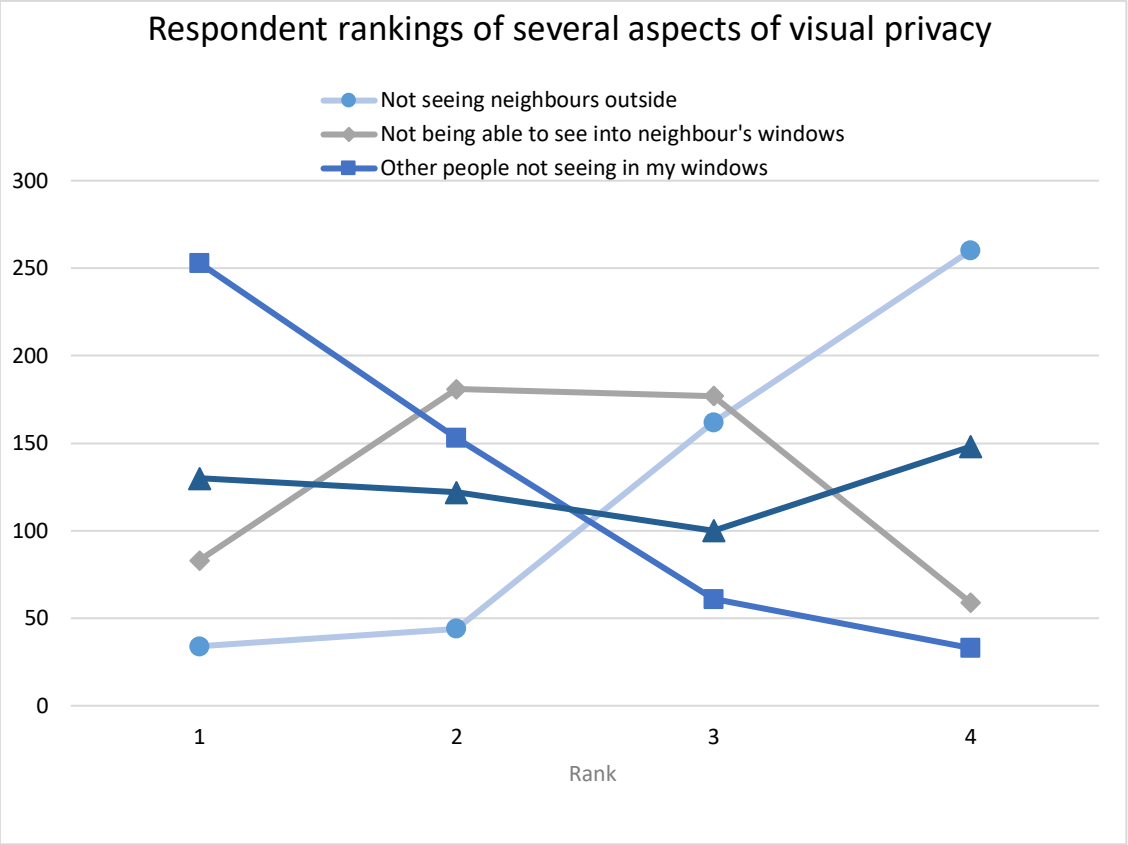

Figure 15. Rankings by respondents of several aspects of visual privacy.

The responses revealed the following patterns:

- **Not being able to see my neighbour outside:** This aspect of visual privacy was consistently ranked of least importance across all ages. Those respondents aged 35–44 found this aspect of visual privacy particularly unimportant.
- **Not being able to see directly into my neighbour's windows:** Older respondents (65+) ranked this aspect of visual privacy significantly more highly than other age groups (21% ranked it first, 47% ranked it second). For most age groups, this aspect was of mid-rank importance.
- **Other people not being able to see into my windows:** This was the most important aspect for all age groups.
- **A physical boundary between home and public spaces:** The visual privacy provided by a physical boundary between the property and public spaces provided a greater disparity between age groups. Younger people ranked this aspect of visual privacy much more highly than older people. Of those aged 25–34, 60% ranked this aspect either first or second in importance, with those aged 35–44 at 58%. Those respondents aged 65+ ranked this aspect much lower (only 37% first or second) and those aged 45–64 were split around 50% between the higher and lower rankings.

In addition to understanding the importance of visual privacy, the research sought to conversely consider how important having views out were and how these contributed to a respondent's enjoyment of being at home (see Figure 16). On a Likert scale of 1–5 (5 being very important), 58% of respondents thought that having a good view was important or very important, 27.8% were neutral and 14.2% thought it was not important.

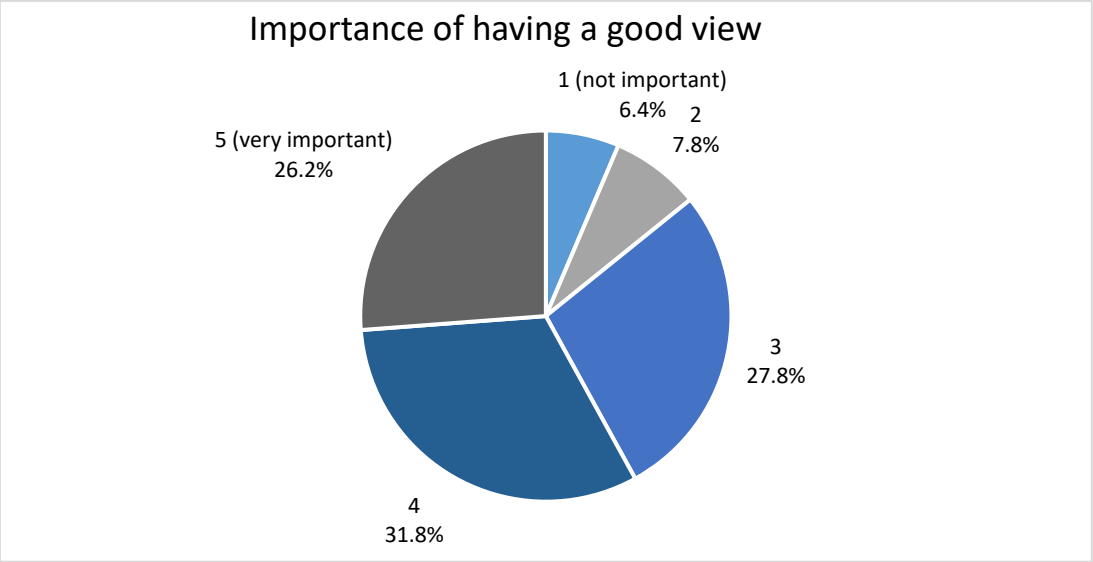

Figure 16. Responses about the importance of having a good view.

Responses were also categorised by age group (see Figure 17). Older people (55–65+) ranked having a good view from their windows for enjoyment of their home more highly than young people (18–34), although both age groups overwhelmingly rank this aspect of their home as at least somewhat important. Those aged 45+also rank this aspect highly. However, a larger percentage of this age group than any other rank a good view as not important or not important at all.

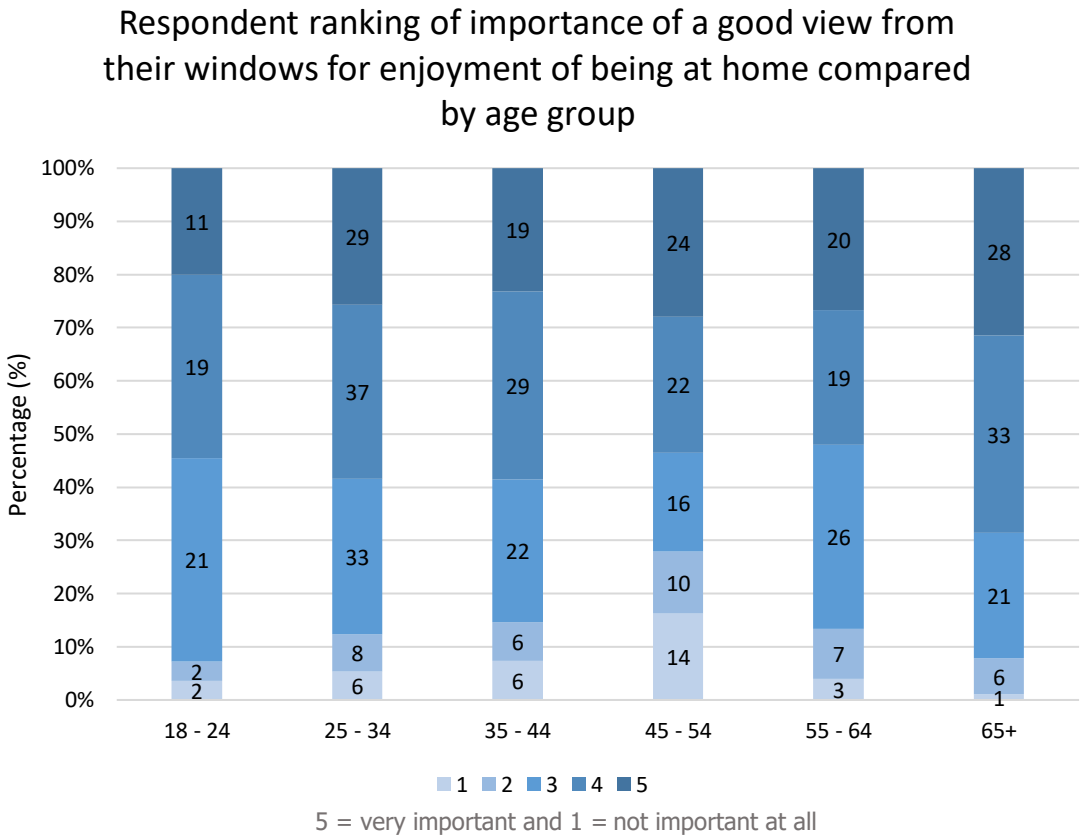

Figure 17. Respondent ranking of the importance of a good view from their windows for enjoyment of being at home compared by age group.

2.4.2 Acoustic privacy

When asked how often residents could hear their neighbours from inside their home (see Figure 18), the majority of respondents stated they heard their neighbours occasionally, although over a quarter of respondents stated they heard their neighbours often or daily. However, most ranked the impact of these noises as very low (see Figure 19).

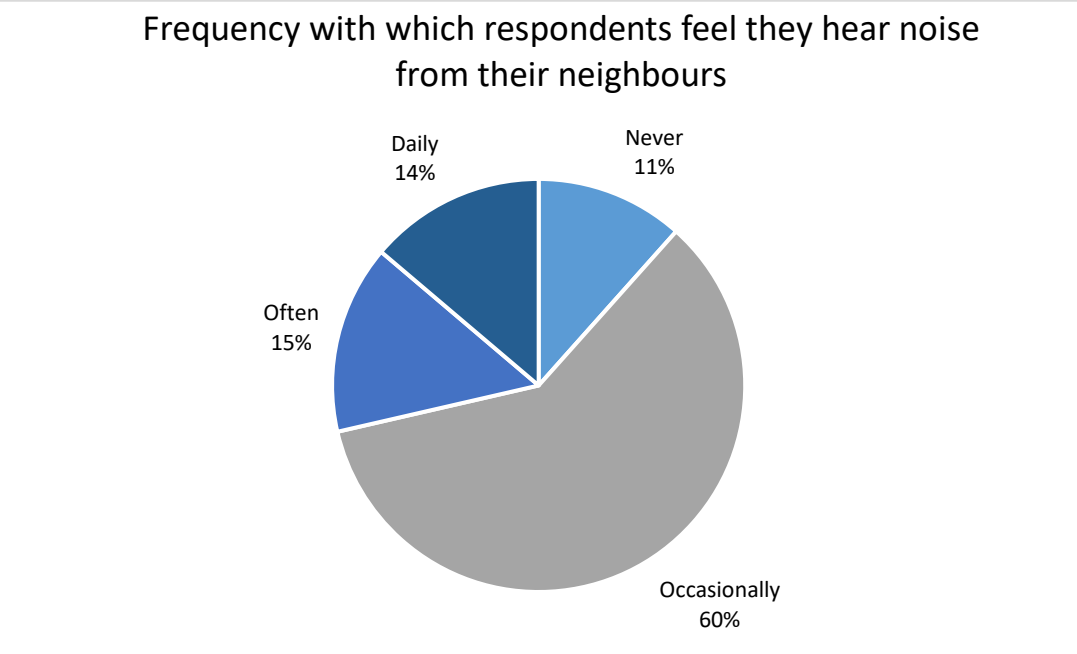

Figure 18. Frequency with which respondents feel they hear noise from their neighbours.

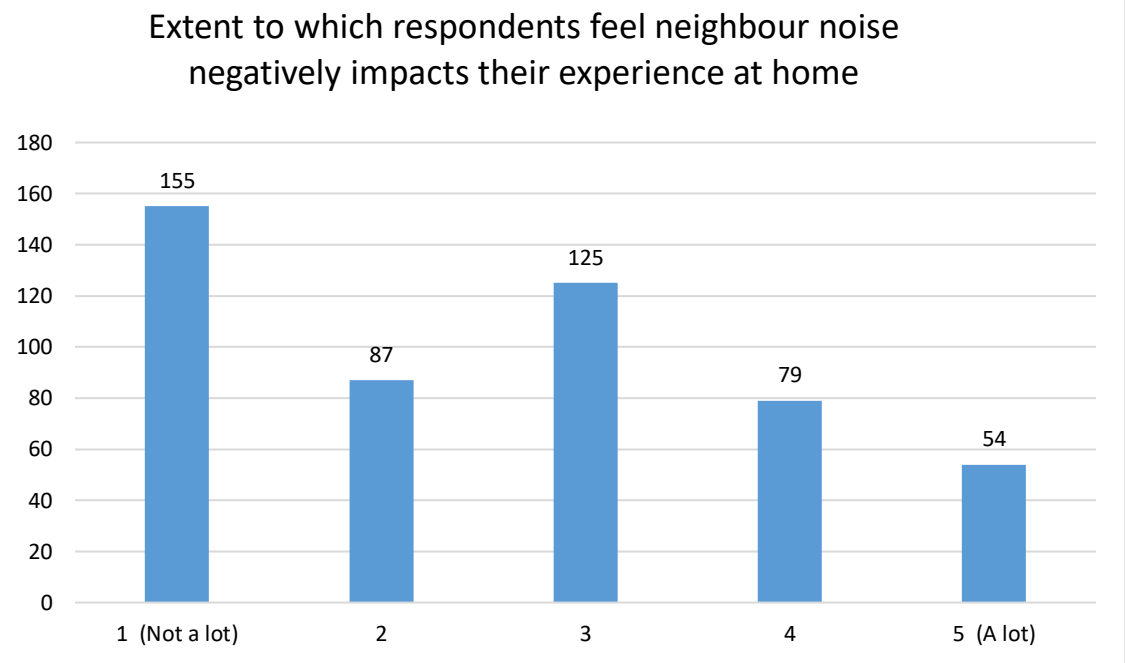

Figure 19. Extent to which respondents feel neighbour noise negatively impacts their experience at home.

In addition to hearing noise from neighbours, the survey asked participants how often they heard noise from the street (see Figure 20). Respondents felt that they heard street noise slightly more often than they heard neighbour noise. However, noise from their neighbours was more likely to have a greater negative impact on their experience when at home (see Figure 21).

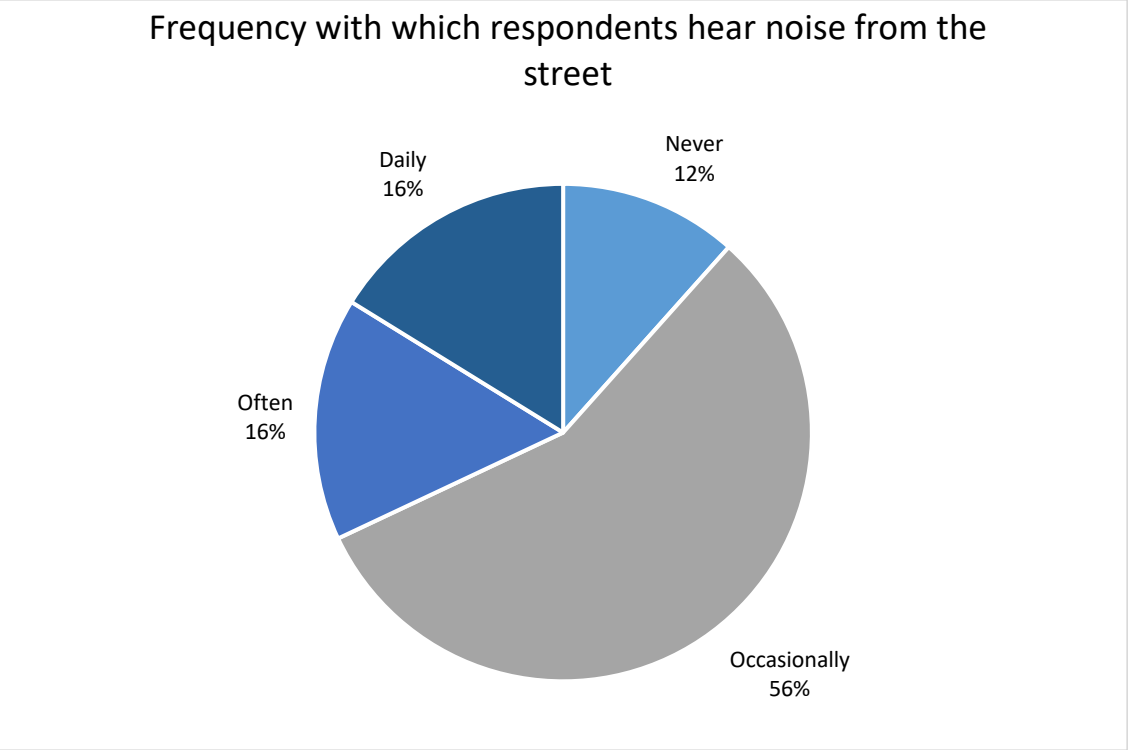

Figure 20. Frequency with which respondents hear noise from the street.

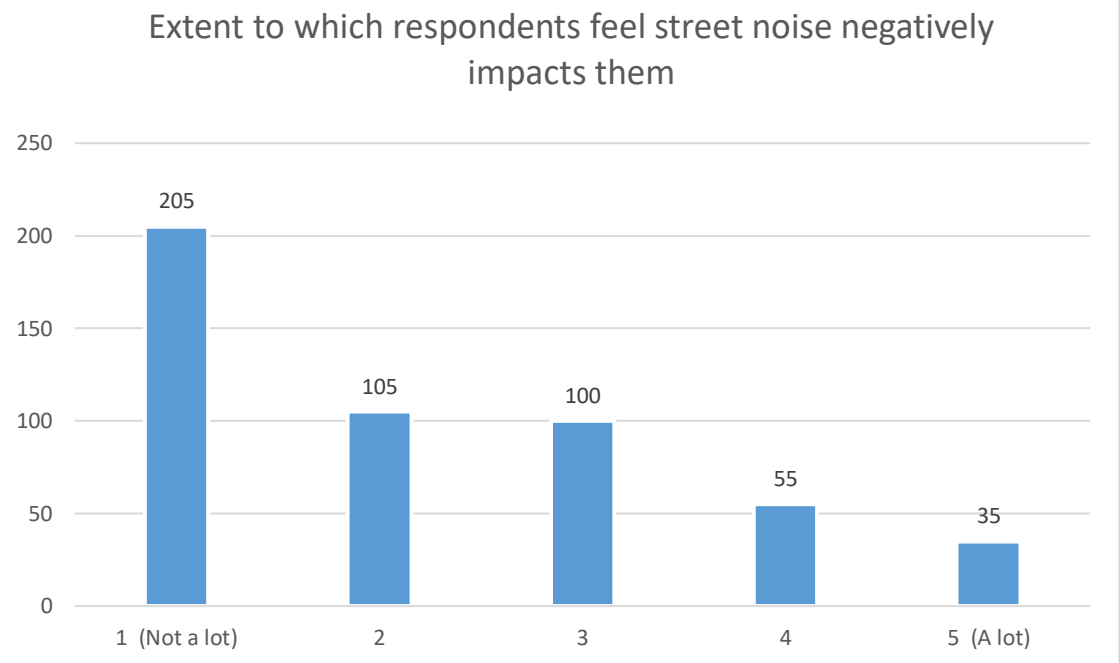

Figure 21. Extent to which respondents feel street noise negatively impacts them.

2.4.3 Thermal comfort

Respondents were asked to define how difficult they felt it was to control the temperature of their dwellings (see Figure 22). Since respondents were allowed to select multiple options, a meta-selection of 'difficult to keep warm' and 'difficult to keep cool' was created as this selection by respondents was not uncommon. This co-selection choice has been added to the table and charts to reflect this response. Combining the selections of both 'difficult to keep warm' and 'difficult to keep cool' and linking to the tenure type of respondents reveals that private rental tenants overwhelming found their medium-density home difficult to keep warm or cool compared with other tenure types (see Figure 23).

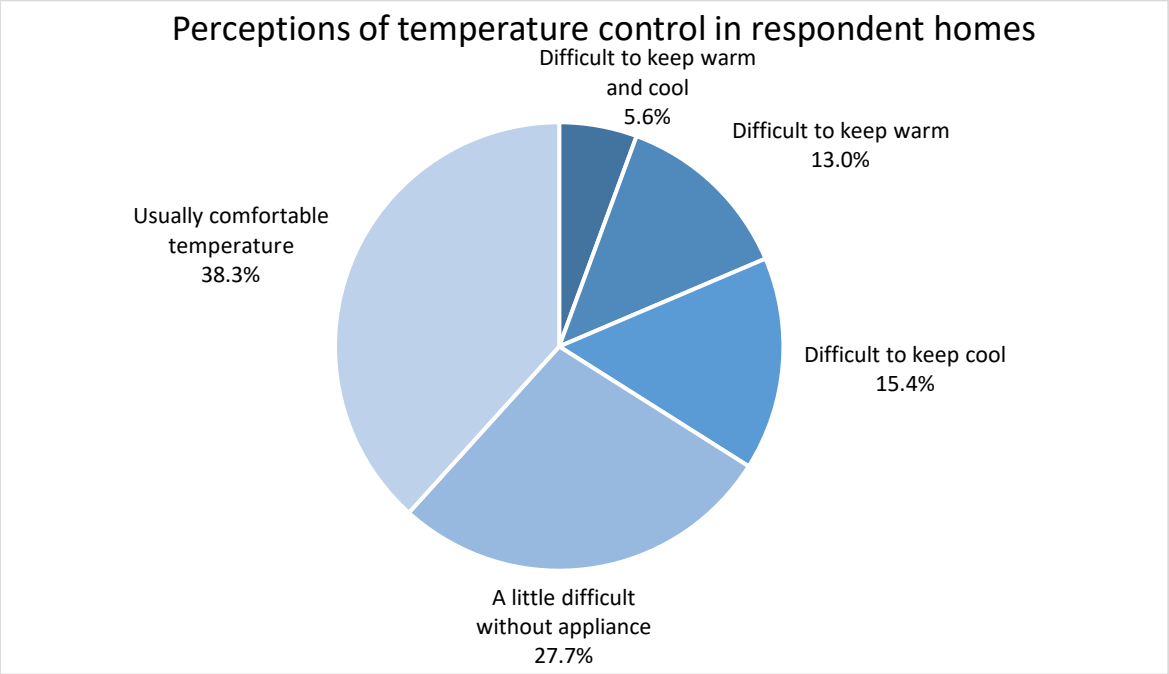

Figure 22. Perceptions of temperature control in respondent homes.

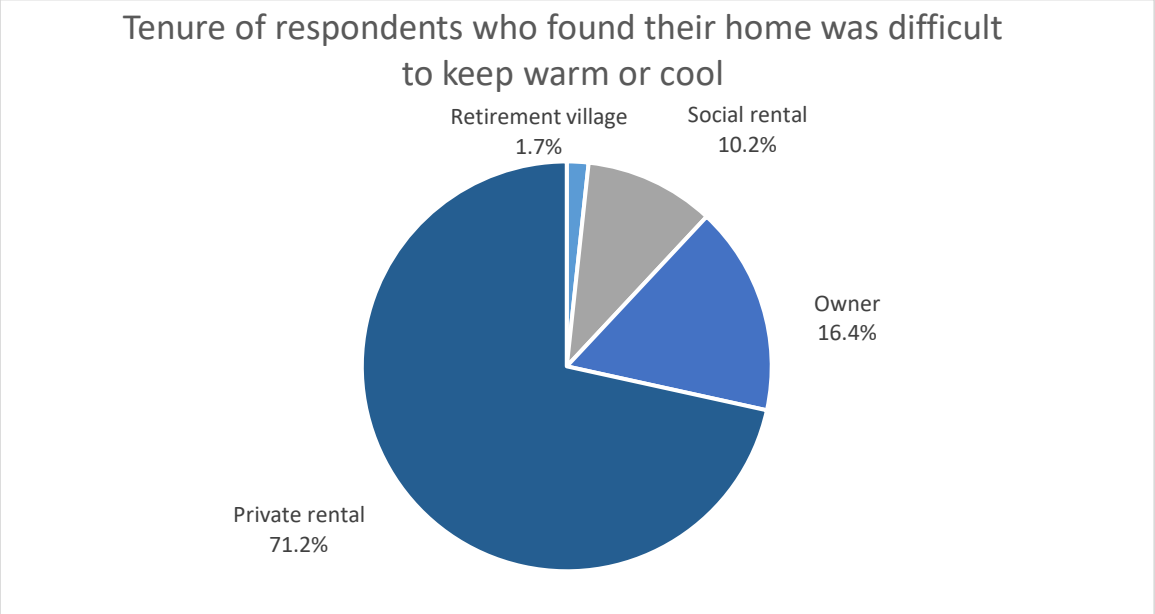

Figure 23. Tenure of respondents who found home difficult to keep warm or cool.

2.4.4 Air Quality

Respondents were asked if they were ever concerned about air quality and ventilation in their dwellings – 44% found this to never be an issue, 31% found it to be an issue occasionally and 25% found it an issue often or daily (see Figure 24).

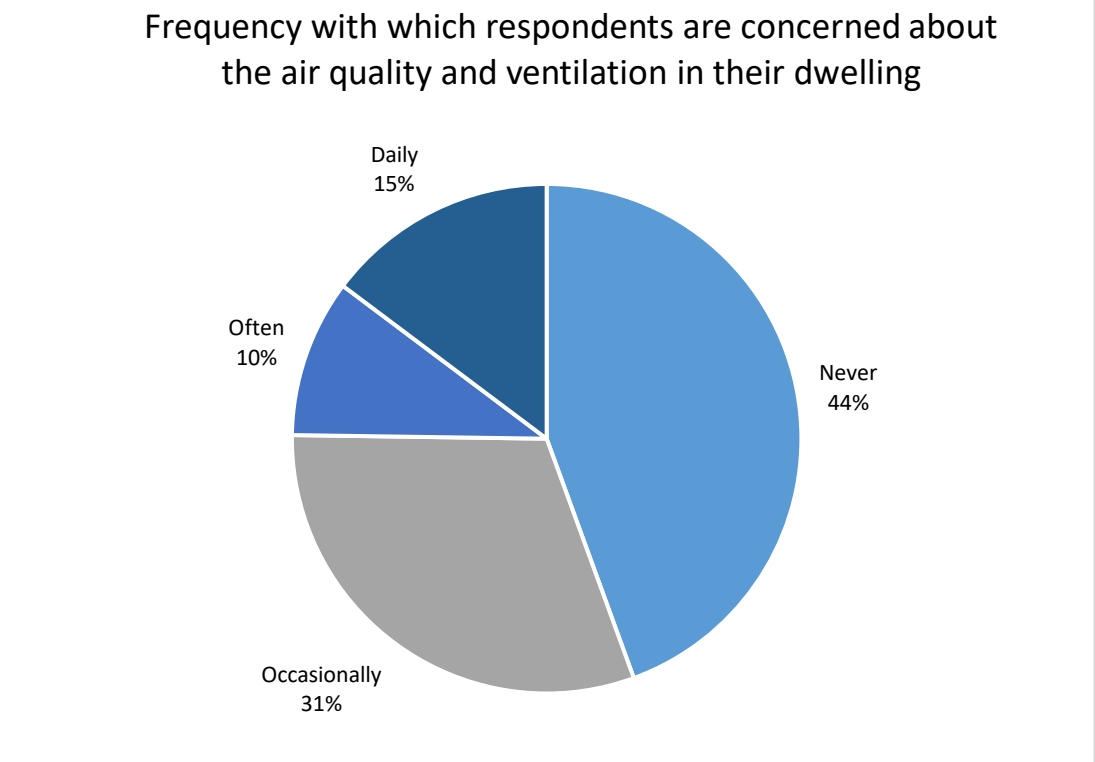

Figure 24. Frequency with which respondents are concerned about air quality and ventilation in their dwelling.

2.4.5 Natural light

When asked about natural light in their dwellings (see Figure 25), it was realised that a useful way to view the data would be by tenure type (see Figure 26).

Respondents living in an MDH retirement village report the highest responses in the 'good natural light most of the day' and 'excellent natural light all day' categories, with homeowners second. Social rental tenants report the least access to good or excellent light but mostly report reasonable access to natural light.

Private rental tenants' reports are more of a mix, with more reports of good or excellent natural light in their dwelling but also the most reports of poor or little natural light.

This adds to the data indicating the significant differences of MDH experiences and perceptions occurring between owner-occupiers and renters.

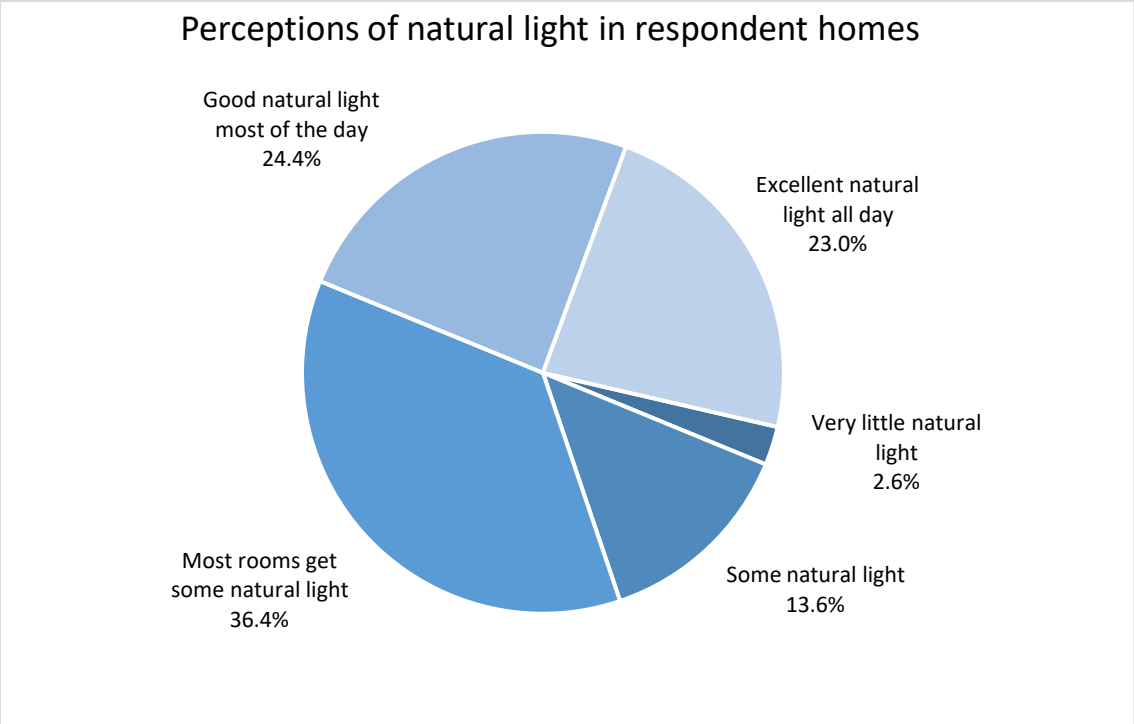

Figure 25. Perceptions of natural light in respondent homes.

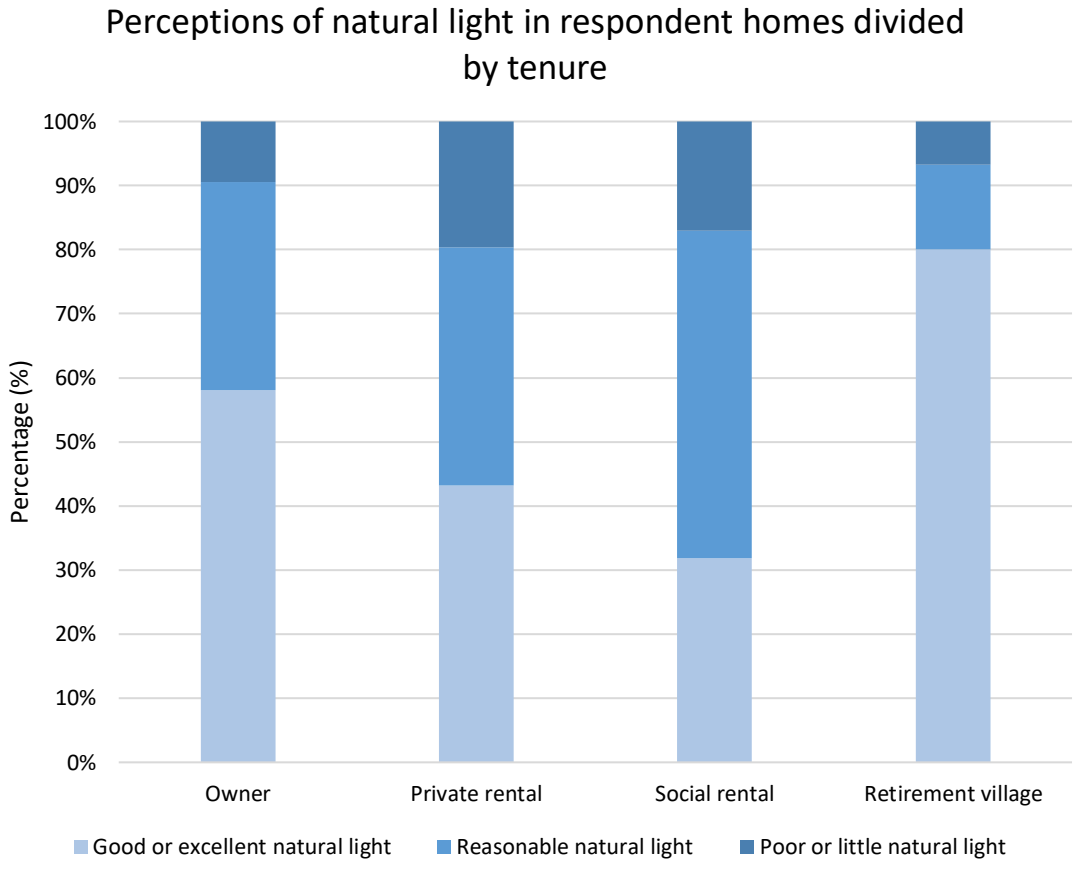

Figure 26. Perceptions of natural light in respondent homes divided by tenure.

2.4.6 Build quality and maintenance

When asked if they felt their dwelling was built to a high quality, 70% felt that it was and 30% did not feel that their dwelling was built to a high quality (see Figure 27). Those respondents who lived in retirement villages or owned their medium-density dwelling overwhelming felt their home was built to a high quality. The majority of respondents who lived in private or social renting also felt their MDH was built to a high quality. However, almost 40% reported they did not feel that their dwelling was built to a high quality (see Figure 28).

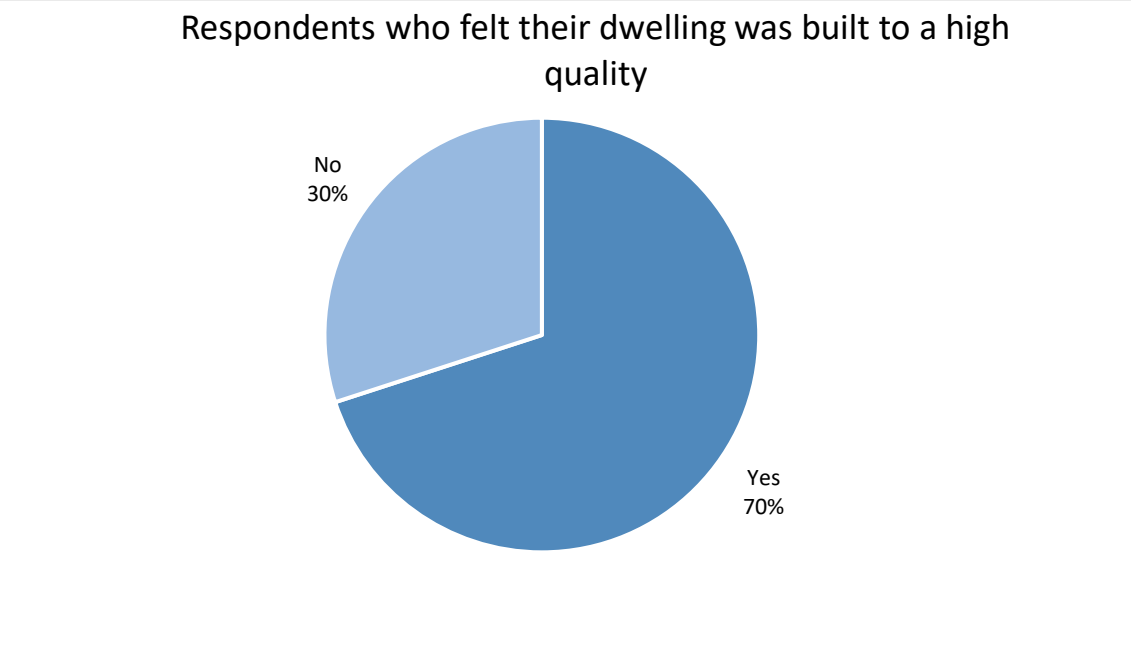

Figure 27. Respondents who felt their dwelling was built to a high quality.

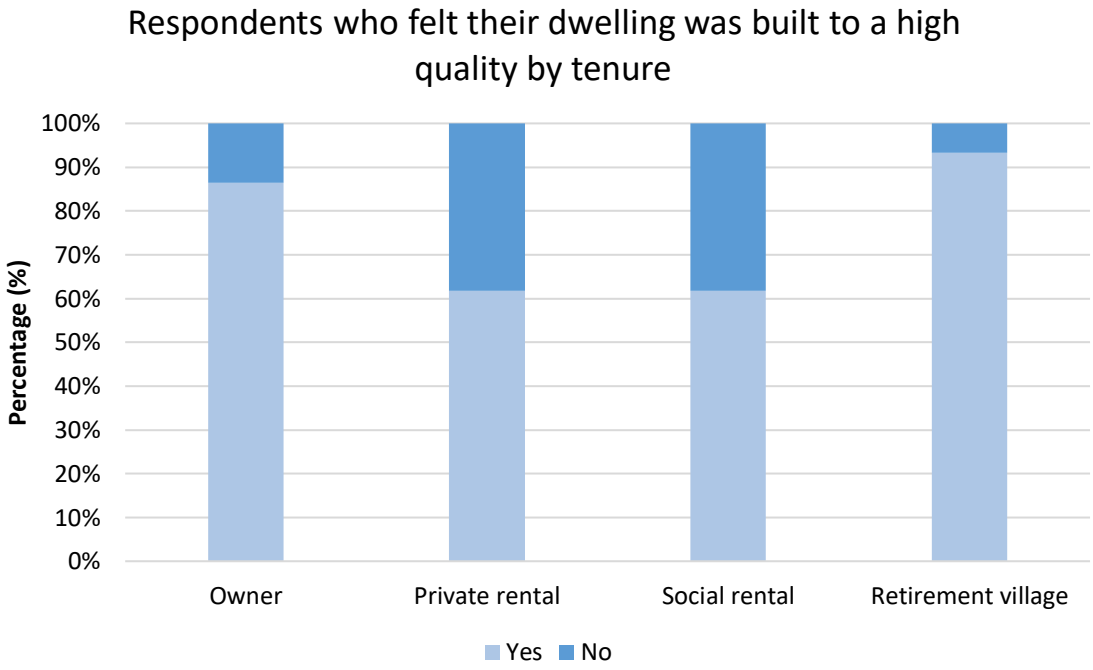

Figure 28. Respondents who felt their dwelling was built to a high quality by tenure.

When asked to qualify their responses, of the 350 respondents who thought that their dwelling was built to a high quality, 80 respondents drew correlations between build quality and the age of their dwelling (see Figure 29). However, there was a significant split between those who felt that their home was of good build quality because it was new and those who felt it was of good build quality because it was old. Modern design standards were comforting to some, while the solid and reliable nature of older buildings was a reason for others.

Commonly, respondents also stated that their building was of a good build quality because it was older and built by builders with better 'workmanship' than today. Those respondents living in Christchurch frequently commented that their house was 'a survivor' because it had taken little or only cosmetic damage from the Christchurch earthquakes.

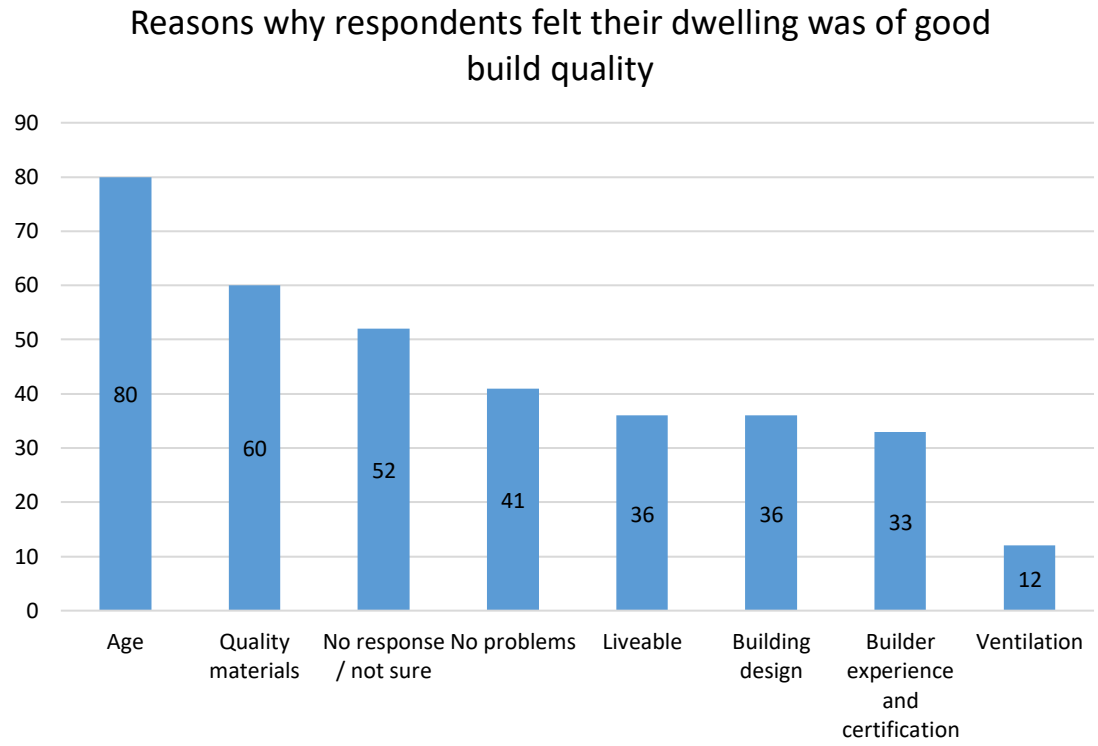

Figure 29. Reasoning coded from respondents' explanations of why they felt their dwelling was of good build quality.

Many respondents (n=60) also commented that they felt that their house was of a good build quality because of the building materials used. Brick was specifically raised as a quality building material.

In addition, 36 respondents noted that building design features such as open-plan layouts, which were perceived to suit their lifestyle expectations, were the reason they felt their home was of good build quality. A further 36 directly related build quality to liveability in their descriptions.

Fifty-two respondents were not sure or said they did not know if their building was of a good build quality and 41 appeared ambivalent, indicating that there were no problems they felt they could report.

A further 33 wrote about their experiences with their builder or specifically mentioned that knowing or knowing of their builder gave them a feeling that their dwelling was of a good build quality. Similarly, if the builder had lived in their dwelling previously, they also felt that this was a sign of quality.

As with the positive responses about build quality, age was the factor most often raised as a reason for poor build quality (see Figure 30) – 53 of the 150 respondents who were not satisfied with the build quality of their dwellings wrote about age being an issue for them.

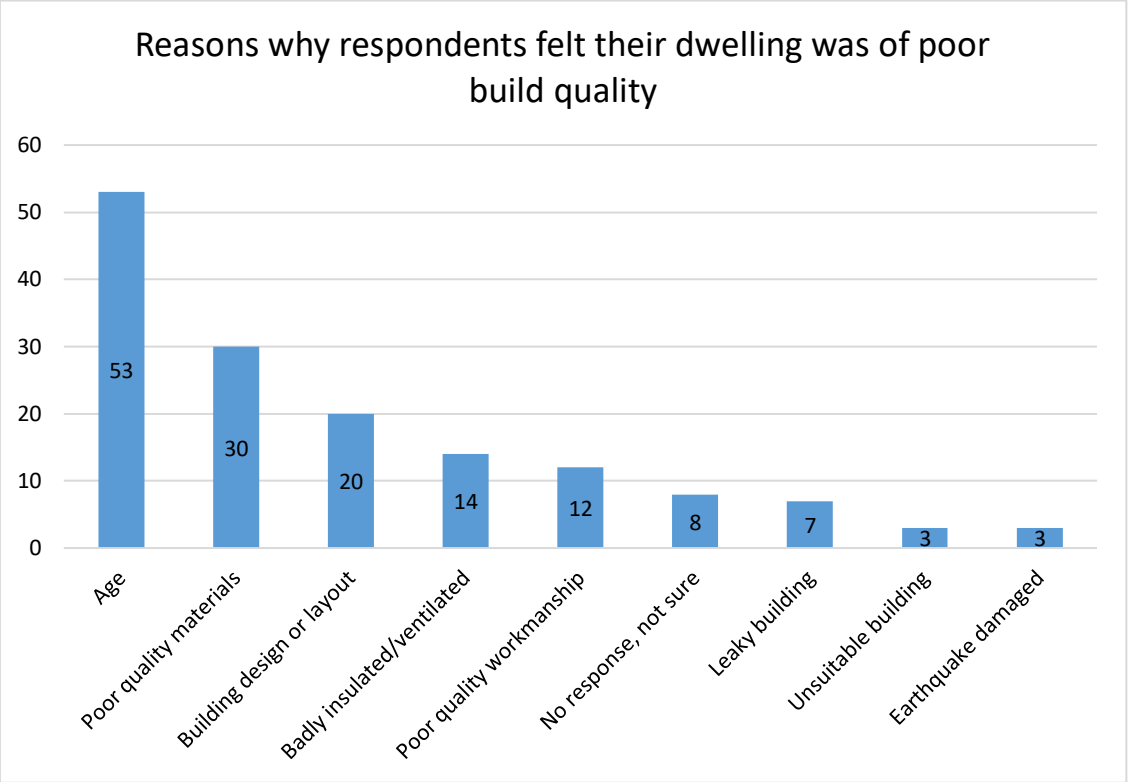

Figure 30. Reasoning coded from respondents' explanations of why they felt that their dwelling was of poor build quality.

Additionally, several respondents referred to their dwelling's history as an ex-state house as a reason for feeling it was of a low build quality. This opinion presents an interesting contrast to several other respondents who stated that the quality of their dwelling was felt to be good specifically because it was an ex-council or ex-state house. Other reasoning was poor quality materials and poor design or layout.

Issues around the maintenance of MDH have been explored in a variety of BRANZ projects in the MDH research programme. In this study, a significant majority (380 out of 500) considered that having low-maintenance dwellings was important to them (see Figure 31).

When asked what aspect of maintenance they spent the most on, 153 described prioritising maintenance of their interior spaces as contrasted by the 95 respondents who spent the most on outside spaces (see Figure 32).

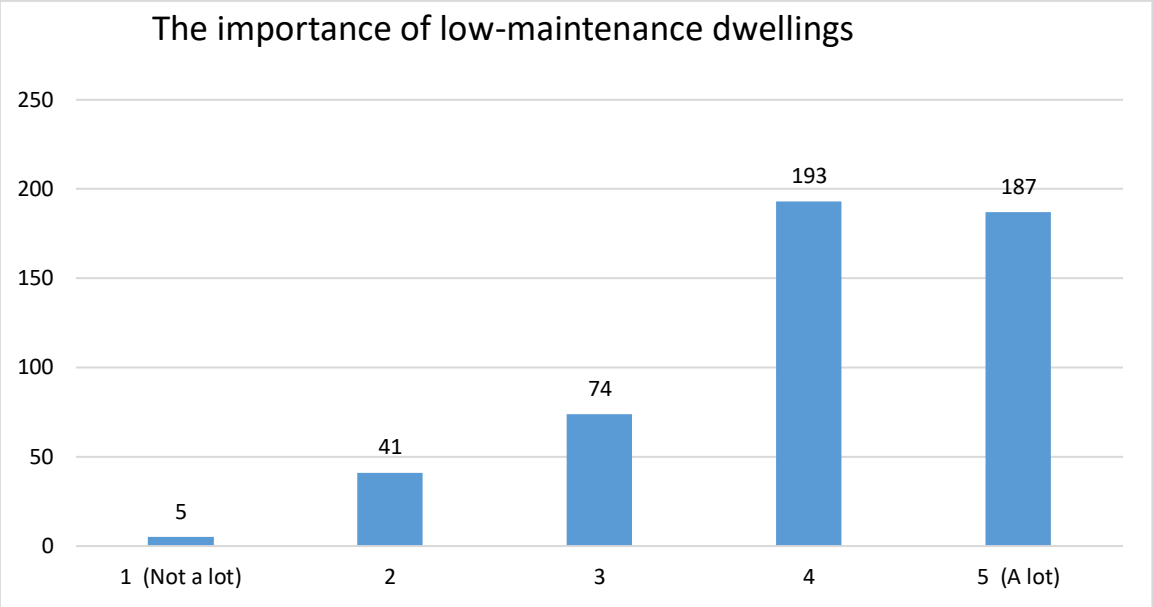

Figure 31. The importance of low maintenance dwellings to respondents.

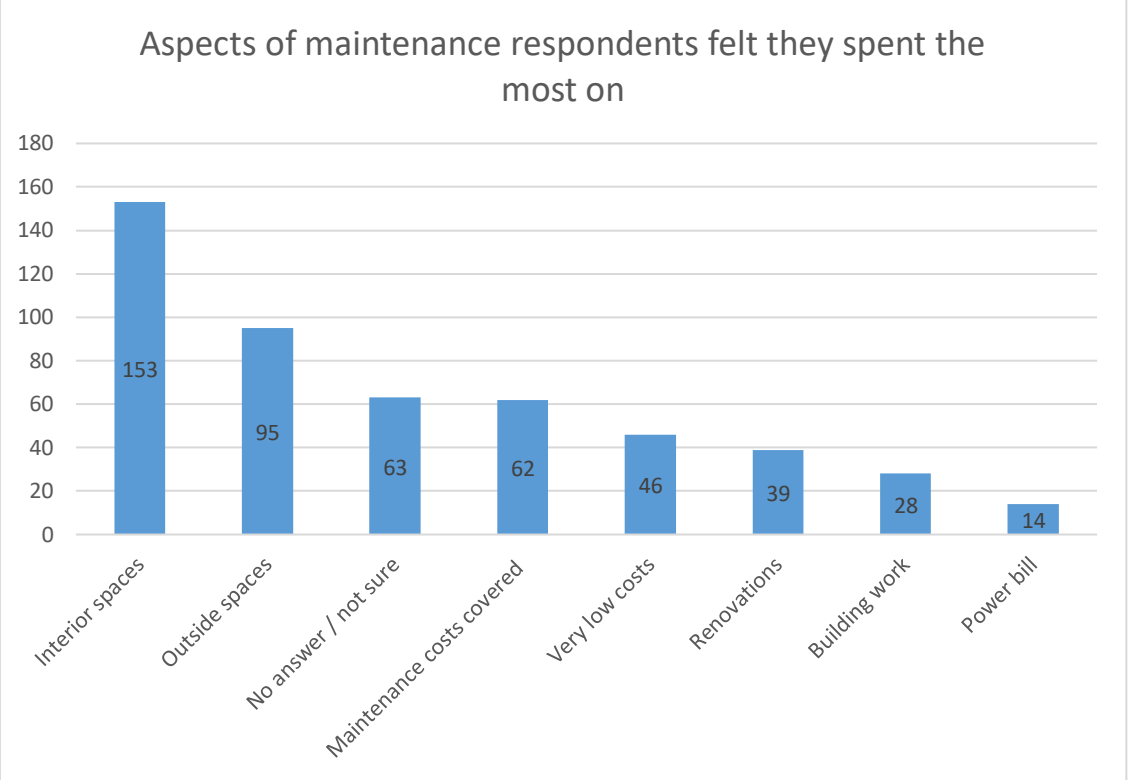

Figure 32. Aspects of maintenance respondents felt they spent the most on.

2.4.7 Building services and Amenity

The first questions in the building services and amenity section of the survey specifically asked about communal spaces. In total, 153 respondents affirmed that their dwelling was situated within a complex that included a communal space for residents and 347 said it was not. This correlates to the number of those from apartments as compared to terrace houses, indicating that residents who were not

living in apartments were unlikely to be part of larger complexes that had communal spaces.

When asked how often they used the communal spaces provided, half of those with communal spaces available to them occasionally used them and 23% used them often (see Figure 33). When asked to describe in one sentence what they thought would improve the quality of the communal areas in their complexes, most did not respond or were unsure. This could suggest that, because communal spaces are not common in New Zealand, respondents were not aware of what their options were.

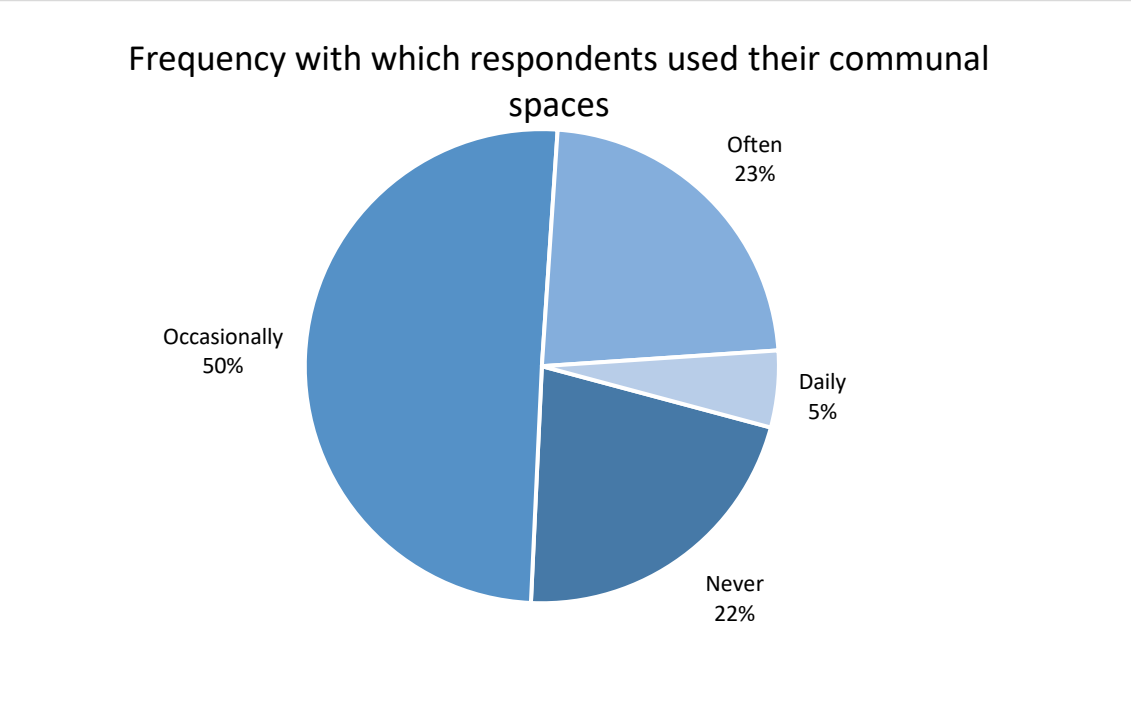

Figure 33. Frequency with which respondents used their communal spaces.

When asked how important it was that there are adequate lifestyle amenities (such as eateries, exercise areas, daycare, or co-working space) included in their dwelling (i.e. a mixed-use development), most respondents reported that having lifestyle amenities within their residential complex itself was not important or only somewhat important to them (see Figure 34). However, given the importance of location to respondents, it can be inferred that these respondents may desire such amenities within close proximity of their dwelling even if not necessarily contained within their residential complex. The high number of terraced house dwellers in the study also likely influenced this result.

Despite these results, when asked which amenity they would choose if they could choose one to include in their housing complex, most stated they would like to see a gym (n=41) (see Figure 35). Others would have chosen a swimming pool (n=31) or a shared garden and community area (n=15). Additional answers included a kids' playground or daycare facilities (n=10) and a supermarket or dairy (n=10). Beyond the most common answers, further amenities mentioned included a laundry (5), café, restaurant or bar (n=5), sports facilities or games room (n=5), medical facility (n=3), security (i.e. guards, cameras or gates) (n=3), fibre internet connection (n=3), BBQ (n=2), shared refuse area (n=2), lift (n=1) and religious centre (n=1). In total, 128 responses were received.

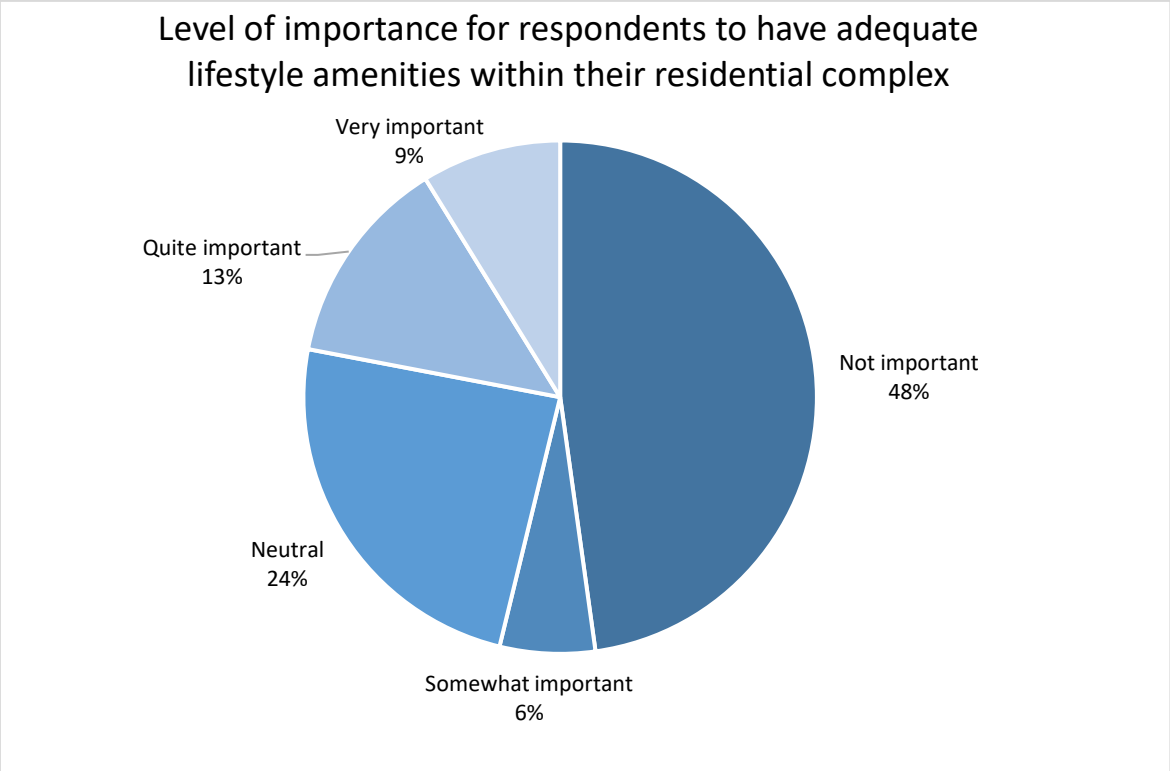

Figure 34. Level of importance for respondents to have adequate lifestyle amenities within their residential complex.

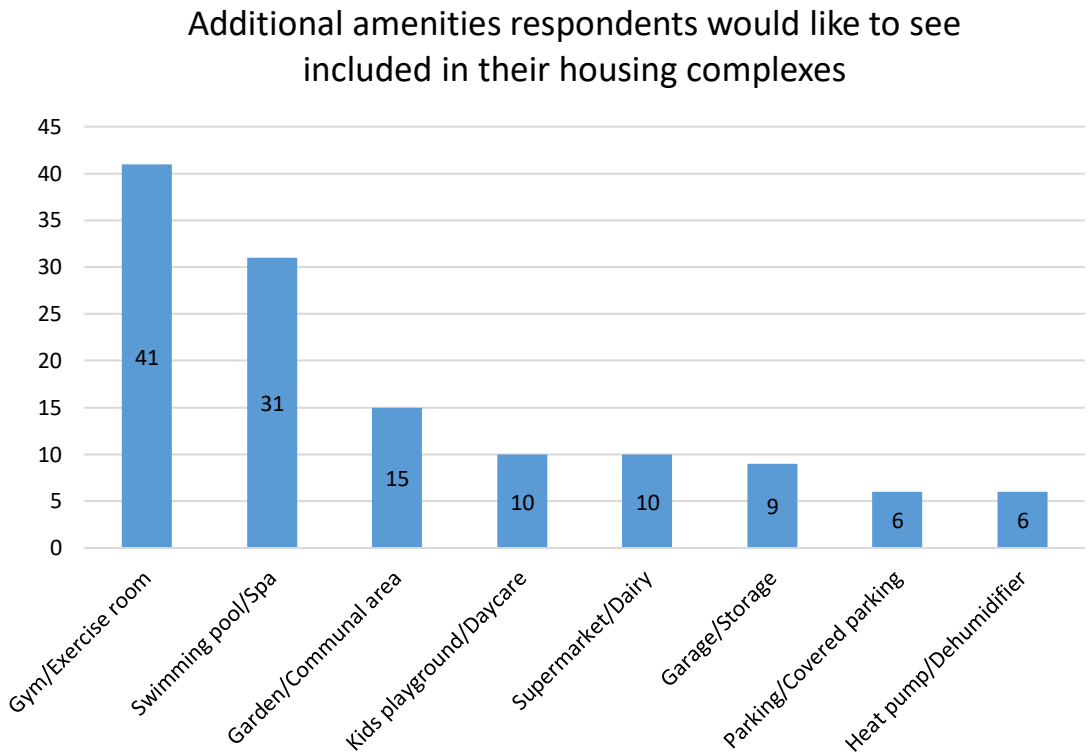

Figure 35. Additional amenities respondents would like to see included in their housing complexes.

A further question considered lift access (see Figure 36). Respondents were asked: "If you live in an apartment block of three storeys or more, how important is it to you that there is lift access to your dwelling?" Of the 500 respondents, 245 said that this question was not applicable to them. Of the 255 remaining who were living in a dwelling of 3 or more storeys, 29% indicated it was very important, 22% indicated it was quite important to them that the residential complex had lift access and 18% responded that it was not important.

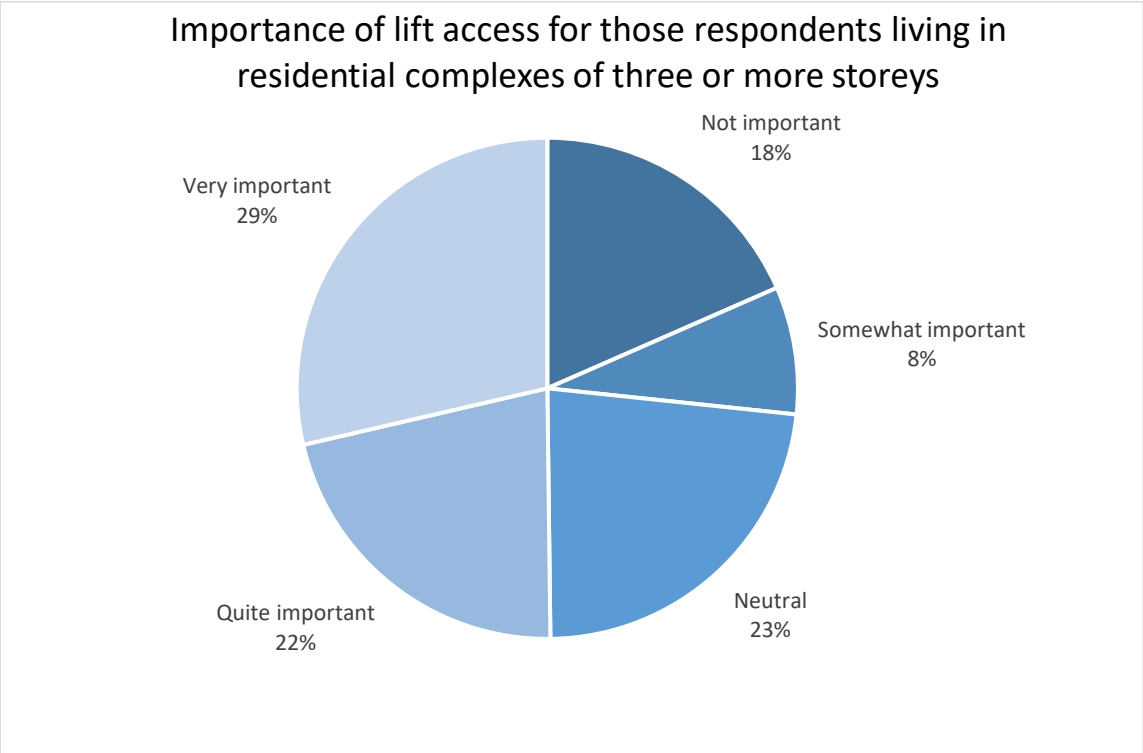

Figure 36. The importance of lift access for those respondents living in residential complexes of 3 or more storeys.

Parking was included in the building services and amenity section. Respondents were asked how important it was to them that they had access to car parking that is attached to their dwelling – 45% said it was very important and 26% said it was quite important (see Figure 37).

When asked if they would support car parking being centralised in a nearby location to their homes if it meant they were able to have more space for other uses at their home, one-quarter were supportive, 42% were neutral and one-third were not supportive (see Figure 38).

As with parking, questions were asked about the importance of individual access to adequate rubbish and recycling facilities attached to one's home as well as the appetite for accepting rubbish and recycling facilities being centralised. Respondent views about the importance of access to adequate rubbish and recycling facilities attached to their dwelling revealed that 42% thought they were very important and 32% thought they were quite important (see Figure 39).

In terms of rubbish being centralised in a location near to their home, 45% of respondents were supportive of the idea, 40% were neutral and 15% were not supportive (see Figure 40).

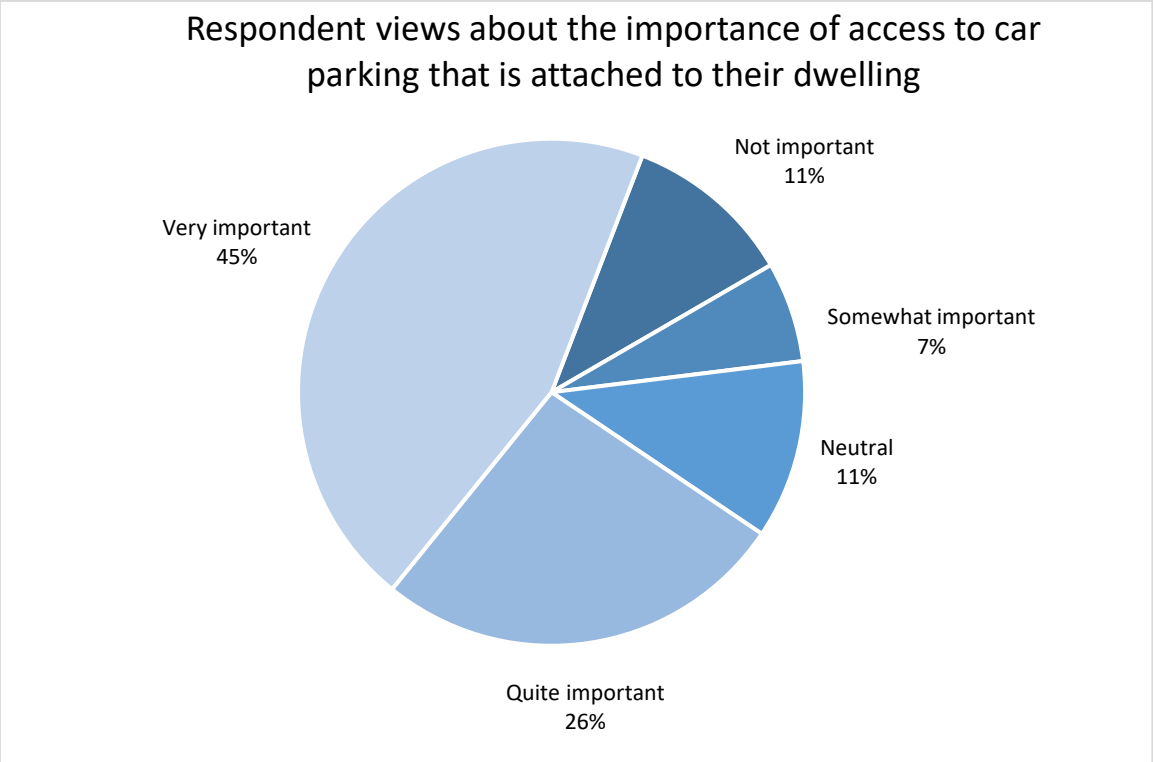

Figure 37. Respondent views about the importance of access to car parking that is attached to their dwelling.

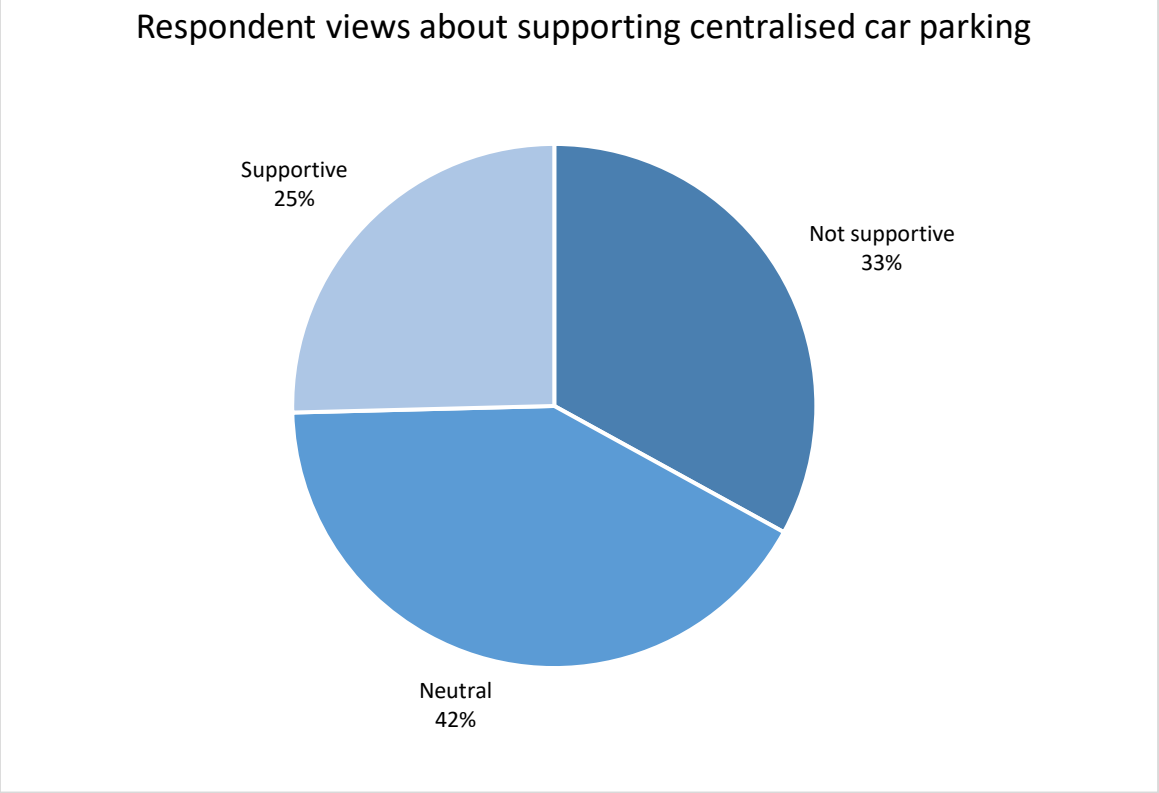

Figure 38. Respondent views about supporting centralised car parking in a nearby location to their homes if it meant they were able to have more space for other uses at their home.

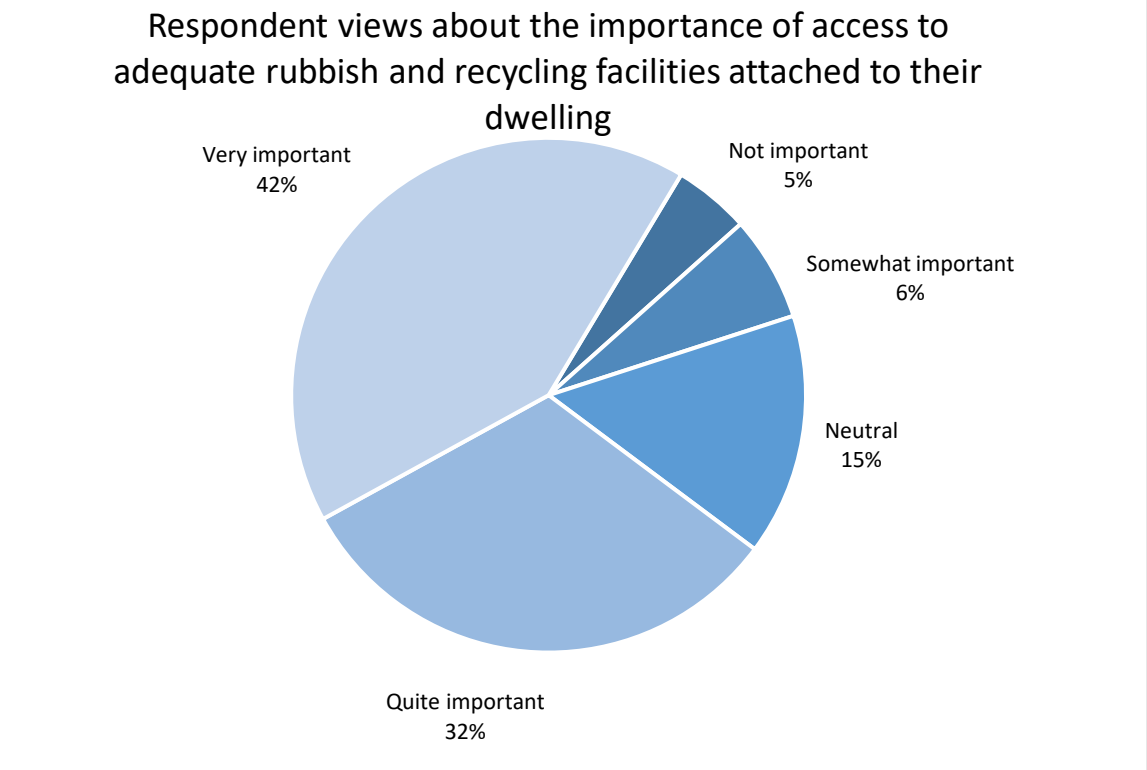

Figure 39. Respondent views about the importance of access to adequate rubbish and recycling facilities attached to their dwelling.

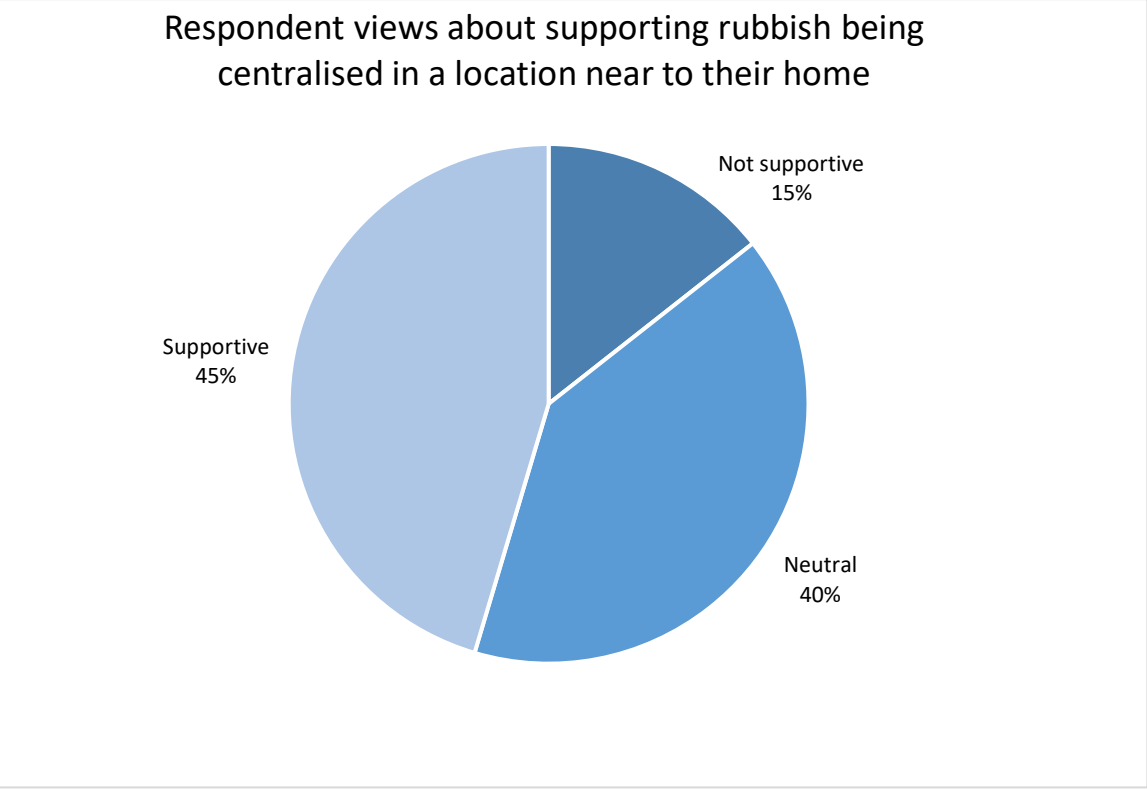

Figure 40. Respondent views about supporting rubbish being centralised in a location near to their home.

When asked about the adequacy of the storage in their dwelling (see Figure 41), only 40% of respondents rated their storage as either excellent or good, while 40% found their storage space either inadequate or only somewhat adequate and 20% felt neutral about the storage space in their dwelling.

A higher percentage of residents in horizontally attached forms of MDH found the storage space in their homes good or excellent (41.0%) than those in vertically attached MDH (36.4%). However, most residents of vertically attached MDH were neutral about their storage space (29.1%), whereas a higher percentage of horizontally attached MDH residents found their storage space only somewhat adequate (26.9%).

When broken down by tenure type (see Figure 42), there are some small differences in the percentages of reported storage space amongst the respondents. Owners were more likely to report excellent or good levels of storage space, whereas those in private or social rentals were more likely to report somewhat adequate or not adequate storage space. Very few social rental tenants had excellent levels of storage space but did report more good levels of storage compared to private rental tenants. The respondents living in retirement villages were spread quite equally across all levels of storage space adequacy.

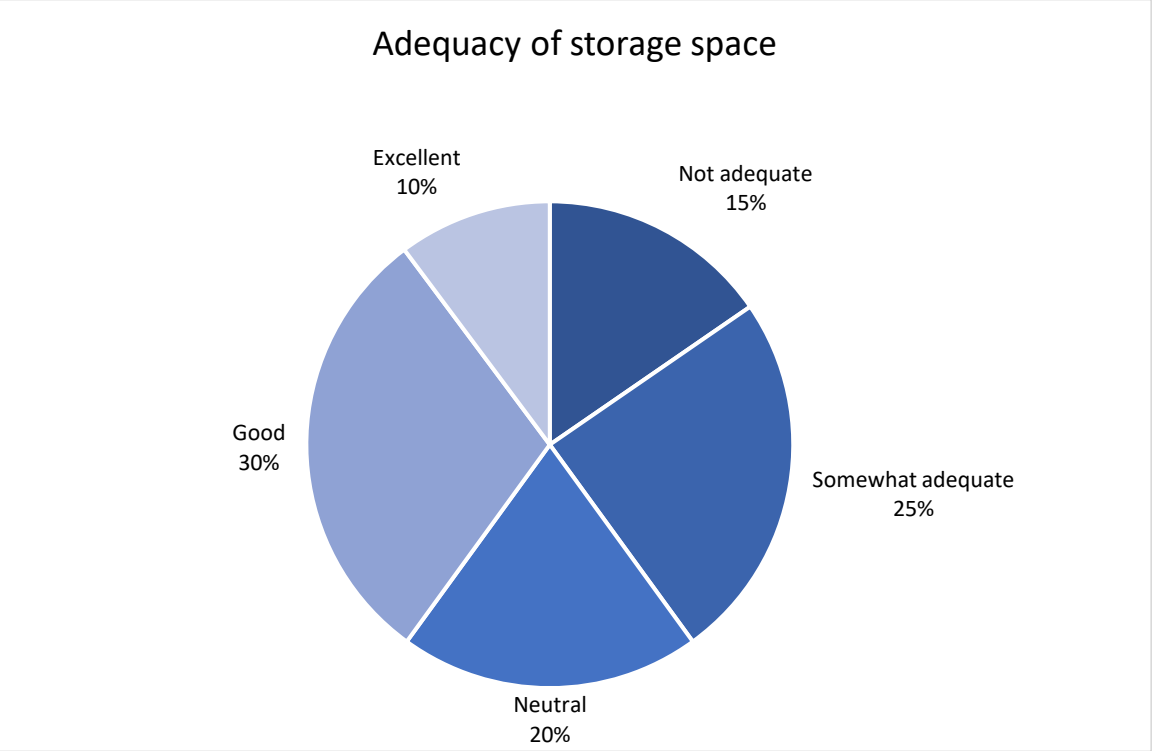

Figure 41. Adequacy of storage space.

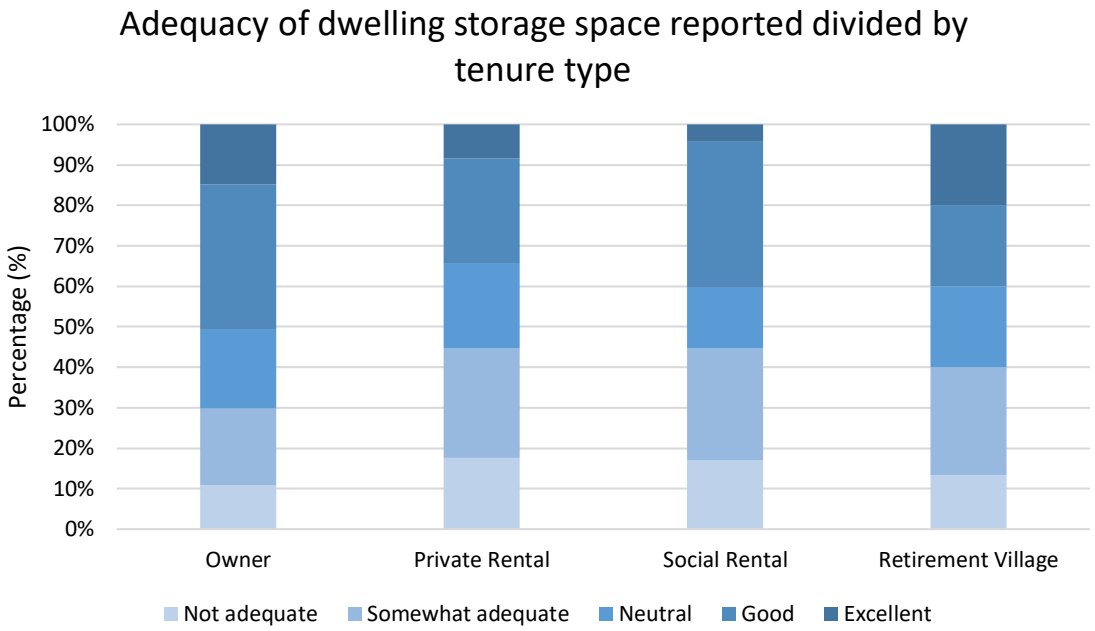

Figure 42. Adequacy of dwelling storage space reported divided by tenure type.

The spaces where participants reported they had the most storage space available was usually in designated storage spaces, closely followed by within bedrooms and cupboard spaces (see Figure 43). Bedrooms featuring highly is likely due to the responses from renters who may not have access to shared storage spaces in the wider dwelling.

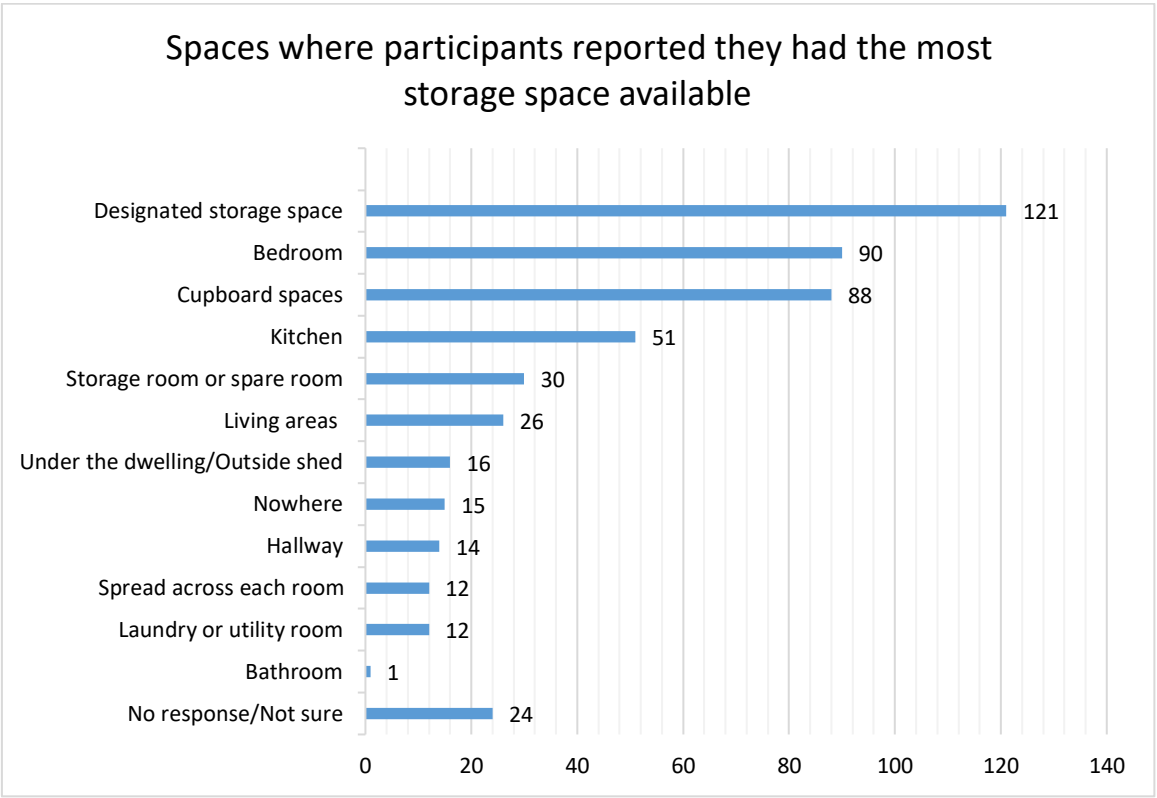

Figure 43. Spaces where participants reported they had the most storage space available.

3. Summary

Surveying a broad demographic base, in keeping with current and expected New Zealand population trends, has resulted in extremely useful findings across key MDH liveability topics. The diversity of the 500 respondents in terms of housing and tenure types also revealed insights about the varied experiences of residents with the liveability of their MDH dwellings.

The main findings from the MDH residents' survey can be distilled into the key insights summarised below. The number of insights is indicative of the rich data provided by survey respondents. These insights are critical in understanding the lived experiences of New Zealanders in MDH.

Insight 1: Those MDH residents who defined liveability considered it to mean 'the ease of living in a place'

The majority of survey respondents defined liveability as 'the ease of living in a place', connecting convenience and ease of living with an innate place-based understanding of liveability. A large number of respondents, however, indicated that they did not know or were not sure about what liveability meant. It would be interesting to explore this divergence further to understand what factors may contribute to inconsistency between MDH residents regarding what liveability is and what it means to them.

Insight 2: Dwelling liveability is important but so too is neighbourhood liveability

The MDH residents' survey highlighted that the location of a dwelling within a neighbourhood (neighbourhood liveability) was just as important as dwelling liveability. Responses about the importance of features within their home, such as kitchens, were balanced with responses about the value of location and access to neighbourhood amenities.

Insight 3: Satisfaction with MDH was high

Overall, the satisfaction of residents with their MDH dwellings was high. Older and younger respondents were most likely to experience housing satisfaction with their MDH. Looking at ethnicity, New Zealand European were also more likely to be satisfied with MDH as compared to Māori and Pacific respondents.

Insight 4: MDH is largely considered to be as liveable as stand-alone housing

The majority (79%) of survey respondents felt that their MDH dwelling was as liveable as a stand-alone home. This may indicate a growing acceptance of MDH as a housing typology in New Zealand, moving away from expectations of a stand-alone home.

Interestingly, owner-occupiers were highly likely to find their MDH as liveable as a stand-alone house, alongside the majority of respondents living in private or social rental dwellings. However, a significant minority of tenants living in private or social rental MDH indicated they felt a stand-alone dwelling was more liveable than their current medium-density dwelling. This was largely due to factors such as the proximity of neighbours, room size and access to private open space.

Insight 5: Factors to consider when designing liveable MDH include indoor environmental quality, privacy and parking

Natural light and thermal comfort were most commonly ranked as the environmental aspects having the most impact on MDH liveability. Visual privacy was also very

important to a large majority of respondents, and many found the temperature control of their dwellings difficult (particularly cooling). When it came to perceptions of MDH design, parking was a significant issue. Interestingly, noise and hearing neighbours or the street were not significant concerns for respondents.

Insight 6: Owner-occupier and renter experiences are different and not always directly comparable

The survey identified that there are significant differences between owner-occupiers' versus renters' experiences of living in MDH, and the perceived liveability experienced by these groups is most often directly proportional to tenure type. Renters across categories were more likely to view the build quality of their dwelling to be an issue and were more likely to find aspects of their size and storage needs not being met. Concerns about thermal comfort were also significantly more noticeable among renters than owner-occupiers.

Insight 7: A range of housing solutions to meet the needs and preferences of MDH residents is required

One of the most interesting insights from the data was just how varied preferences and experiences were when compared across regional locations, ages, life stages and housing type and tenure categories. This also links to literature emerging out of the Building Better Homes, Towns and Cities National Science Challenge research programme about housing choices and trade-offs. It connects the idea of New Zealand being a diverse nation to the idea that our housing also needs to be varied, and MDH as a typology offers part of this solution.

These key insights provide a succinct summary of the findings of this MDH residents' survey and provide a starting point from which the building and construction industry and policy makers at the national and local levels can understand and create the settings necessary to design and deliver liveable MDH in New Zealand.

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Appendix A: Online resident survey questions

INTRODUCTORY QUESTIONS

1. What type of dwelling do you live in?

A. Standalone (i.e. no other houses attached)

B. Horizontally attached (my dwelling shares a wall with other dwellings – could be described as duplex, triplex, unit, townhouse or terraced housing)

C. Vertically attached (there are other dwellings above and/or below my dwelling, and possibly sharing a wall).

2. How many storeys is your overall building (including other dwellings)?

1	2	3	4	5	6+

3. **How many storeys is the exclusive area of your own dwelling?**

1	2	3+	4	5	6+

4. **How many bedrooms does your dwelling have?**

1	2	3	4+

5. **How many other people live with you?**

1	2	3	4	5 or more people	None

6. **What's your household composition?**

One parent with child(ren)	1
Couple with child(ren)	2
Couple only	3
Living alone	4
Multi-generational home	5
Flatting/a group individuals that live together	6
Boarding	7
Other (please specify) _____	97

7. **What type of tenure do you have at the dwelling you live in?**

Owner	1
Private rental tenant	2
Social housing tenant	3
Retirement village	4
Other (please specify) _____	97

8. **How long have you lived in the current dwelling?**

Less than 1 year	1
1-2 years	2
3-4 years	3
5+ years	4

DEFINING LIVEABILITY

9. **In one sentence, can you tell us what you think about when you hear the word liveability?**

10. **Rank the following aspects of your home in order of importance to you:**

Design (i.e. size and layout)	
Quality	
Age	
Location and local amenities	

11. **Please describe in one sentence why you ranked [INSERT CODE RANKED AS #1 AT Q10] as the most important aspect to you?**

12. **In a few words, can you please tell us if there are other aspects about your home that are important to you?**

13. **Do you consider your current home to be as liveable as a standalone house?**

Yes	1
No	2

14. **In one sentence, can you tell us why you consider/don't consider your current home to be as liveable as a standalone house?**

DWELLING DESIGN

15. **Do you think your home is the right size for you (and your household?)**

Yes	1
No	2

16. **Does the design of your home suit your needs?**

Yes	1
No	2

17. **Does the design of your home affect your sense of liveability living there?**

Yes	1
No	2

18. **In one sentence, can you tell us why your home does/does not suit your needs?**

19. **If you could improve one thing about the design of your home, what would it be?**

20. **Rank the following spaces of a dwelling in order of which are most important to you?**

The entrance	1
The kitchen design, including storage	2
The living room proportions	3
Private outdoor spaces (such as a deck, garden, or patio)	4
Bedroom sizes	5
Bathrooms	6
Laundry	7
Storage	8

Garage	9
Other	97

21. **In a few words, are there any other spaces of a dwelling that are important to you?**

22. **How adequate is the storage space in your dwelling?**

1	2	3	4	5
Not adequate	Somewhat adequate	Neutral	Good	Excellent

23. **In one sentence, please describe where you have the most storage space available in your home:**

VISUAL PRIVACY AND OUTLOOK

24. **How important to you is your visual privacy (privacy from being observed in your home space)?**

1	2	3	4	5
Not important	Somewhat important	Neutral	Quite important	Very important

25. **Please rank the following options in order of their importance for your privacy:**

Not being able to see my neighbours outside	1
Not being able to see directly into my neighbour's windows	2
Other people not being able to see into my windows from the street	3
Having a physical boundary [i.e. a fence] between my home and public spaces [i.e. the street]	4
Other	97

26. **How important is the height of the development you live in to the sense of liveability you get from living there?**

1	2	3	4	5
Not important	Somewhat important	Neutral	Quite important	Very important

27. **How important is having a good view from your windows for your enjoyment of being at home?**

1	2	3	4	5
Not important at all				Very important

ACOUSTIC PRIVACY

28. **Inside your home, how often can you hear your neighbours?**

Never	1
Occasionally	2
Often	3
Daily	4

29. **To what extent do you feel this noise negatively impacts on your experience when at home?**

1	2	3	4	5
Not a lot				A lot

30. **In one sentence can you describe how any noise from your neighbours negatively affects you?**

31. **Inside your home how often can you hear noise from the street?**

Never	1
Occasionally	2
Often	3
Daily	4

32. **To what extent do you feel this noise negatively impacts on your experience when at home?**

1	2	3	4	5
Not a lot				A lot

33. **In one sentence can you describe how any noise from the street negatively affects you?**

INDOOR ENVIRONMENT

34. **Are you ever concerned about the air quality and ventilation in your dwelling?**

Never	1
Occasionally	2
Often	3
Daily	4

35. **How difficult is it to control the temperature of your dwelling?**

It is difficult to keep it warm enough	1
It is difficult to keep it cool enough	2
It's a little difficult to get a comfortable temperature without using an electric appliance to control temperature	3
My home is usually at a comfortable temperature (only occasionally do I need to use an electric appliance to control temperature)	4

36. **Does your dwelling receive good natural light?**

No, I get very little natural light	1
Somewhat, I get light for a few hours a day	2
Yes, most rooms get some natural like during the day	3
Yes, I get good natural light which helps to heat my home and makes it an enjoyable place to live	4
Yes, I get excellent natural light all day and I couldn't ask for more	5

37. **Rank the features of your home in order of importance to your liveability?**

Indoor air quality	1
Ventilation	2
Thermal comfort (being the right temperature)	3
Natural light	4

BUILD QUALITY

38. **Do you feel your dwelling is built to a high quality?**

Yes	1
No	2

39. **In one sentence, can you tell us why you feel your dwelling is/is not built to a high quality?**

40. **How important is it to you that your dwelling is low maintenance?**

1	2	3	4	5
Not important	Somewhat important	Neutral	Quite important	Very important

41. **In one sentence, can you tell us what aspect of maintenance do you spend the most on?**

BUILDING SERVICES + AMENITY

Is your dwelling situated within a complex that includes a communal space for residents?

Yes	1
No	2

42. **If yes, how regularly do you use the communal area for socialising with other residents?**

Never	1
Occasionally	2
Often	3
Daily	4

43. **In one sentence what do you think would improve the quality of the communal areas in your building?**

44. **If you live in an apartment block of 3 storeys or more, how important is it to you that there is lift access to your dwelling?**

1	2	3	4	5	6
Not important	Somewhat important	Neutral	Quite important	Very important	Not Applicable

45. **How important is it to you that you feel safe in your home?**

1	2	3	4	5
Not important	Somewhat important	Neutral	Quite important	Very important

46. **How important is it to you that there are adequate lifestyle amenities (such as eateries, exercise areas, day care, or co-working spaces) included in your dwelling?**

1	2	3	4	5
Not important	Somewhat important	Neutral	Quite important	Very important

47. **If you could choose one amenity to include in your housing complex what would it be?**

48. **How important is it to you that you have access to car parking that is attached to your dwelling?**

1	2	3	4	5
Not important	Somewhat important	Neutral	Quite important	Very important

49. **Would you support car parking being centralised in a nearby location to your home, if it meant you were able to have more space for other uses at your home?**

1	2	4
Not supportive	Neutral	Supportive

50. **How important is it to you that you have individual access to adequate rubbish and recycling facilities attached to your home?**

1	2	3	4	5
Not important	Somewhat important	Neutral	Quite important	Very important

51. **Would you support rubbish and recycling facilities being centralised in your building complex, if it meant you were able to have more space for other uses at your home?**

1	2	4
Not supportive	Neutral	Supportive

DEMOGRAPHIC QUESTIONS

52. **What is your age?**

Under 18 years old	1
18-24 years old	2
25-34 years old	3
35-44 years old	4
45-54 years old	5
55-64 years old	6
65+ years old	7
I'd rather not say	8

53. **Are you:**

Male	1
Female	2
Other	3
Prefer not to say	4

54. **What ethnic group do you belong to (mark all that apply)?**

New Zealand European
Māori
Samoan
Cook Islands Maori
Tongan
Niuean
Chinese
Indian
Other _____

55. **If you live in New Zealand but were not born here, please answer this question, when did you first arrive to live in New Zealand?**

A. I was born in NZ
B. Month [_ _] (if known)

C. I arrived in: Year [_ _ _ _]
D. Don't remember

56. **Which town or city do you live in or live closest to?**

North Island			
Upper North Island		Lower North Island	
Kaitaia	01	Taupo	12
Whangarei	02	New Plymouth	13
Warkworth	03	Napier/Hastings	14
Auckland	04	Taihape	15
Thames	05	Wanganui	16
Tauranga	06	Palmerston North	17
Hamilton	07	Masterton	18
Whakatane	08	Porirua/Hutt Valley	19
Rotorua	09	Wellington	20
Gisborne	10		
Otorohanga	11		

South Island			
Upper South Island		Lower South Island	
Nelson	21	Ashburton	27
Blenheim	22	Timaru	28
Westport	23	Wanaka	29
Kaikoura	24	Queenstown	30
Greymouth	25	Dunedin	31
Christchurch	26	Invercargill	32

57. **What is your address?**

[This information will be kept confidential and used to confirm that you live in a medium density house, which is any form of attached housing up to 6 storeys. This question is entirely voluntary, and you do not have to include it if you do not wish to do so.

Thank you

Appendix B: Coding of responses when asked to define the term 'liveability'

Type of response	Count	Examples
The ease of living in a place	80	I feel worth living, endurable / A place where you can live with no major problems / Viable for living / Ease of living
Acceptable / Meets basic needs / Health	50	Things in your life are fairly acceptable / Meets my needs comfortably / Somewhere that you can live happily, healthily.
Physical dwelling features (e.g. warm, dry, secure) / Dwelling condition	49	I would expect the dwelling to be dry and free from mould and mildew /Clean and has all the necessities / To be able to live in it
Not sure / Don't know	47	I'm not sure
Comfortable / Feels like home	47	Home / Ability to live comfortably / Comfort and ease / Being comfortable in your home
Affordable comfort	31	Earn enough to live on / Being able to get by financially / The expenses related to the cost of living / Reasonable rent
Somewhere suitable for living	25	Somewhere where it is a suitable place to live / Somewhere suitable to live / A roof that is over your head
Quality of life / Dwelling quality / Features	23	Quality of life with all comforts / Quality of the place we live in / The quality of the house (e.g. neighbourhood, insulation, mould, etc.)
Secure and safe	14	Living within a dwelling that is safe, secure and meeting the purpose of its inhabitants / Living in a safe, secure and healthy place
Neighbourhood, environment / Accessible to amenities	11	Environment, community, neighbourhood being a pleasant existence / Ease of access, being able to access nature, clean, healthy home
Live freely and happily	11	Able to live freely / A place where I would be happy living / Freedom / Suits one's lifestyle
Space for comfort at high-density	6	Living well in a high populated area / Not too much traffic, not too many apartments squeezed
Peaceful and private	4	No mould, insulation, peace, quiet and privacy / Chilling at home under a palm tree / Space, having a yard and privacy from the neighbours
A place to settle	3	Somewhere suitable to settle / Living within one's means without undue stress
Unaffordable / Expensive	3	Expensive / Lack of money / Money
Low-density dwellings	3	To live in comfort in a low maintenance one-level dwelling / What it would be like to live in a home