Post-Occupancy Evaluation

Survey of Recent Multifamily Developments

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www.cnv.org

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1.0 INTRODUCTION

More than 80% of City of North Vancouver residents live in multifamily buildings, such as apartments, condos, townhouses, and duplexes. Given the limited size of the City and the growth patterns laid out in our Official Community Plan, this percentage is likely to keep increasing. As the Plan states:

> **"The City's future development will primarily be urban in nature. This will include reasonably dense development, close to transit, with a mixture of uses. By concentrating growth in such urban centres, the pressures for urban sprawl can be reduced, more efficient communities can be built and transportation needs reduced. If handled properly, this type of development will support the environment, social needs and economic development…** ***Our challenge is to achieve these benefits while creating a highly livable community*****."** **(Official Community Plan)**

As the City grows and as new development occurs, the opportunity arises to assess whether we are meeting this challenge successfully. How well are we achieving the benefits? How livable are our multifamily homes? With this goal of finding out about how well recent developments are supporting our broader community vision, a post-occupancy evaluation of multifamily buildings was conducted in September-October 2008.

1.1 What is post-occupancy evaluation?

Post-occupancy evaluation seeks to obtain information directly from residents to gain a better understanding of their needs and opinions regarding their home. By finding out about people's preferences and experiences living in their multifamily buildings, the City can refine its expectations for this kind of development, and propose policies and regulations that will help us achieve our vision of a highly livable and sustainable community.

1.2 The process

To ensure that the findings of the post-occupancy evaluation were as relevant as possible to our current development approval process, this study set out to assess the experiences of residents living only in recent-to-new multifamily developments. These developments were divided into two categories: apartment-type developments which typically contain a larger number of units with internal access by elevator, like mid-rise or high-rise condos; and smaller scale ground-oriented developments with exterior entrances, like duplexes, triplexes or townhouses.

As directed by the Official Community Plan, much of the City's recent development has occurred in its higher density "urban centres". A sample of apartment-type buildings was therefore selected that reflected the development patterns in these designated sub-areas. This included:

- Developments within the Marine Drive corridor;
- Developments in the core of Lower Lonsdale along West 1st, 2nd and 3rd Streets and Esplanade East;
- Other developments elsewhere in the non-core areas of Lower Lonsdale, such as just south of Victoria Park, and east of Andrew's Avenue;
- Developments in the core of Central Lonsdale between 13th and 17th Streets;
- Other developments elsewhere in the non-core areas of Central Lonsdale, such as just north of Victoria Park, and up along West 22nd and 23rd Streets.

Alongside these apartment-type complexes, numerous smaller ground-oriented developments – such as townhouses, duplexes, triplexes – were also selected for evaluation. As with the apartment-type buildings, these ground-oriented units were all recent developments, completed typically in the last 10 years, and mostly in the last few years. However, whereas the apartment buildings were selected only from the five specific sub-areas listed above, the ground-oriented developments were selected from all across the City's low and medium density neighbourhoods.

Overall, about 2500 units were selected for the study. The vast majority of these, around 2200, were units located in the apartment-type complexes, while the remaining 300 comprised the smaller ground-oriented developments. In mid-September, residents living in the selected sites were mailed a 6-page survey, with an accompanying letter explaining the purpose of the study and requesting completed surveys be returned by the end of the month. A copy of this survey, complete with a summary of the results, is attached to this report as **Appendix 1**. Participation in the study was on a voluntary basis and respondents were assured of the anonymity of their individual responses.

Respondents were provided with the opportunity to return completed surveys in postage-paid envelopes, return them in person at City Hall, send them in by fax, or complete them online. As with any mail-out, a number of surveys were not successfully delivered, either because the occupant had moved, the survey was misaddressed, or the unit was unoccupied. A summary of the number of surveys sent, the number delivered, and the achieved response rate is shown in **Table 1**.

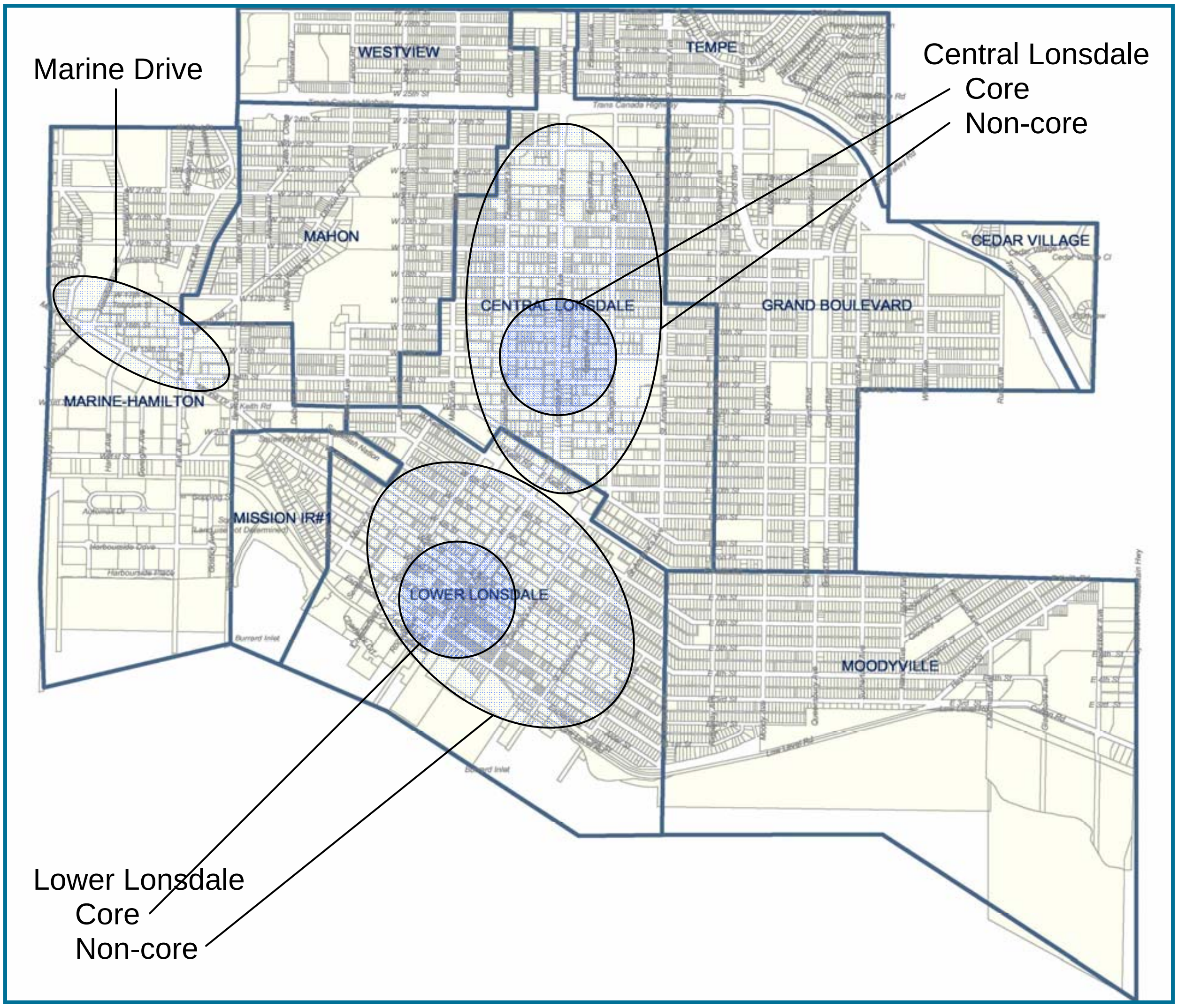
Table 1: Response Rate

	Mailed	Delivered	Completed	RESPONSE RATE
Apartment-Type Developments				
• Marine Drive	196	195	27	13.9%
• Lower Lonsdale - Core	1079	1036	200	19.3%
• Lower Lonsdale - Non-Core	268	267	57	21.3%
• Central Lonsdale - Core	370	359	96	26.7%
• Central Lonsdale - Non-Core	264	260	67	25.8%
Ground-Oriented Developments				
• Citywide	283	265	79	29.8%
GRAND TOTAL	2460	2383	526	22.1%

1.3 Response rate

As **Table 1** shows, 526 surveys were returned signifying an overall response rate of just over 22%. This compares favourably to similar surveys conducted by the City or other agencies and was considered a success. Importantly, this response rate provides the City with sufficient data for there to be a good degree of confidence in the overall findings. However, the results of the Marine Drive neighborhood in particular, where both the absolute number of surveys returned (27) *and* the response rate this signifies (about 14%) are quite low, need to be interpreted with more caution as there is a lower certainty they are representative of the population of that neighbourhood.

Figure 1: Neighbourhood Map



The majority of apartment-type multifamily developments have occurred in the core areas of Central and Lower Lonsdale. Apartment development has also occurred to a lesser degree in the non-core areas of Lonsdale and along the Marine Drive corridor. Ground-oriented multi-family developments, such as townhouses and duplexes, have occurred across the City's low and medium density neighbourhoods.

2.0 RESIDENT PROFILE

One of the purposes of conducting the post-occupancy evaluation was to gain an idea of who is moving into the City's new multifamily developments. Does this type of home appeal to empty-nesters? Are families with children moving into new multifamily homes? Have many residents moved from single-family homes into these higher density forms of housing? Are multifamily developments attracting mostly higher or lower income groups? To be able to answer these kinds of questions, the survey asked residents to provide information about their tenure, household and unit size, income, age, employment status, previous home, and so on. Together, the answers to these questions provide a portrait of some of our newest multifamily residential communities.

2.1 Apartments attract smaller families, ground-oriented developments larger families

Comparing the average household size of survey respondents with the City's overall profile obtained in the 2006 national census, it appears that residents of apartment-type developments live in smaller than average households, while those living in ground-oriented developments live in larger than average households. The percentage of residents living in one-person households follows the same pattern – significantly, almost half (44.8%) of the apartment dwellers to respond to our survey live alone.

	Apartment-Type	Ground-Oriented	2006 Census
Average Household Size	**1.6**	**2.5**	**2.1**
% of One-Person Households	**44.8%**	**15.8%**	**38.7%**

The average number of bedrooms reflects these trends in household size. For apartment residents, the largest share of respondents report living in 2 bedroom homes (41.6%). The remaining responses were shared almost evenly at around 17% each across slightly smaller or larger unit types (1 bedroom, 1 bedroom + den, and 2 bedroom + den). Closely related to these findings, the clear majority of respondents report living in apartments of between 601 and 1000 square feet (66.0%) and 1001 to 1400 square feet (24.4%).

As would be expected, ground-oriented units are noticeably larger with 78.2% of residents living in homes with three or more bedrooms. These ground-oriented units have a correspondingly higher typical square footage, with 52.6% living in spaces of over 1800 square feet in size, and a further 30.3% between 1401 and 1800 square feet. These larger spaces seem to appeal far less than apartments to people who live alone.

The larger living spaces of ground-oriented forms of multifamily development attract larger households than apartment-type developments.

Figure 2: Previous Municipal Residence

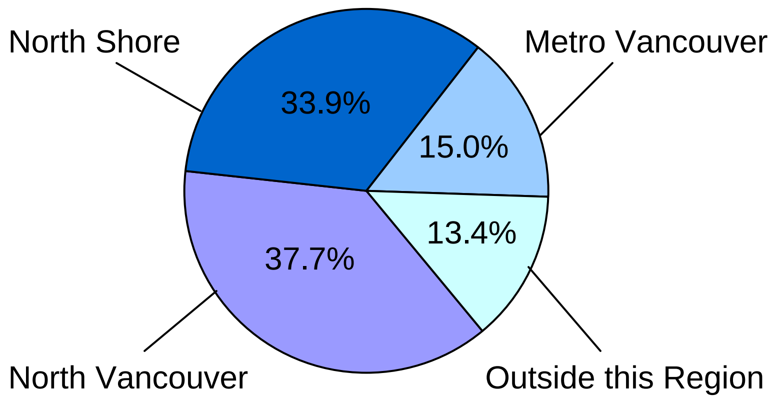
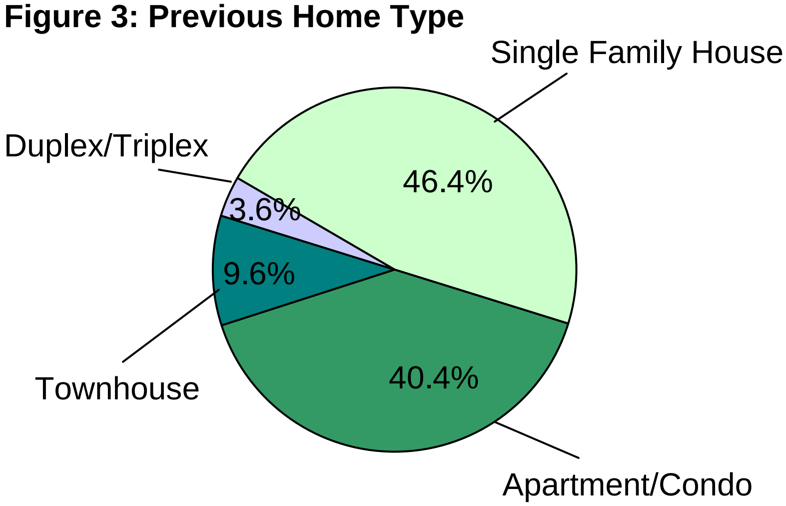


Figure 3: Previous Home Type



2.2 Where are these new residents moving from?

Almost three-quarters (71.6%) of the residents of our new multifamily developments already lived on the North Shore before moving to their new home. Most of these moved from within the City itself (37.7%), with the remainder moving from the Districts of North or West Vancouver (33.9%). These figures illustrate the strong ties many people have to our area.

Recent multifamily developments — whether ground-oriented or apartment-type — also serve to offer a variety of housing options to our residents. Interestingly, the largest share of survey respondents used to live in single family houses (46.4%) before moving to their new multifamily home, with a significant percentage of respondents moving from apartments/condos (40.4%).

2.3 How old are the multifamily residents?

Taking a closer look at the households of respondents, it appears that each of the individual neighbourhoods surveyed has its own distinct demographic make-up.

Table 2: Age of Residents

Age (Years)	Marine Drive	Lower Lonsdale		Central Lonsdale		Ground Oriented	SURVEY AVERAGE	2006 Census
		Core	Other	Core	Other			
0-19	16.1%	7.2%	3.6%	2.2%	5.1%	26.0%	10.4%	19.0%
20-34	37.5%	21.7%	13.1%	9.4%	11.1%	15.1%	17.4%	21.8%
35-49	35.7%	21.4%	25.0%	12.2%	23.2%	29.2%	23.1%	27.0%
50-64	8.9%	32.2%	32.1%	23.7%	26.3%	22.9%	26.8%	18.8%
65+	1.8%	17.5%	26.2%	52.5%	34.3%	6.8%	22.3%	13.5%

A number of neighbourhood level trends emerge from the findings in **Table 2**. Overall, it is noticeable that families with children favour ground-oriented developments over apartment-type buildings. Indeed, more than a quarter (26.0%) of people living in our recent ground-oriented multifamily developments are under 19 years of age – a higher than census average share of this age group that suggests that families with children are strongly attracted to these kinds of homes. For households with seniors, however, the trend is reversed, with a higher than census average proportion of seniors residing in many of the apartment neighbourhoods. The clearest example of this can be found in the core of Central Lonsdale, where a significant 52.5% of survey residents are over 65, and only 2.2% under 19. Because the survey was completed on a voluntary basis, the findings may not be perfectly representative of all residents — it is possible, for example, that seniors felt more inclined to respond to the survey than other age groups and so are over-represented in its findings. Nevertheless, these figures do appear to confirm the growing popularity of apartment-living among senior residents looking to downsize or cut back on property maintenance, and the particular popularity of the Central Lonsdale plateau with its level gradient and abundant shops and services. In contrast, the apartment buildings in the Marine Drive and Lower Lonsdale core areas are more popular with residents in the younger age brackets, both children and youths under 19 and young adults aged 20 to 34.

2.4 Employment patterns reflect neighbourhood demographics

The employment figures for each neighbourhood tend to reflect the age distribution of residents. As would be expected, a large number of residents in the Central Lonsdale core appear to have retired, with 55.3% of households reporting that no resident is employed for more than 20 hours per week. Residents of ground-oriented units as well as the Marine Drive and Lower Lonsdale core areas have the highest employment participation levels.

Average number of people employed per household:

Marine Drive	Lower Lonsdale		Central Lonsdale		Ground Oriented
	Core	Other	Core	Other	
1.4	**1.0**	**0.9**	**0.6**	**0.8**	**1.4**

% of households with no employed residents:

Marine Drive	Lower Lonsdale		Central Lonsdale		Ground Oriented
	Core	Other	Core	Other	
3.7%	**26.3%**	**35.2%**	**55.3%**	**39.1%**	**21.8%**

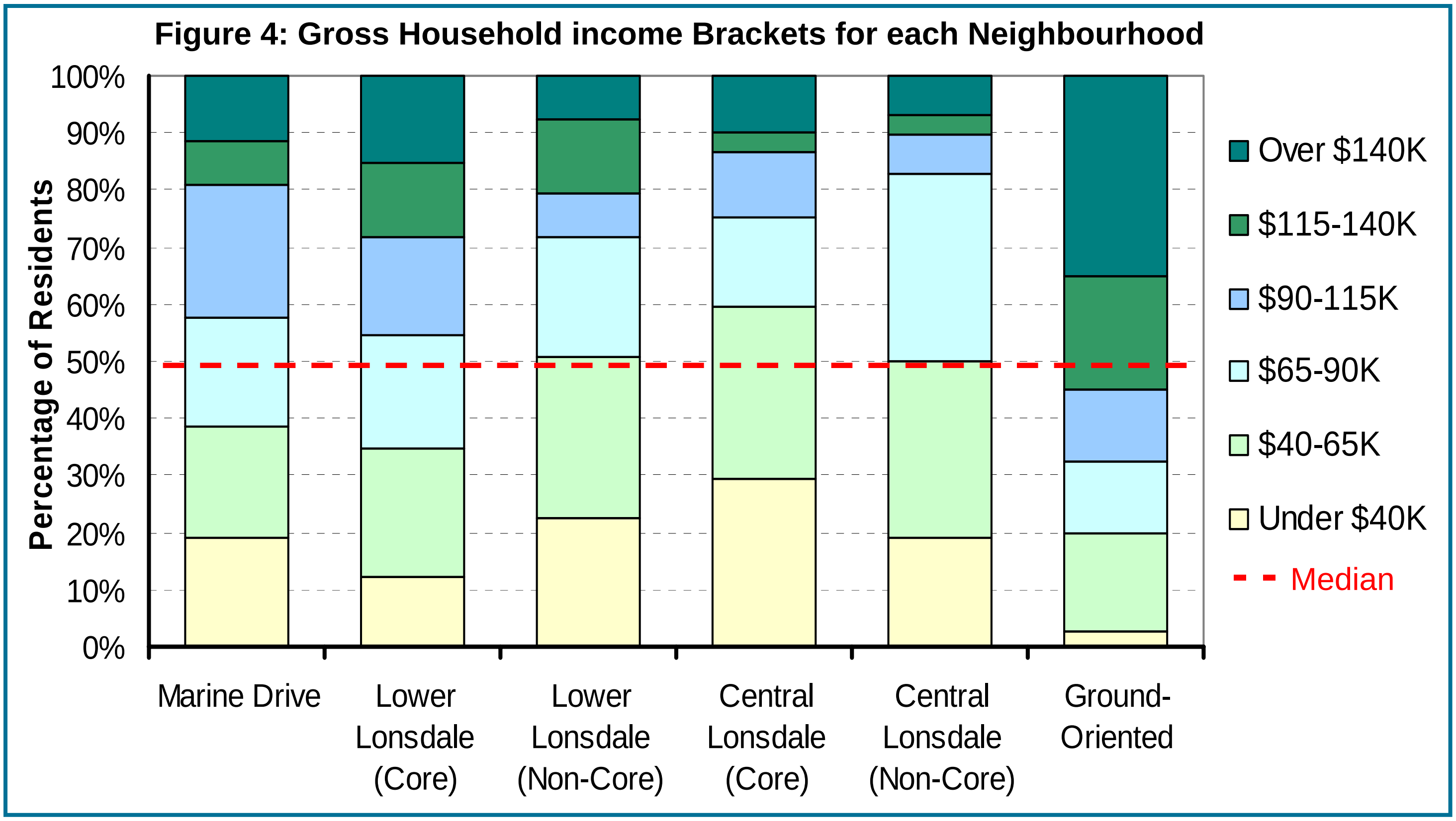
% of employed residents who work from home:

Marine Drive	Lower Lonsdale		Central Lonsdale		Ground Oriented
	Core	Other	Core	Other	
7.7%	**15.1%**	**9.8%**	**11.5%**	**7.5%**	**14.2%**

Another interesting finding relates to the number of residents who report working primarily from within their home (for example, people who operate a home business or who telecommute). With the exception of Marine Drive and the non-core areas of Central Lonsdale, all of the apartment neighbourhoods as well as the ground-oriented units have a higher percentage of employed residents working from home than the census average of 8.4%. This is an encouraging finding as working from home supports a healthy jobs-to-residents ratio within the City and also helps lower commuting.

2.5 A broad range of household incomes

Correlated to the number of residents in employment, household income also varies across the neighbourhoods, as households with higher numbers of employed residents – such as apartments in Marine Drive and the core of Lower Lonsdale – tend to report average higher incomes. Consistent with this, residents of ground-oriented dwellings in particular have notably higher incomes than residents of apartment-type units.



2.6 Relatively few respondents rent their unit

According to the 2006 census, the City has a very even tenure mix, with 53.9% of residents owning their dwelling unit and 46.1% renting. The results of the survey indicate a far higher percentage of owners living in the recently developed multifamily units, with 88.1% of respondents owning and 11.9% renting. Of the different neighbourhoods surveyed, only the core of Lower Lonsdale has a more sizeable rental population, with 25.4% of apartment respondents renting their unit. The percentages of people renting in Central Lonsdale, in contrast, are notably low (0 to 2.2%).

% of occupants who rent their unit:

Marine Drive	Lower Lonsdale		Central Lonsdale		Ground Oriented
	Core	Other	Core	Other	
12.0%	25.4%	3.7%	2.2%	0%	5.2%

This is an interesting finding, suggesting that most residents of the City's recent multifamily developments have purchased their unit to occupy rather than lease. Alternatively, it may simply be that owners felt more inclined to respond to the mail-out survey than renters, meaning renters are underrepresented in the survey results. The Canada Mortgage and Housing Corporation for its part estimates that around 20% of apartment condominiums in the Metro Vancouver region are rented out, with this figure rising to as high as 40% in some areas such as downtown Vancouver. The findings of this post-occupancy evaluation suggest a much smaller share of rented condos, with the exception of the core of Lower Lonsdale – presumably due to the strong rental demand generated by its proximity to downtown Vancouver.

2.7 Entering the property market

Another interesting finding relates to respondents' change of tenure. While the overwhelming majority (88.1%) of survey respondents own their current multifamily unit, the percentage who owned their previous home is noticeably lower, at 66.3%. This indicates that a significant number of residents (over 20% of all survey respondents) have become property owners by moving to their current multifamily unit. A handful of these further specified that they had moved from their parents' home, illustrating the role multifamily units can also play as 'first homes'. This trend towards property ownership varies across the neighbourhoods studied and is particularly noticeable in some places. 54.2% of residents in the non-core areas of Central Lonsdale, for example, owned their previous home, whereas fully 100% of those same respondents now own their current dwelling unit.

Change in ownership rates of previous and current homes:

	Marine Drive	Lower Lonsdale		Central Lonsdale		Ground Oriented
		Core	Other	Core	Other	
Previous Home	**57.7%**	**61.5%**	**62.3%**	**78.5%**	**54.2%**	**77.9%**
Current Home	**88.0%**	**74.6%**	**96.3%**	**97.8%**	**100%**	**94.8%**

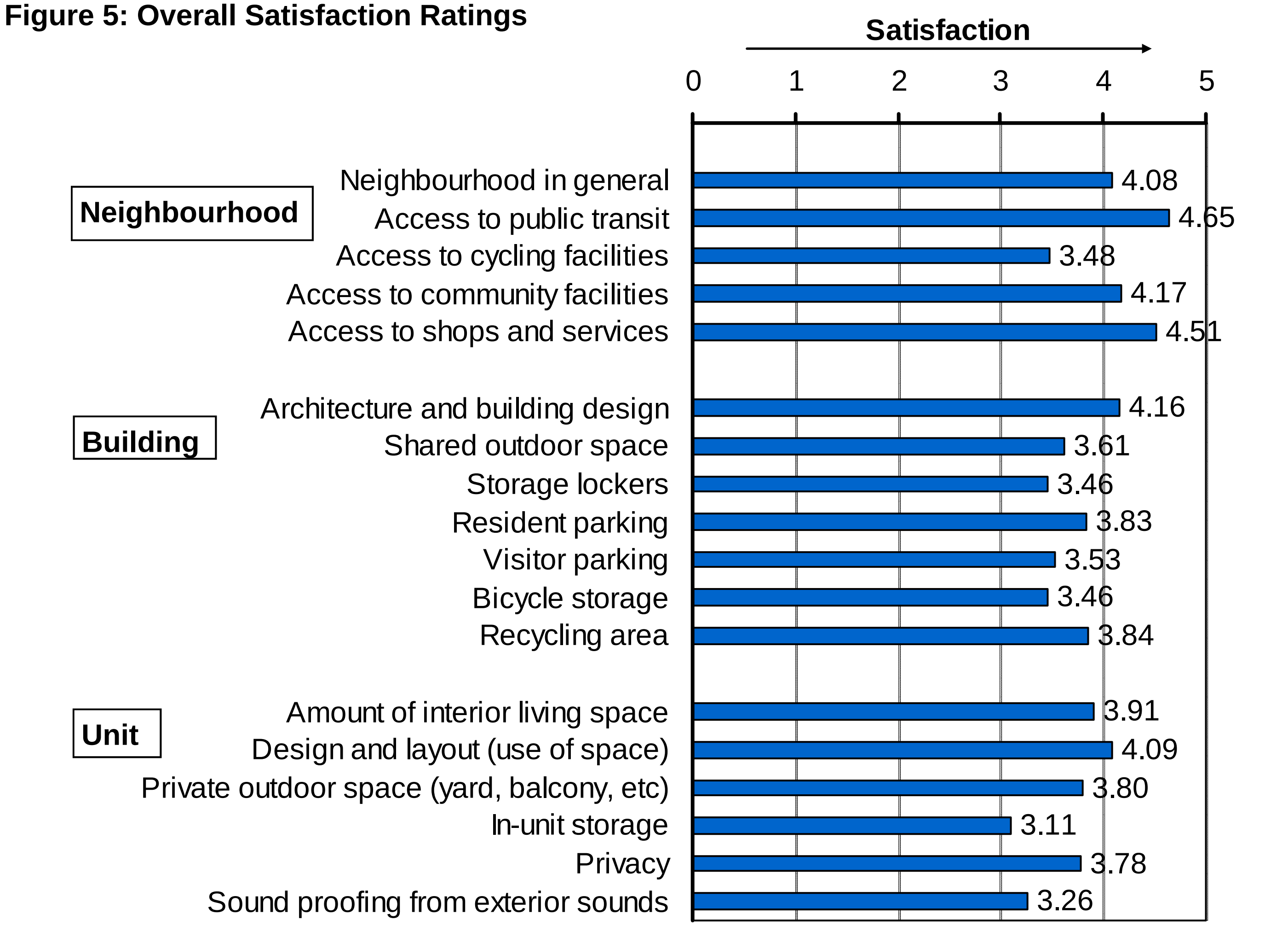
3.0 SATISFACTION LEVELS

An important function of the post-occupancy evaluation was to assess residents' satisfaction with living in their multifamily form of housing. To do this, residents were asked to rate eighteen different aspects of their home on a scale of 1 to 5, where 1 signified 'very dissatisfied' and 5 'very satisfied'. The eighteen aspects respondents were asked to assess were grouped into three categories: aspects of their neighbourhood, aspects of their building, and aspects of their particular unit. The findings for these eighteen aspects provide the City with focused information as to how we can build on our strengths and at the same time tackle the elements of multifamily regulation that need to be refined to better meet the needs of our community. In addition to rating each individual aspect, respondents were also asked more generally whether they would recommend living in their building to other people. This kind of question provides a snapshot assessment of how successful recent multifamily developments have been at meeting people's expectations.

3.1 A positive report card

The results of the survey suggest the residents of recent multifamily developments are on the whole quite satisfied with their homes. The overall average rating for all aspects was a positive 3.83. The full results of each category of aspects are listed below in **Figure 5**.

Figure 5: Overall Satisfaction Ratings



Looking at the highest ratings first, residents are particularly satisfied with aspects relating to their neighbourhood. Access to public transit (4.65), shops and services (4.51), and community facilities (4.17) all achieved extremely positive ratings that highlight some of the City's major advantages. By reducing sprawl, the City can increase the proximity of services for its residents, and the higher population density associated with multifamily housing in particular makes the provision of benefits such as public transit, parklands, and commercial activity more economically viable. That residents are enjoying the benefits of these controlled development patterns is a very positive finding.

In contrast, lower but still positive ratings were recorded for certain particular aspects of residents' buildings and units. Storage space appears to be the biggest concern of respondents, with in-unit storage receiving a rating of 3.11, the building's storage lockers 3.46, and the building's bicycle storage 3.46. Importantly, storage is rated much lower than the amount of interior living space (3.91), indicating that respondents are quite satisfied with the habitable spaces of multifamily units, but that these units would benefit from a more adequate provision of storage. The other element to receive a lower rating was sound proofing from exterior sounds (3.26). This suggests that while the proximity to neighbourhood features such as transit and shops was very well received, residents expect a higher level of mitigation against the ambient noises associated with these kinds of neighbourhood features. These findings give the City information as to how policy tools – such as design guidelines – can be modified to better serve the community.

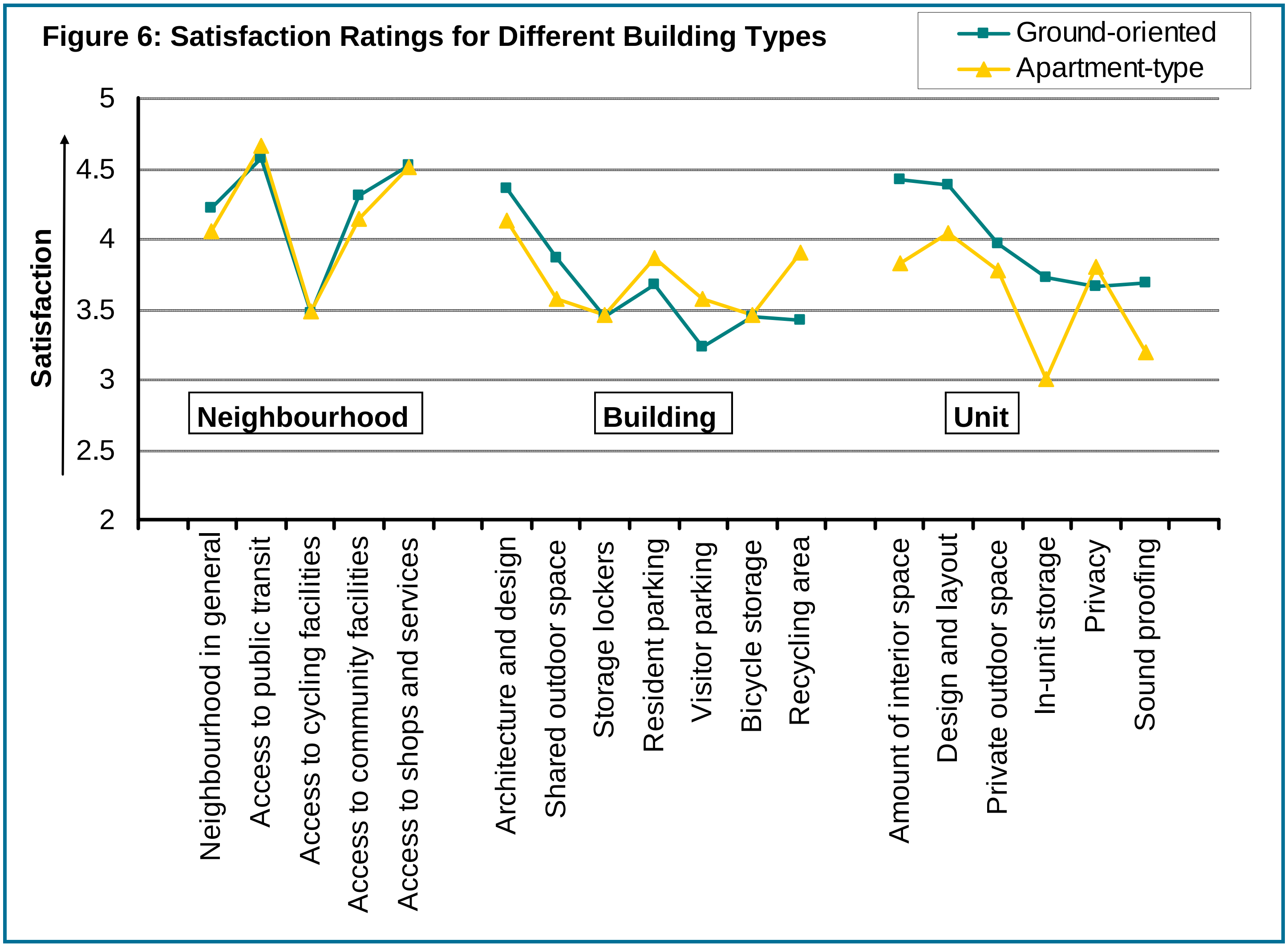
Would you recommend living in your building to other people?
Yes: 92.0% **No: 8.0%**

Overall, it is encouraging to see that none of the eighteen aspects received an average rating of under 3, indicating a consistently high level of satisfaction across the board for most residents. This finding is confirmed by respondents' willingness to endorse their choice of home: when asked if they would recommend living in their building to other people, an overwhelming 92% answered 'Yes'.

3.2 The appeal of different building types

These satisfaction ratings can be analyzed in a number of ways. One interesting comparison can be made on the basis of building typology: are residents of the apartment-type developments more or less satisfied with their home than residents of ground-oriented developments?

Figure 6 (overleaf) charts the satisfaction levels awarded to each of the 18 aspects rated by residents of apartment versus ground-oriented type buildings. By comparing the trend lines for these two different types of multifamily development, we can see their relative strengths and weaknesses from their inhabitants' perspective. In terms of aspects of the neighbourhood, no significant contrasts are apparent between apartment and ground-oriented units. However, some differences do emerge at the level of the building and unit. Apartment dwellers report a higher level of satisfaction with aspects of their building, such as resident parking, visitor parking, and the recycling area. In contrast, ground-oriented dwellers tend to be more satisfied with aspects relating to their own particular unit, such as the amount of interior space and storage. These trends are not necessarily surprising. However, some particular findings do serve to demystify assumptions commonly made about multifamily developments: the inhabitants of the higher density apartment condos, for example, are more satisfied with their level of privacy than those living in the lower density townhouses and duplexes.



3.3 The appeal of different apartment neighbourhoods

Apartment-type buildings have emerged, both in the City and the region as a whole, as the predominant form of multifamily development in recent years. For this reason, apartment-type buildings formed the majority of the post-occupancy study: there are a higher number of recently developed apartment units than there are ground-oriented units to evaluate, and so more residents to contact and who ultimately responded to our survey. Overall, about 85% of the surveys received were from residents living in apartment-type developments. This provides the City with valuable insight into apartment-living in each of the different neighbourhoods where this form of higher-density development has occurred.

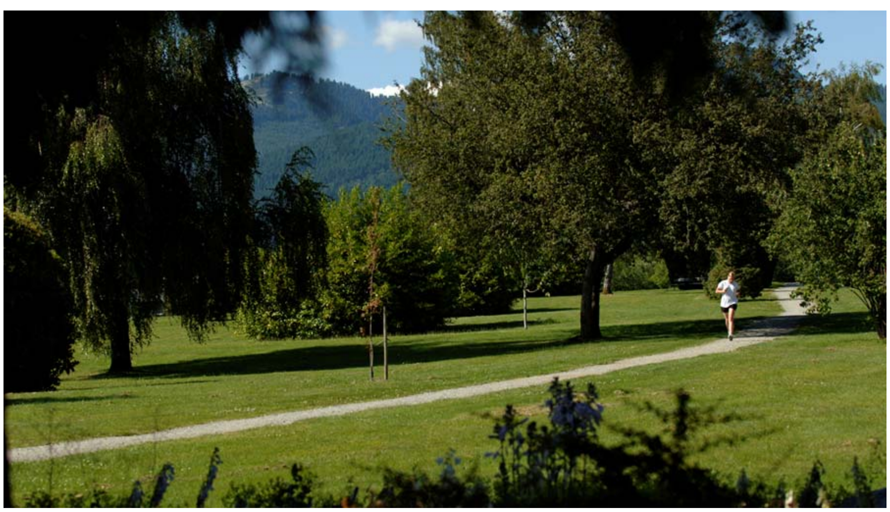
Table 3: Ratings for Apartment Neighbourhoods

	Marine Drive	Lower Lonsdale		Central Lonsdale	
		Core	Other	Core	Other
Neighbourhood in general	3.84	4.08	4.12	4.03	4.03
Accessibility to public transit	4.63	4.81	4.06	4.76	4.55
Accessibility to cycling facilities	4.29	3.33	3.35	3.39	3.81
Accessibility to community facilities	4.50	4.09	4.04	4.02	4.41
Accessibility to shops and services	4.48	4.51	4.14	4.73	4.52

As already discussed, aspects of residents' neighbourhoods, such as their access to transit or shops and services, were among the most highly rated in the overall post-occupancy evaluation. But are all neighbourhoods appreciated for the same qualities? By comparing the neighbourhood satisfaction ratings for each of the City's sub-areas where apartment-style development has recently occurred, a more detailed portrait emerges of exactly what residents consider the real strengths of where they live.

Respondents' ratings for their neighbourhood in general are all high and clustered closely together around 4, with Marine Drive receiving a slightly lower rating. This is perhaps to be expected, with the Marine Drive corridor being a much newer neighbourhood with a shorter residential tradition. Its rating of 3.84 is still a positive one, however, and the livability of this neighbourhood can be expected to improve with the pending development along Marine Drive. Moving on to the second aspect of residents' neighbourhoods, we can see that access to public transit is an aspect that receives universally positive ratings. Here, four of the five sub-areas recorded ratings of over 4.5, with the core quayside area of Lower Lonsdale receiving an extremely high rating of 4.81 out of 5.

Accessibility to cycling facilities such as trails and paths, in contrast, was the neighbourhood feature that received the lowest average rating of 3.48. Looking closer, however, two areas – the non-core area of Central Lonsdale and the Marine Drive neighbourhood in particular – receive notably higher ratings of 3.81and 4.29 respectively. These same two neighbourhoods are also rated the highest for their access to community facilities such as parks and schools (4.41 and 4.50 respectively). This is an interesting finding that draws attention to the advantages of areas that lie outside the urban core. Apartment dwellers in the Marine Drive corridor have excellent access to major parklands (Heywood, Mosquito Creek, Mahon) and their trail networks, while residents in the non-core area of upper Lonsdale around 22nd Street are also surrounded by parks (Wagg, Rey Sargent, Rodger Burnes, Norseman). Residents in these areas appear to value these local advantages. In contrast, when it comes to accessibility to shops and services, while all areas achieve ratings of over 4, it is the core of Central Lonsdale that gains the highest rating (4.73), reflecting the particular strength of our more built out commercial centre.



Accessibility to parks and trails is an important neighbourhood feature for many residents.

3.4 Improving our multifamily developments through building and unit design

While these overall trends for resident satisfaction are positive findings for the City, the results of the post-occupancy are also useful for identifying actions we can take to try to raise the bar even higher. What can be done to make future developments in the City better? One question attempted to address this by asking residents if there were any specific improvements they would like to see to their building or unit. Just over half of respondents said that there were.

"Storage for bikes needs to be bigger, accessible from parking, and secure"

Interestingly, the comments made in response to this question relate most often to the aspects that received the lowest satisfaction ratings: namely, storage space and sound proofing. This serves to confirm the extent to which these areas would benefit from design guidelines, with around one in five of all responses to this question providing further feedback on these two issues. Storage space in the form of in-suite closets, building lockers, and bicycle racks were frequently described as being too small, and at times as not sufficiently secure. Sound proofing was highlighted as a particular problem for residents of buildings located near certain noisy transportation corridors, such as the truck route along Esplanade East or the roads accessing Lions Gate Hospital with its emergency vehicle activity.

"Awnings to shield windows from direct sun would save on air-conditioning"

Other areas that respondents suggested could be improved included the ventilation and thermal comfort of their homes, and the provision of shared common areas – both inside and outside the building. Both these issues were highlighted by about one in ten of the respondents to this question. Suggestions made by respondents included more operable windows to improve ventilation and an increased ability to regulate temperature and airflow in their units. Common areas could be improved in a variety of ways: from providing more landscaped green space to sit or play in, to establishing a designated area for car and bike washing, to improving indoor common areas for recreational or exercise uses.

"You need to open parking gates to get to the garbage room, as there is no access from stairs. Many residents are not satisfied."

Less frequently suggested changes included improvements to residential security and to the provision of recycling and garbage facilities. These two issues were cited by about one in twenty of the respondents to this question. Security improvements residents would like to see related most often to reducing ease of access to the building from underground parking facilities or potential ground floor ingresses, such as patios. Some residents wanted to see the inclusion of security cameras in their buildings. Garbage – and particularly recycling – areas were described as being too small, and at times as being too far away or difficult to access from residents' units. Some respondents also indicated they would like to see the provision of composting facilities made available in their building.

"All exterior entrances need to have some type of overhead door covering to prevent elements of nature entering your home"

Together, the indications made by residents provide the City with valuable insight into how we can improve our multifamily developments. Issues relating to elements such as storage, sound proofing from exterior noises, shared outdoor spaces, recycling areas, and so on, can be addressed through refined design guidelines and our interactions with the development and design communities. Targeted interventions to address these aspects have the potential to make our multifamily developments even more livable.

4.0 PREFERENCES AND BEHAVIOURS

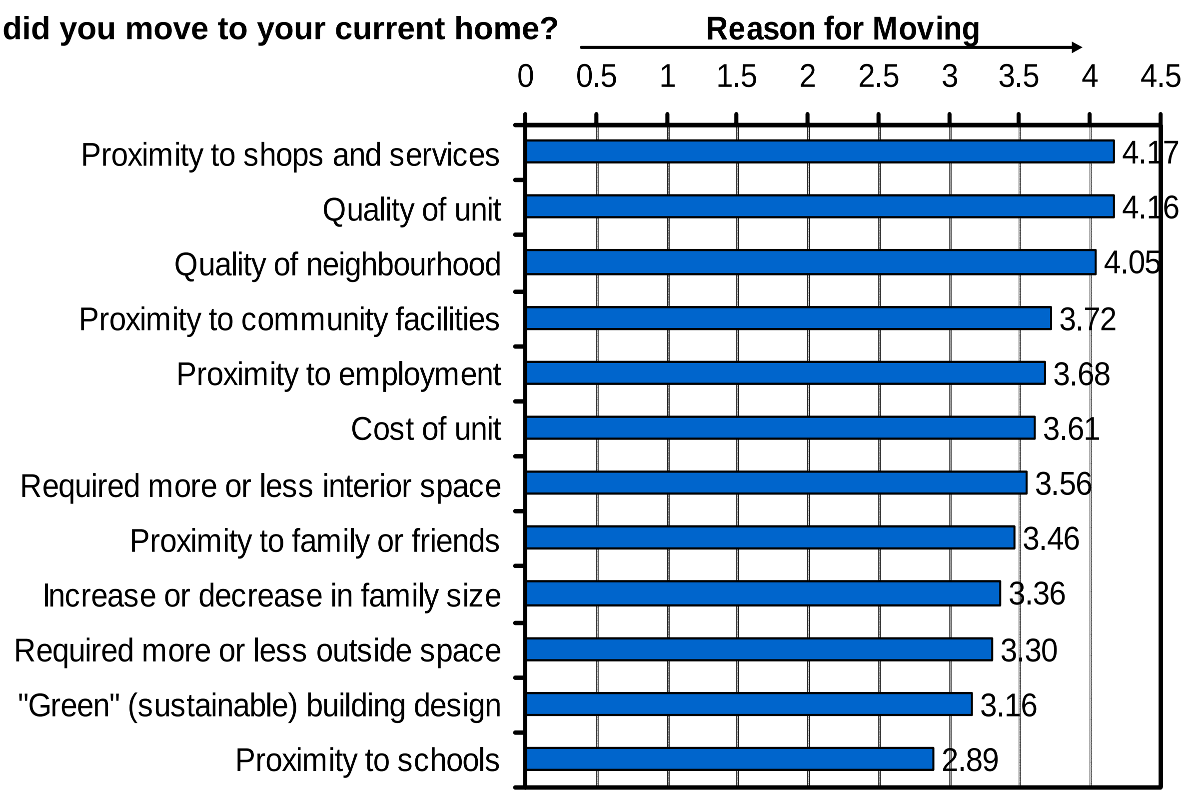
In addition to finding out about who is living in the City's recent multifamily developments and how happy they are with their homes, the post-occupancy evaluation was also used as a means to get feedback on some of the lifestyle choices these residents are making. Why, for example, did they choose to move to their multifamily home in the first place? Do they intend to stay living there? How are employed residents commuting to work? Does living in a multifamily home affect car ownership or transit ridership? The answers to these kinds of questions lead to a better understanding of people's attitudes, and also help the City assess how well multifamily developments are supporting our vision of becoming a more sustainable community.

"North Vancouver is a very nice place to live—quiet, with accessible public transportation, enough sops, its own hospital, and nice parks"

4.1 Reasons for moving here

To gain an idea of what attracted residents to their multifamily unit, respondents were asked to rate a series of reasons for moving to their current address on a scale of 1 to 5, where 1 signified 'disagree strongly' and 5 'agree strongly'.

Figure 7: Why did you move to your current home?



As the results in **Figure 7** indicate, the advantages of location are strong motivations for many respondents, with proximity to shops and services (4.17) and proximity to employment (3.68) both scoring highly. Other influential factors in choosing to live in the City's recent multifamily developments relate to their quality and value, with quality of unit (4.16), quality of neighbourhood (4.05), and cost of unit (3.61) all receiving high ratings.

“Condo living allows for more freedom and less maintenance”

Respondents were also asked to describe any other factors that were instrumental in their reasons for choosing their multifamily home. Comments provided by residents in this section draw attention to some of the advantages of multifamily living in the City, with respondents talking positively of their neighbourhoods, their views, their access to transit, their proximity to the North Shore mountains, and the opportunity to enter the property market amongst other things.

“The view! I love my awesome view!”

Residents in many neighbourhoods value their views — whether to the North, South, East or West of the City.

4.2 The growing importance of sustainable building design

The City has a long tradition of environmental leadership. In recent years, ‘green’ building design has emerged as one of the most recognized means of helping to promote sustainable urban development. Green building design systems such as LEED (Leadership in Energy and Environmental Design) measure the performance of a building in terms of how much it reduces its impact on the environment, for example, by using only certain materials or by increasing energy-efficiency. An important local example of green building design for which the City has been recognized is the Silva highrise development in Central Lonsdale, the first residential building in Canada to achieve a LEED Silver rating.

How important is green design as a motivation for choosing where to live? The overall rating on the five-point scale was relatively low at 3.16. However, taken by itself, this number is difficult to interpret: Is the number low because residents were not that interested in sustainable design when they were looking for a place to live, or because sustainable design was not emphasized or included in the units available for rent or sale at that time?

This question can be further explored by using the Silva as a reference point. As mentioned, the Silva (2005) is seen as a pioneering example of sustainable multifamily development and it has received a good deal of attention in this regard. Do its residents attribute a greater significance to green building design as a reason for having chosen to live there? A good comparison can be made to the Symphony (2002) development. This multifamily highrise is opposite the Silva on the same city block and is of a similar size.

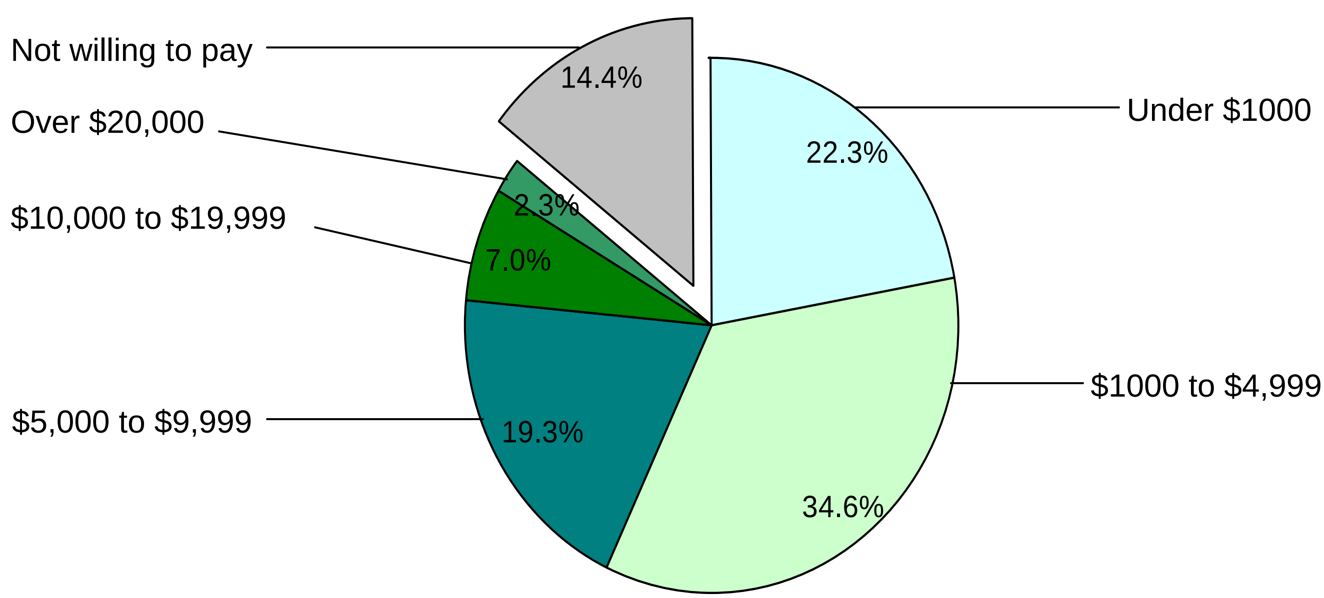
Importance of sustainable 'green' design in moving to your dwelling:

Symphony (2002)	**Silva (2005)**
3.00	**4.88**

The difference between these two figures is extremely pronounced. One explanatory factor might be that the importance of green building increased in the time period between the two projects, with awareness growing among both the home-buying public and the development community. What appears as certain, however, is that the residents of a building that incorporated and promoted environmental design were overwhelmingly attracted by these aspects (4.88 out of a maximum possible average of 5) when choosing where to live. Indeed, this rating of 4.88 is higher than that attributed by residents of the Silva to any other reason for moving there. This is an encouraging finding for green building advocates: where a high standard of sustainable design is included in a development, this becomes a highly influential factor for residents.

As well as finding out about why residents moved to their current address, the City was also interested in whether green building design would influence future home-buying decisions. In a separate question, respondents were asked if they would be willing to pay an additional expense for features that reduced energy and water consumption and thereby lowered the operating costs of the home. The findings for this question confirm the growing importance of sustainable building design to City residents, with an overwhelming 85.6% of respondents indicating they would be willing to invest in improved energy and water efficiency. Green building design has become something the clear majority of residents surveyed support and multifamily developments should be designed to reflect this.

Figure 8: How much would you be willing to spend on water and energy efficiency features when buying a home?



4.3 Reasons people would leave

In one question, residents were asked if they had firm intentions to leave their home in the next one to two years, and if so, to explain their reasons why. The number of people planning to move and their reasons for leaving provide an insight into how well people expect their multifamily unit to meet their needs over time: Are there limitations to living in multifamily homes? Is it a long-term housing option?

About a third (34.8%) of respondents said they are thinking of moving in the next one to two years. As might be expected, a large number of these respondents indicate they are planning on leaving their current home because of their household situation or personal circumstances, rather than because they don't like their home. For example, about one in ten respondents planning to move will do so for employment reasons, or to be nearer to family, or to return to a different place of permanent residence. A further one in six respondents indicated that they are planning on moving because they are currently renting and intend to purchase.

Other responses, however, provide us with more specific information as to why some residents do not see their multifamily home as a long-term residence. Two issues in particular emerge in this respect. Of the respondents who indicated they intended to leave their home, about one in three said that they would do so to acquire additional interior or outdoor space. Several of these respondents provided additional clarification, such as the fact that they need an extra room as they are planning on having another child, or that they want a private yard so they can keep a pet. For some residents, then, the smaller spaces typically associated with multifamily homes are a real constraint.

The other frequently cited reason for moving, given by about one in six of those who said they had plans to leave their current address, would be because of the noise levels they are experiencing. While many of the sources of noise respondents complain about – such as construction work – are temporary in nature, the fact that some people would consider leaving their multifamily home for this reason confirms the importance of strengthening sound proofing requirements already highlighted in Chapter 3. Overall, the fact that the vast majority of survey respondents have no plans to move or would do so only because of changes in their personal circumstances serves to confirm the generally high satisfaction levels with multifamily housing found elsewhere in this survey.

4.4 Place of Work

As we saw in Chapter 2, the post-occupancy revealed a high percentage of residents working from home (12.6% of employed residents), compared to the City's 2006 census average of 8.4%. This work-from-home figure has been increasing steadily over recent census counts in the City (from 6.4% in 1996 to 7.6% in 2001 to 8.4% in 2006), and our growth in multifamily style developments seems to be supporting – and even leading – this growth. This is a positive finding that indicates people are able to live and work locally, contributing to a healthy jobs-to-residents ratio and local economy. Working from home also means the potential environmental impacts of commuting tend to be reduced.

Of the remaining employed residents who work primarily outside their home, a significant percentage are employed within the City itself (24.9%) or in one of the adjoining municipalities elsewhere on the North Shore (13.8%). The largest share of employed residents, however, commute to a work place destination within the Metro Vancouver region outside of the North Shore (43.9%).

Where do people work?

Work from home	**12.6%**
City of North Vancouver	**24.9%**
Elsewhere on the North Shore	**13.8%**
Metro Vancouver Region	**43.9%**
Outside this Region	**4.8%**

4.5 The transportation question

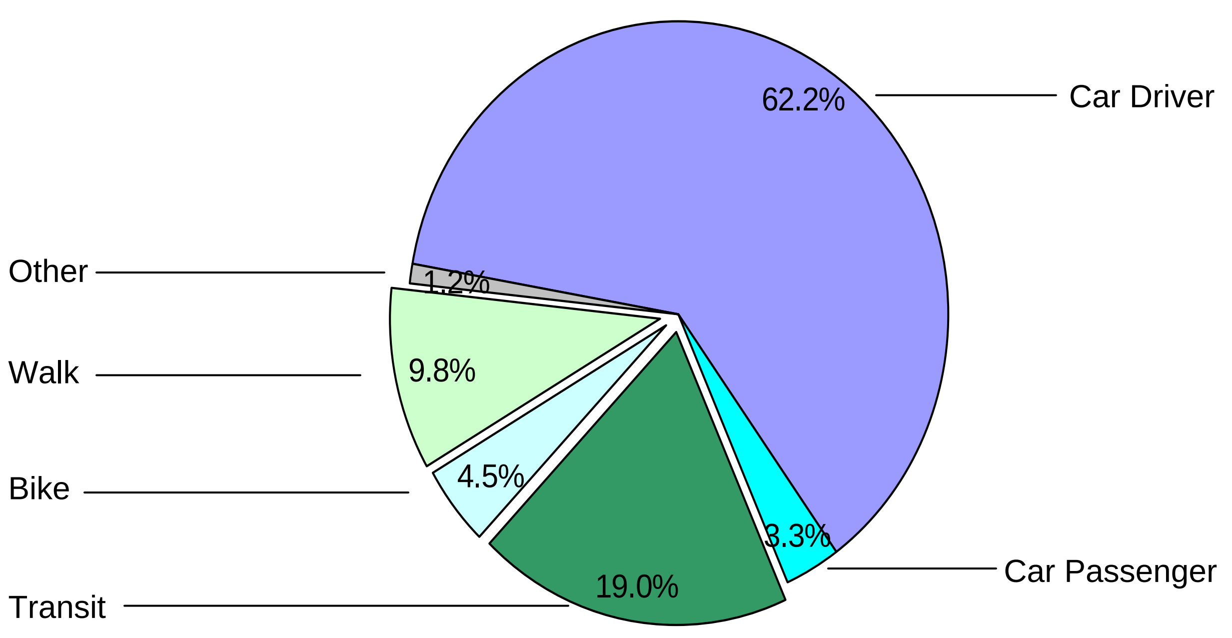
How do the employed residents who work primarily outside the home get to work? **Table 4** lists the five most common commutes in terms of the mode of transportation used and the workplace destination. Together, these five combinations account for 83% of all home-to-work trips undertaken by the survey respondents.

Table 4: The Five Most Common Commutes

Mode, Workplace Destination	% of all Commuters
Drive, Metro Vancouver	30.4%
Transit, Metro Vancouver	15.1%
Drive, City of North Vancouver	14.1%
Drive, Elsewhere on the North Shore	13.9%
Walk, City of North Vancouver	9.6%
(Other remaining combinations)	(17.0%)

Looking at the overall frequency analysis in **Table 4** reveals two significant trends. Firstly, Metro Vancouver is confirmed as the most common workplace destination for commuters with a significant number of respondents either driving or taking transit to a municipality outside the North Shore. Secondly, in terms of the mode of transportation used, three of the five most common commutes involve residents driving to work (to either Metro Vancouver, within the City, or elsewhere on the North Shore). Driving emerges as the most common mode of getting to work, which confirms the findings of the 2006 census results. The overall breakdown in mode share for all destinations is illustrated in **Figure 9**.

Figure 9: How do people commute to work?



4.6 A transit oriented neighbourhood: Lonsdale Quay

Within the overall findings, more pronounced trends can be observed for particular neighbourhoods. An interesting case study is the core of Lower Lonsdale, with the concentration of apartments along West 1st, 2nd and 3rd Streets and East Esplanade all close to the quayside transit hub.

As would be expected, transit ridership is noticeably higher for residents in these apartment developments than the overall survey average. The Marine Drive neighbourhood, with its rapid connections to downtown Vancouver and the Lonsdale Quay also records high transit ridership.

% of residents taking transit to work:

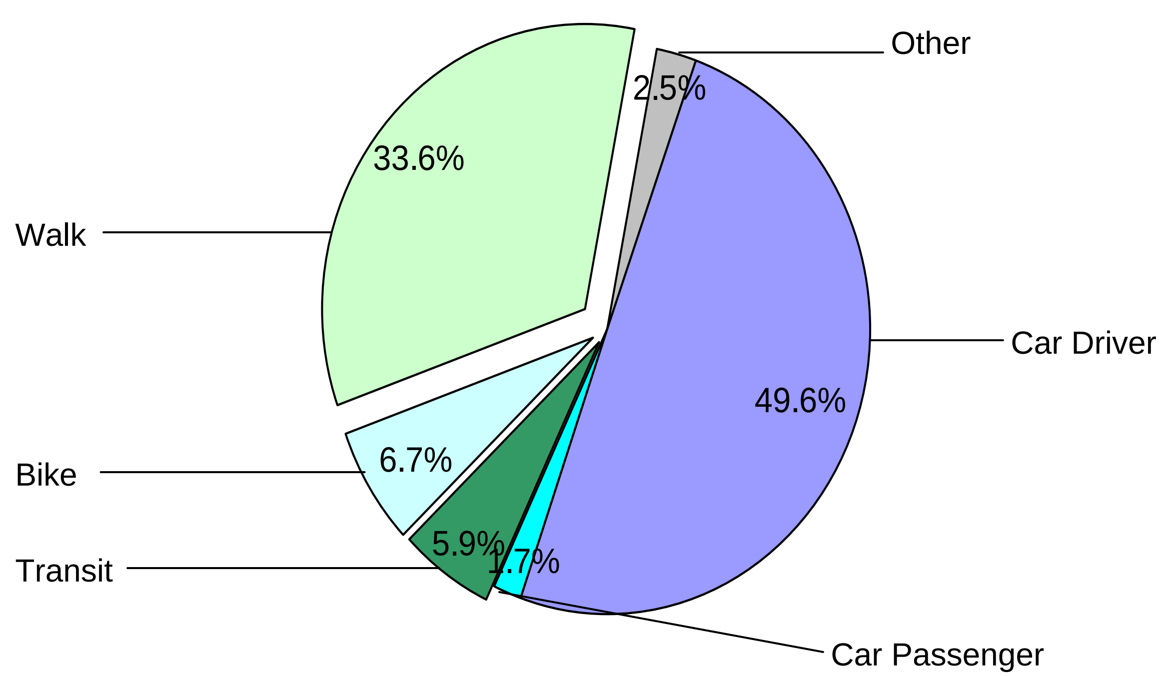
Marine Drive	Lower Lonsdale		Central Lonsdale		Ground Oriented
	Core	Other	Core	Other	
20.0%	**29.8%**	**8.9%**	**9.3%**	**6.3%**	**15.1%**

The City's overall commuting trends according to the 2006 Census revealed 20.3% of commuters travel to work by public transit. This is a higher share than the Metro Vancouver region's overall census average of 16.5% and is a trend the City wants to encourage as we seek to become a more sustainable community. The more people take transit to work, the fewer people drive private vehicles, and the more we lower our per capita greenhouse gas emissions. The projected future residential development patterns of Lower Lonsdale have an important role to play here, and the City can expect to increase its transit ridership with more and more future residents taking advantage of the quayside's excellent transit connections.

4.7 A walkable City

What about residents who work as well as live in the City? As might be expected, the mode share for these residents is quite different to the survey average (see **Figure 9**), with a particularly large increase in the percentage of people walking to work—now more than one in three residents.

Figure 10: Transportation Choices of Residents who Work in the City



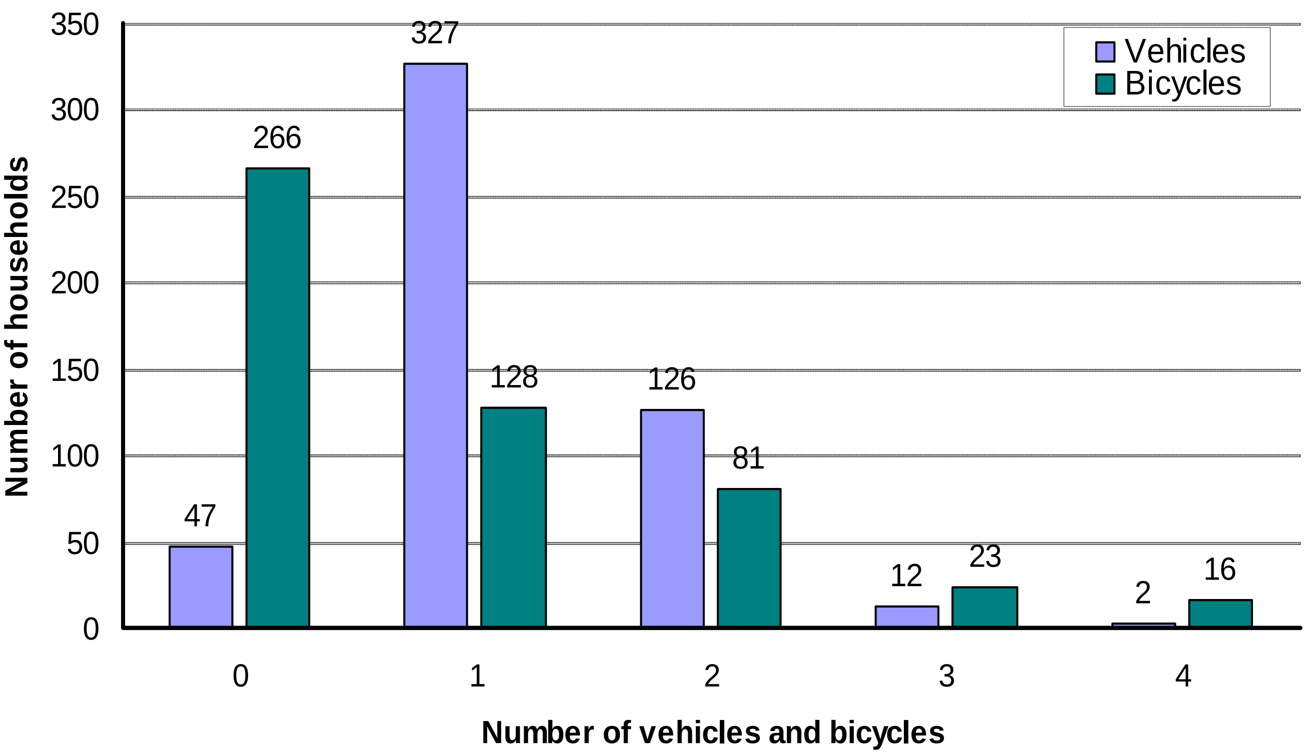
These findings are encouraging, suggesting that the City is providing a walkable, pedestrian-friendly environment for its residents. This impression is reinforced by the findings of a separate question that asked respondents what percentage of their day-to-day needs for shops and services (such as groceries, banking, pharmacy, and so on) they are able to meet within a 10-15 minute walk from home. 71.8% of respondents indicated they are able to meet over 50% of these needs within this walk-shed, with 46.1% able to meet over 75% of their daily needs within this short walk from home. Another question sought to measure whether our higher density, more compact multifamily neighbourhoods influence car use. Encouragingly, when asked if they drive more or less than before they moved to their current address, 64.5% of respondents indicated that they now drive less, 26.7% about the same, and only 8.1% that they drive more. These are very positive findings as the City strives to create an environment where our residents can choose to walk or take transit rather than drive.

In general, would you say you drive more or less than before you moved to your current address? **More: 8.1%** **Less: 64.5%** **About the same: 26.7%**

4.8 Owning a car… and parking it

What does all this mean for car ownership? Interestingly, although significant numbers of residents either work from home or commute to work without using a car, and although residents are able to meet a large proportion of their shopping needs by foot and report driving less, car ownership remains high. Survey respondents own an average of 1.21 cars per household, with only 9.1% of households not owning a car. While these figures do change slightly for households where residents either work from home or don't drive to work (15.5% of households with no car, and an average of 1.01 cars per household), the overriding message appears to be that while many residents do not necessarily drive their cars on a daily basis, they still own one.

Figure 11: Vehicle and Bicycle Ownership among Survey Respondents



Correlated to residents' rates of car ownership, the City also wanted to find out about people's attitudes to parking. The provision of resident parking, particularly underground parking, costs tens of thousands of dollars for each stall – costs which are ultimately passed on to the homebuyer. In one question, respondents were asked whether they would prefer a reduction in the parking stalls assigned to their unit if that meant a reduction in the purchasing price of the unit. About a two-third majority (65.5%) of respondents answered 'No', with 18.6% answering 'Yes' and the remaining 15.8% indicating they were not sure. Having your own parking stall, like having your own car, appears to be something most residents remain attached to.

Would you prefer a reduction in the number of parking stalls assigned to your unit if that meant a lower purchasing price? **Yes: 18.6%** **No: 65.5%** **Don't know: 15.8%**

4.9 Cycling in the City

As **Figure 11** reveals, bicycle ownership among survey respondents – while lower than car ownership – is high. Indeed, almost half of all households (48.2%) own at least one bicycle with an average of 0.82 bicycles per household. Equally important, several households (23.3%) own more than one bicycle, and – as we have seen – 4.5% of residents employed outside the home cycle to work.

A number of questions in the survey asked for feedback on bikes and cycling. In Chapter 3 we saw that accessibility to cycling facilities (such as trails and paths) scored the lowest of the five aspects of residents' neighbourhoods they were asked to rate (3.48), while bicycle storage received one of the lowest satisfaction ratings for aspects of residents' buildings (3.46). Although these figures are not alarmingly low, the implication for the City appears to be that more could be done to meet residents' expectations.

A separate question asked residents to indicate where any bicycles they own are stored. To better interpret the responses to this question it is useful to distinguish between the ground-oriented and the apartment-type developments.

Table 5: Location of Stored Bicycles

	Apartment-type	Ground-oriented
Inside the dwelling unit	**14.5%**	**18.3%**
In the building's cycle storage	**50.5%**	**11.1%**
Another location	**35.0%**	**70.6%**

The majority of bicycle owners who live in the ground-oriented developments store their bikes in 'another location', which in 95% of cases was defined as being their garage. Is storing a bicycle harder for apartment dwellers who don't have their own private garage? Is keeping a bicycle inside your dwelling unit more of an issue in apartments that tend to be much smaller than ground-oriented units? While half (50.5%) of apartment dwellers are able to store their bike in the building's designated cycle storage, the remaining half are storing theirs inside their own unit or elsewhere. Here the results are quite revealing, with respondents specifying that their bikes are stored in a variety of locations, from their balconies, to their storage lockers, to their place of work, to the houses of friends or family.

An interesting consideration for the City is whether storing bicycles in apartment-type developments is a major obstacle for residents, and if so, whether this impacts people's behaviours. While being able to answer that question with certainty would require further research, the results of this post-occupancy evaluation do reveal some interesting findings in this regard. Notably, both bicycle ownership and the number of people cycling to work are substantially lower among apartment dwellers.

	Apartment-type	**Ground-oriented**
Number of bikes per household	**0.7**	**1.6**
Number of bikes per person	**0.4**	**0.7**
% of people cycling to work	**2.4%**	**12.8%**

Adopting design guidelines that stipulate a higher provision of secure and easily accessible bicycle storage in apartment-type buildings could be a way for the City to increase resident satisfaction and facilitate the wider uptake of people cycling to work.

A higher provision of bicycle storage space in multifamily developments could make it possible for more people to cycle in the City.

5.0 COMMUNITY INCLUSIVITY

A final purpose of conducting the post-occupancy evaluation related to the important issue of community well-being. Here, the broad question the City wanted answered was: How well are recent multifamily developments supporting the different ways of life of different people? Our community is comprised of diverse social groups, some of whom – such as families with children or seniors – have their own particular needs. How well are these needs being met by multifamily forms of housing? Alongside these more particular areas, other aspects such as safety and affordability contribute to the community well-being of all City residents.

5.1 Economic and demographic diversity

As we saw in Chapter 2, our recent multifamily developments are home to residents from a wide range of incomes and ages, with population groups ranging from the home-employed to the retired. Within this mix, we also saw that different neighbourhoods have their own particular demographic tendencies. These included trends such as the younger populations of Marine Drive and Lower Lonsdale core, the older population of Central Lonsdale core, and the larger number of families with children in ground-oriented developments.

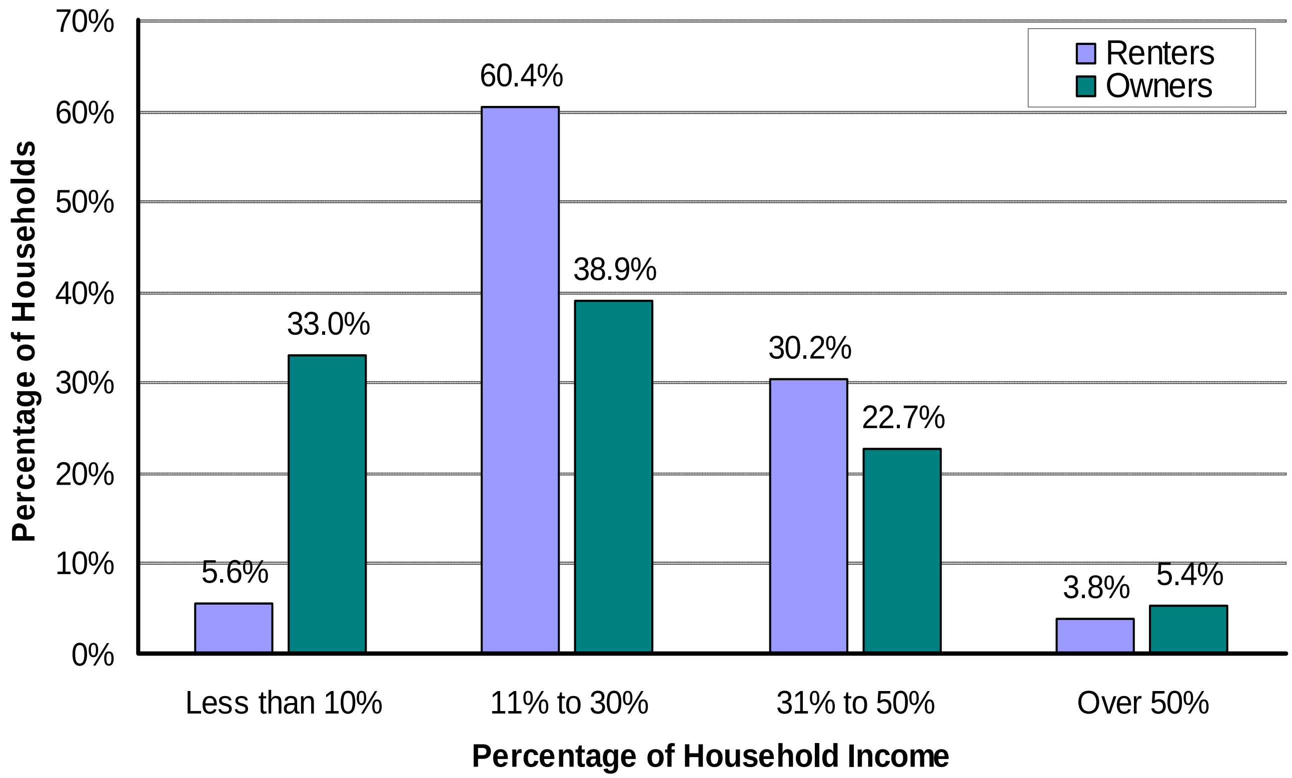
5.2 The challenge of affordability

The cost of housing in the Vancouver region is known to be very high and poses a challenge to social sustainability and community well-being in the City like all local municipalities. To meet this challenge, the City works with housing agencies and other jurisdictions on a number of affordable housing strategies and policies. It is important to note that the buildings that are the subject of this post-occupancy evaluation are market condominium buildings – that is, they are sold or rented at prices determined by the market – and are not part of any designated affordable housing program. Housing type does, however, have a significant impact on the cost of housing. Do the findings of the survey tell us anything about affordability in the City?

One finding that has already been discussed is that the recent multifamily developments appear to be facilitating a shift to home ownership, with 88.1% of respondents owning their current unit, while only 66.3% of these same respondents owned their previous home. Similarly, cost of unit was seen to be one of the more consistent motivations (3.61) of residents for choosing to move to their current address. To the extent that multifamily homes – both apartment condos and ground-oriented townhouses or duplexes – are typically less expensive than single family homes, these findings of the survey suggest that multifamily developments are providing a *more* affordable home-buying option relative to other alternatives.

Another way of determining affordability involves the percentage of household income that is used to cover housing costs (whether rent, mortgage payments, or strata fees). As a general rule of thumb, housing costs that do not exceed 30% of a household's gross income are seen as affordable.

Figure 12: Gross Household Income used for Housing Costs of Renters and Owners



These figures reveal that for the substantial majority of respondents, their multifamily home is an affordable form of housing, with most renters and owners spending less than 30% of their household income on housing costs. This is an important finding in itself. Nevertheless, over a third of renters and over a quarter of owners are spending more than 30% of their incomes on housing, with a small percentage of these spending more than half their household income. Overall, then, these findings suggest that while recent multifamily developments are providing a significant form of affordable market housing for most of the survey inhabitants, the challenge of affordability remains for many households.

5.3 A safe environment

A safe environment is a vital component of community well-being. Residents were asked to rate on a five-point scale how safe they feel in their neighbourhood, their building, and their unit, where 1 signified 'very unsafe' and 5 'very safe'.

How safe do you feel on a scale of 1-to-5?
In your neighbourhood: 3.90 **In your building: 4.39** **In your unit: 4.51**

As might be expected, residents tend to feel increasingly safe as they move from outside in their neighbourhood, to inside in their building and finally their own unit.

That the vast majority of residents feel safe is a very positive finding. Nevertheless, it is important for the City to examine the factors that reduce some residents' sense of safety. Some of these have been discussed in Chapter 3 where some respondents indicated their level of satisfaction with their building could be improved by the addition of security cameras or other such features. What else do we learn about residents' potential concerns?

"I feel I live in a safe neighbourhood, but I do feel my building is easy to get into"

Residents who don't always feel safe were asked to explain why that is the case. About one in four (24.7%) respondents chose to provide additional information in this regard. Residents' concerns with safety in their building or unit tend to relate to question marks they have over access to their homes. Many residents would like to see increased doors with locks or key FOBS in parkades, stairwells and hallways, and increased lighting and cameras on adjoining lanes and alleys. Common areas such as the parkade, storage facilities and mailboxes are seen by some as particularly vulnerable. Furthermore, some residents specify it is because they are on the groundfloor that they are especially concerned with this question of access.

Other residents are more concerned with street activity outside in the neighbourhoods they live in, specifically at night. Certain areas in particular received comments in this regard. The now closed Lonsdale School, for example, is a concern for many nearby residents in Upper Lonsdale who feel the school grounds have become the site of illicit activities. The parks, lanes and industrial areas in the Lower Lonsdale core are a similar concern for some residents in that neighbourhood. The presence of the homeless and those battling substance abuse is particularly affecting for some survey respondents.

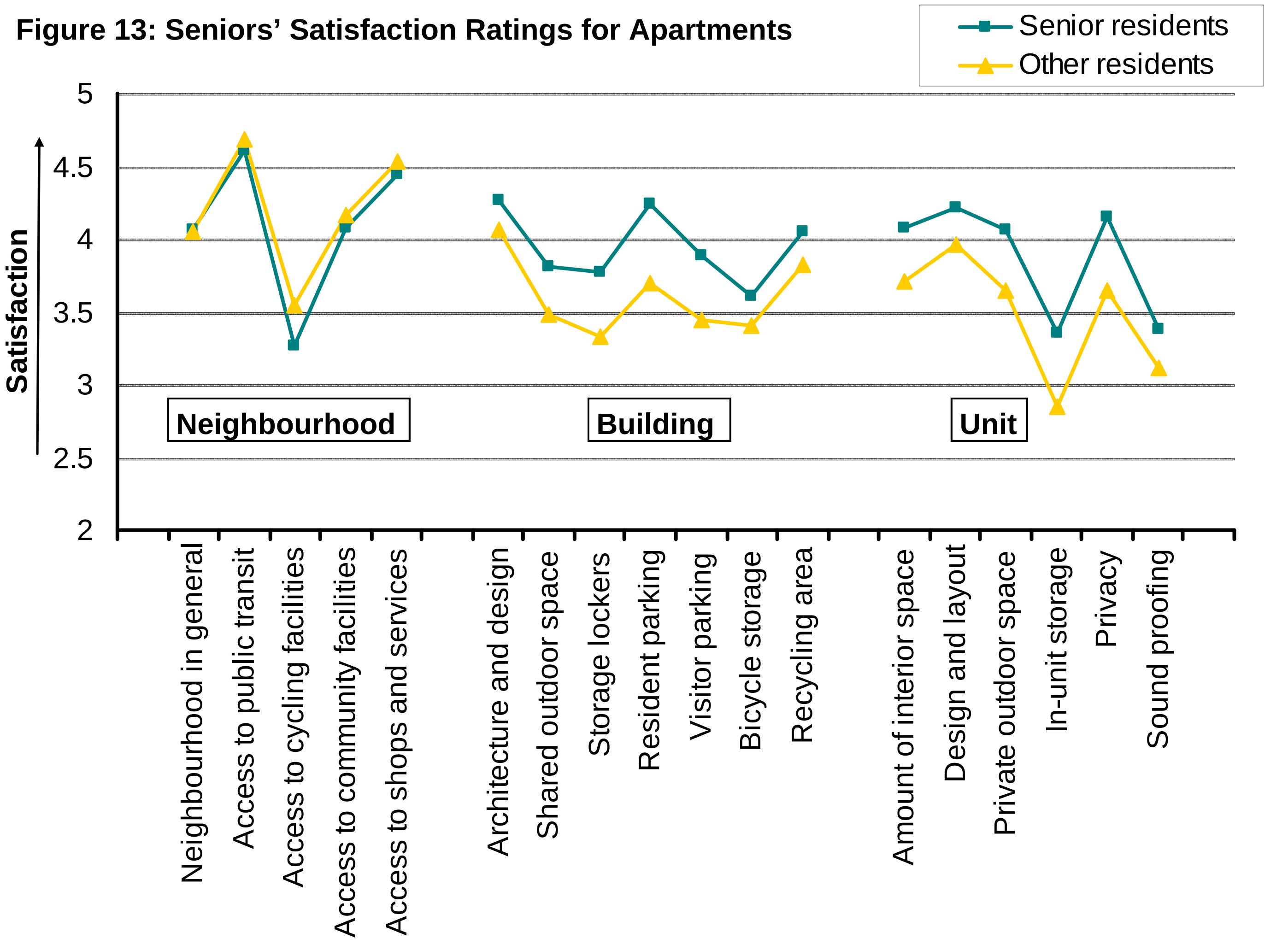
"We need better lighting on the walkway from the Seabus terminal"

While these kinds of concerns did not prevent respondents rating their levels of safety very highly, they do reveal how certain things can make people uncomfortable. The City already requires developments to conform to CPTED principles (Crime Prevention through Environmental Design) and can use the findings of this survey to work with developers to further address the aspects of multifamily buildings that seem to raise the most concerns (such as building access through parkades). Similarly, we can continue to work to ensure our community is a safe one through partnerships with outside agencies, not only with the RCMP, but also with bodies such as Translink to see what improvements can be made to the transit station area of Lonsdale Quay and the School Board to pursue redevelopment opportunities for the former elementary school site.

5.4 Spotlight on seniors

Apartments in particular are popular with senior residents who represent 26.5% of all survey respondents living in this type of housing. As has been noted, in certain areas such as Central Lonsdale, this figure rises to as much as 52.5%, while in contrast, only 6.8% of residents in the ground-oriented buildings surveyed were seniors. For this reason, this section will focus on seniors living in apartments. What attracted them to this form of housing, how satisfied are they with their home, and do they feel safe?

Figure 13: Seniors' Satisfaction Ratings for Apartments



The findings for our older residents are overwhelmingly positive, with households with senior residents consistently more satisfied with their building and unit than households without seniors. Perhaps more unexpected, these households also report higher levels of safety, though the margin is only slight. These are significant findings of the post-occupancy evaluation. The City's population – like others across the country – is aging, with the proportion of senior residents forecast to increase over the coming years as the babyboom generation nears retirement. The fact that our senior residents report a high level of satisfaction with apartment-living suggests that this form of development will help position the City to respond well to our shifting demographics.

How safe do you feel on a scale of 1-to-5?

	In your neighbourhood	In your building	In your unit
Senior Residents	**3.86**	**4.44**	**4.60**
Other Residents	**3.85**	**4.34**	**4.46**

What attracts seniors to this form of housing? Overall, seniors are motivated by similar factors to other population groups, with the quality and cost of the unit, the quality of the neighbourhood, and proximity to shops and services all scoring highly. However, five of the reasons for moving to their current address respondents were asked to rate received notably higher averages from seniors.

Table 6: Selected Reasons for Choosing to Live in an Apartment

	Senior Residents	Other Residents
Required more or less interior space	3.90	3.35
Proximity to family or friends	3.79	3.33
Required more or less outside space	3.73	3.08
Increase or decrease in family size	3.72	3.10
Green building design	3.63	2.97

Some of these contrasts in the relative importance of different motivations for choosing where to live are perhaps to be expected. Changes in family size, or interior or exterior space, for example, were seen to be more decisive factors for seniors than other residents, with many respondents providing additional comments to this effect – describing themselves as "empty-nesters", no longer wanting "yard maintenance", or as having "retired and downsized". At the same time, the relatively higher rating accorded to remaining in proximity to family or friends seems to confirm the importance of community for many seniors who desire to remain close to the social networks they have established in the City. Perhaps the most surprising contrast relates to green building design which emerges as relatively more important to senior residents than those of other age groups.

"Living next to John Braithwaite's and the Seabus is wonderful"

In addition to these findings for the general questions, a specific section in the survey was addressed uniquely to senior residents to try to determine more directly how well their unit was meeting their needs. Again, the results are very positive. When asked to rate on a 5-point scale how suitable they feel their residence is for seniors, where 1 signified 'not at all suitable' and 5 'very suitable', a high average response of 4.20 was achieved. The response to the next question, where seniors were asked to rate how well they feel their residence will support them over time as they 'age in place', was slightly lower at 3.84. While this is still a positive rating, it serves to draw attention to the concern some senior residents have about their home's ability to support them should their needs or abilities change.

What might some of these concerns about their building be? In a separate question, senior residents were asked if there were any particular challenges to living in their apartment. 28.1% of respondents chose to describe some of their challenges. From these responses, three aspects of apartment developments emerge quite consistently as those which worry seniors the most: their building's stairs, doors, and bathrooms.

The question of stairs is a complex one, as many senior residents are drawn to apartment-living in part because the provision of elevators means they can avoid the potential hazard presented by stairs in, for example, single family houses and town houses. In general, then, the relative absence of stairs is one factor behind why seniors are satisfied with their apartments and judge them to be suitable for seniors.

However, a handful of comments raise more particular concerns some senior residents have with their apartment buildings. One of these concerns relates to the need to use stairs to evacuate the building in an emergency, or following a fire alarm. This was seen as a particular problem for those living several floors above ground level, and those with reduced mobility or who are concerned about their ability to negotiate stairs in the future. Another particular issue with stairs to emerge from seniors' comments relates to access routes to some of their building's auxiliary areas – such as garbage and recycling rooms, parkades, and storage lockers. Because these areas often need to be accessed frequently, even small flights of stairs can create daily challenges for some residents.

"Garbage and recycling is the biggest problem… There is no indoor disposal, it is located in the lane, and each bin's lid is very heavy"

Doors are another aspect of apartment buildings to draw comments from senior respondents. The particular concern relates to how heavy some residents find doors in their building, including doors to the parkade, the general lobby, common areas, and their own unit. This problem posed by heavy doors is exacerbated for residents with reduced mobility, or, for example, someone returning home with bags of groceries. Suggested solutions residents would like to see include push-button door openers throughout their building and the availability of a concierge at all times, including evenings and weekends.

"We are lucky in this building that the neighbours care about one another"

The remaining aspect of their apartment homes seniors often express concerns over are their bathrooms, although this was cited less frequently as a problem than stairs and doors. Here, residents' concerns relate to wheelchair accessibility to the bathroom itself, and the need for grab bars in bathtubs or a replacement of bathtubs with walk-in showers. As with the issues raised with regards to their building's stairs and doors, residents are as much concerned about potential future problems as they are with difficulties they are currently experiencing. One way of addressing the kinds of challenges to apartment-living identified by seniors is through the City's 'Adaptable Design' policy and guidelines.

"The building is very suitable for seniors, however there is no common room or social area"

5.5 Adaptable design

Adaptable design refers to design elements or features that improve ease of use for people with physical, hearing or sight impairments. Examples of adaptable design features include things like increasing door widths or providing automated openings to help those who use mobility aids. Adapting a space in this kind of way beyond standardized housing design enables people to create livable homes where they can thrive independently. The City requires all multifamily buildings with shared corridors (such as apartments) to meet minimum 'Level One' adaptable design levels, and a further 20% of units in those buildings to meet higher 'Level Two' standards. The City was interested in finding out about people's awareness of these kinds of design features, and whether they were sufficient for members of our community with impaired mobility, hearing or sight.

Survey respondents appear to have a relatively low awareness of adaptable design in their multifamily homes. When asked if their unit or building had any adaptable design features, or whether they themselves had adapted their unit, 87.3% of respondents indicated they were not aware of these features and had made no adaptations themselves. The remaining 12.7% of respondents provided comments detailing their knowledge and experience of adaptable design features in their development.

"I'm not aware of any features, expect the automatic front door opener"

The features most commonly recognized by residents related to describing their building as "wheelchair friendly", with automated entryways and wider corridors often cited as features residents had noticed in their building. Many residents also described 'grab rails' in the bathrooms of their own or neighbour's units. Other features cited less frequently included disabled parking spaces, lever-style door handles, light switches and electric sockets positioned in the middle of the wall, and brail signage in elevators. Some respondents indicated that these kinds of features were of a positive value to themselves or those they know in their building.

"My unit is adapted for wheelchair use, which was helpful for my daughter after surgery"

What is interesting in the responses to this question is that many residents describe the kinds of adaptable design features that help address some of the concerns senior residents have regarding their building's ability to support them over time. While current awareness of existing adaptable design features appears to be quite low, then, it is important that the City has these policies in place – and given the shifting demographics of our aging population, these policies are likely to grow in importance over the coming years. In the meantime, tasks for the City include increasing awareness among our citizens of the availability of adaptable design, and working with developers to ensure these features are maintained and made available to those who require them.

"The building is very accessible for people living with disabilities"

5.6 Focus on families

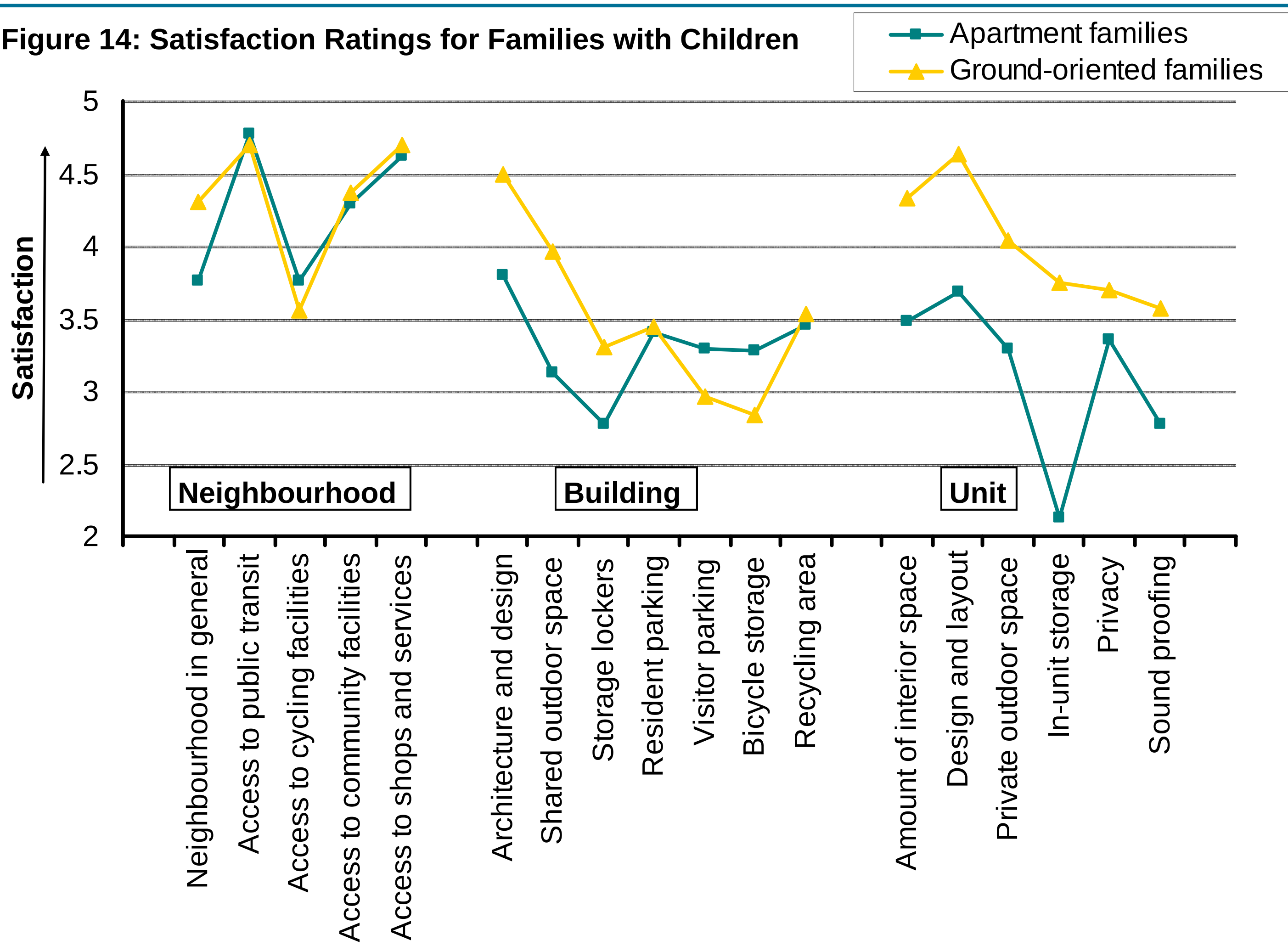
Another group the City was keen to find out about was families with children. How well are multifamily units meeting their particular needs? To answer that question, it will be useful to take the results of all the households with children and divide them into families living in the two different types of developments. As we saw in Chapter 2, the ground-oriented dwellings surveyed have a larger than census average household size of 2.5, while apartment-type dwellings have a much lower average of 1.6 residents per household. This is in a large part due to the higher number of children living in ground-oriented units. Indeed, 38.0% of ground-oriented households surveyed have one or more children living there, whereas this figure drops to only 7.8% for apartment households surveyed. Similarly, for households that do have children, ground-oriented units tend to have more children (an average of 1.67 children per family, compared to an average of 1.26 children per family for families in apartments). The breakdown of children by age group is given in **Table 7**.

Table 7: Percentage of Children by Age and Neighbourhood

Age (Years)	Marine Drive	Lower Lonsdale		Central Lonsdale		Ground Oriented	SURVEY AVERAGE	2006 Census
		Core	Other	Core	Other			
0-4	5.4%	2.4%	0%	2.2%	2.0%	15.1%	5.0%	4.8%
5-9	3.6%	1.5%	2.4%	0%	1.0%	4.2%	2.0%	4.5%
10-14	3.6%	1.5%	0%	0%	0%	5.2%	1.9%	4.7%
15-19	3.6%	1.8%	1.2%	0%	2.0%	1.6%	1.6%	5.1%
0-19	*16.1%*	*7.2%*	*3.6%*	*2.2%*	*5.1%*	*26.0%*	*10.4%*	*19.0%*

When it comes to raising a family, what do residents see as the relative strengths and weaknesses of these different forms of housing? The results in **Figure 14** are quite contrasting, with families in the ground-oriented units reporting higher levels of satisfaction, particularly with respect to their private living space – the unit itself.

Figure 14: Satisfaction Ratings for Families with Children



The same contrast appears with regards to safety, with families in ground-oriented types of development consistently rating their safety levels as higher.

How safe do you feel on a scale of 1-to-5?

	In your neighbourhood	In your building	In your unit
Children—apartments	3.60	4.26	4.29
Children—ground-oriented	4.23	4.64	4.73

In a section addressed uniquely to families with children, respondents were asked more detailed questions about raising a family in their unit and building. The findings for these questions reinforce the contrast observed above between ground-oriented and apartment-type developments. One question tried to find out if respondents felt differently according to the age of their children, using the brackets of 0 to 5, 6 to 12, and 13 to 18 years. Interestingly, parents of both apartments and ground-oriented units tend to judge their homes to be more suitable for older children. However, although the trend is broadly similar, parents raising children in ground-oriented units feel their home is noticeably more suitable than their counterparts raising children in apartments. Parents in ground-oriented units also indicated they were more than twice as likely to remain living in their current home if they had one additional child living with them.

How suitable do you feel your residence is for your child's age?

	Apartment-type	Ground-oriented
Ages 0-5	3.09	4.20
Ages 6-12	3.20	4.60
Ages 13-18	3.71	4.56

If you had one additional child living with you, would you remain in your current residence?

	Apartment-type	Ground-oriented
Yes	20.0%	46.2%
No	80.0%	53.8%

The strong performance of ground-oriented developments for families with children is a significant finding. For a number of years the City has sought to assess the potential of this form of development for residents with children. A useful comparison can be made to a post-occupancy study of townhouses conducted by the City in 1999 which provided a profile of our ground-oriented multifamily community at that time. Comparing the results of the 1999 study to the present, a clear trend emerges that indicates the growing popularity of this choice of housing for families with children.

Families in ground-oriented multifamily developments 1999 and 2008:

	1999	2008
% of residents under 19 years of age	**20%**	**26%**
% of households with children present	**30%**	**38%**

The higher popularity of ground-oriented units over apartment units for families appears to be attributable primarily to their larger spaces. In one question, parents were asked to indicate if there are any particular challenges to raising a family in their residence. Encouragingly, 55.4% of parents indicated there were no particular problems. Of the 44.6% of parents who chose to indicate some of the challenges they experience, space emerges as a major constraint for many families – and this is a multifaceted issue. While many respondents specify it is interior living space they find a challenge, almost as many parents indicate that it is the provision of nearby outdoor play space or green space that they find insufficient for their children.

"There's a lack of open grass space onsite. The area is all hard surfaces or else intensively landscaped" **(Parent of a 0 to 4 year-old)**

"You are always aware that there is a common wall and you are constantly aware of how loud your kids are" **(Parent of two 5 to 9 year-olds and one 10 to 14 year-old)**

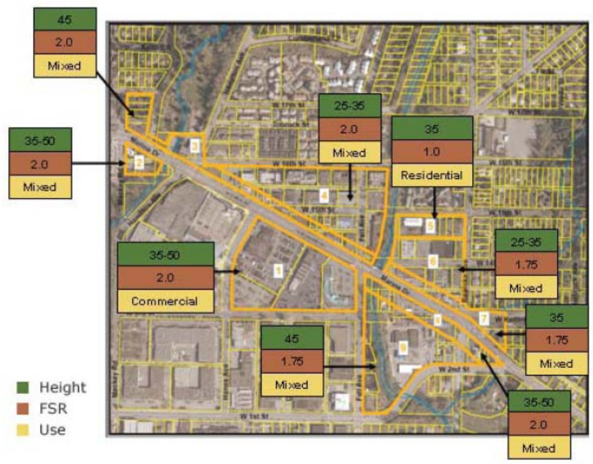
The other commonly cited challenge to raising children in multifamily developments addresses how "child-friendly" parents feel their building is. For some parents, design and safety concerns – notably, about unguarded windows – detract from the suitability of their building. For others, it is more a feeling that there aren't many other children in their building, and that the noise levels associated with young children make them feel uncomfortable with other residents in the building.

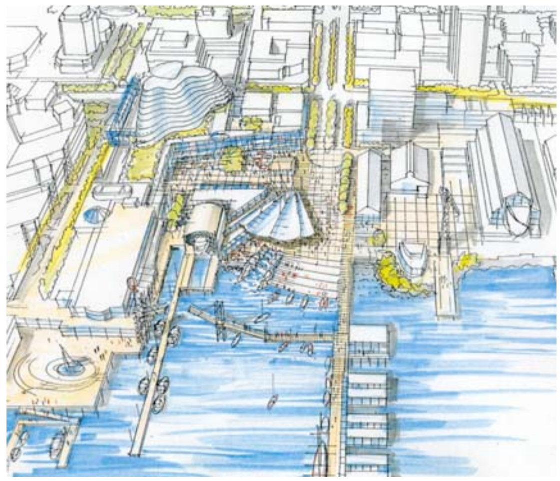
These results for families with children are an important outcome of the survey. The findings for ground-oriented units are very positive, with large numbers of households living with children and high suitability and safety ratings of more than 4 out of 5 achieved for all age groups. The results are less positive for apartment-type developments, which have fewer children present and which achieve lower ratings for suitability, satisfaction and safety. While these ratings are not alarmingly low (they are over 3 out of 5), they do provide the City with a valuable indication that tools like design guidelines could be explored to improve livability for families who make apartments their home.

Nearby green space where children can play is particularly important for the youngest residents of our multifamily developments.

6.0 CONCLUSION

The post-occupancy evaluation conducted in the fall of 2008 is an important public consultation exercise. Respondents' willingness to participate in the study has provided the City with detailed insight into who is moving into our most recent multifamily developments and how community demographics vary by neighbourhood and building type; where these residents are moving from and why they are choosing this form of housing; and how their multifamily home is influencing their behaviour and supporting their needs. The results of this study enable the City both to monitor progress on existing plans and consider policy options as we look to the future.





The findings of this study can be used to support other ongoing planning initiatives, for example in Lower Lonsdale (left) and the Marine Drive corridor (far left).

6.1 Positive findings

A positive validation of the City's recent multifamily developments emerges from this study. Eighteen different aspects relating to residents' neighbourhoods, buildings and units were consistently rated as satisfactory, with none receiving an average rating of less than 3 out of 5. Furthermore, many aspects – such as neighbourhood facilities, services and transit, and the design of buildings and units – received particularly positive endorsements, with average ratings of more than 4 out of 5 awarded by residents. Overall, an overwhelming 92% of respondents indicated they would recommend living where they do to other people.

Other findings of this study are equally encouraging and serve to endorse City policy. The generally high levels of safety respondents report reinforce the value of existing Crime Prevention through Environmental Design (CPTED) guidelines. Respondents also appear to have a strong attachment to the area, with the majority moving to their new home from within the City or elsewhere on the North Shore (71.6%). Our multifamily developments seem to be providing an important housing option for these residents, with many respondents moving to their multifamily unit from single family houses (46.4%).

These residents are attracted to the elements of our neighbourhoods – such as their shops, services, and community facilities – that the City seeks to maintain and enhance as we strive to build the livable 'complete communities' outlined in our Official Community Plan. Sustainability also appears to be an important value to our residents, with strong majorities of respondents indicating their willingness to invest in green building (85.6%) and reporting that they drive less than before they moved to their new multifamily home (64.5%). These are all positive findings for the City.

6.2 Next steps

Given the volume of recent multifamily developments, and as neighbourhoods in the Marine Drive corridor and Central and Lower Lonsdale continue to grow, it was important the City receive feedback directly from its residents. Looking forward, the findings of this study can now be used to help direct planning and development processes to ensure the City continues to best serve its residents and achieve its community vision. As a first step in that regard, and on the basis of the principal findings outlined in this report, the following primary recommendations can be made.

Recommendations

- Continue to build upon the strengths of our multifamily developments and neighbourhoods as recognized by their residents and continue to engage these residents in a dialogue about their community.

- Address the aspects of building and unit design that received lower satisfaction ratings at the design and approval stages of future multifamily developments, namely: storage (in-unit, building lockers, and bicycle racks) and sound-proofing from exterior sounds.

- Monitor the high level of owner-occupancy in multifamily developments observed in this study and assess the implications of this for long-term rental housing supply in the City.

- Monitor transportation choices of City residents and consider lowering multifamily parking requirements, particularly in areas of high transit ridership (Lower Lonsdale).

- Seek to promote awareness of Adaptable Design in the City and consider raising the number of units built to Level Two standards (currently 20% of units) to a higher percentage, particularly in areas attracting a high proportion of senior residents (Central Lonsdale).

- Explore options for devising design guidelines for children in multifamily (particularly apartment-type) developments.

- Continue to analyze the findings of this study as appropriate to support planning work at the area-specific and community-wide level, including eventual revisions to the Official Community Plan.

A copy of the survey complete with the summary results for each question follows this report as Appendix 1.

Recent Development Resident Satisfaction Survey

Section One: About Your Home

1. Do you rent or own this unit (please circle one):
   Rent: **11.9%** Own: **88.1%** Other (please specify): **0%**

2. Which of the following best describes your unit (please circle one):
   Studio: **1.8%** 1 bedroom: **14.4%** 1 bedroom + den: **16.0%**
   2 bedroom: **36.2%** 2 bedroom + den: **16.4%** 3 bedroom or larger: **15.2%**

3. Please indicate the approximate size of your unit (please circle one):
   Less than 600ft²: **3.3%** 601ft² to 1000ft²: **56.9%** 1001ft² to 1400ft²: **22.4%**
   1401ft² to 1800ft²: **8.3%** 1801ft² or more: **9.1%**

Section Two: Your Level of Satisfaction

4. Please rate your overall satisfaction for the following aspects of your home (please circle one number for each aspect):

	Very satisfied →				Very dissatisfied	
Your Neighbourhood						
Neighbourhood in general	5	**4.08**	3	2	1	N/A
Accessible to public transit	5	**4.65**	3	2	1	N/A
Accessible to cycling facilities (trails, paths, etc)	5	4	**3.48**	2	1	N/A
Accessible to community facilities (parks, schools, etc)	5	**4.17**	3	2	1	N/A
Accessible to shops and services	5	**4.51**	3	2	1	N/A
Your Building						
Architecture and building design	5	**4.16**	3	2	1	N/A
Shared outdoor space	5	4	**3.61**	2	1	N/A
Storage lockers	5	4	**3.46**	2	1	N/A
Resident parking	5	4	**3.83**	2	1	N/A
Visitor parking	5	4	**3.53**	2	1	N/A
Bicycle storage	5	4	**3.46**	2	1	N/A
Recycling area	5	4	**3.84**	2	1	N/A
Your Unit						
Amount of interior living space	5	4	**3.91**	2	1	N/A
Design and layout (use of space)	5	**4.09**	3	2	1	N/A
Private outdoor space (yard, balcony, etc)	5	4	**3.80**	2	1	N/A
In-unit storage space	5	4	**3.11**	2	1	N/A
Privacy	5	4	**3.78**	2	1	N/A
Sound proofing from exterior sounds	5	4	**3.26**	2	1	N/A

Please return surveys by September 29th. Contact David Hawkins | Tel: 604-990-4219 | Fax: 604-985-0576 | dhawkins@cnv.org

5. Are there any specific improvements you would like to see to your building or unit?
No: **44.1%** Yes (please specify): **55.9%**

6. Would you recommend living in your building to other people? Yes: **92.0%** No: **8.0%**

7. Are you aware if your unit/building has Adaptable Design features? Have you modified your unit to accommodate any physical, hearing or sight impairments? If so, please describe: **12.7% of respondents described AD features they were aware of**

8. How safe do you feel in each of the following (please circle one number for each):

	Very safe →				Very unsafe	
Your neighbourhood	5	4	**3.90**	2	1	N/A
Your building	5	**4.39**	3	2	1	N/A
Your dwelling unit	5	**4.51**	3	2	1	N/A

If you feel unsafe, please explain why: ____________________

Section Three: Residents with Children

If you have children 18 years of age or younger living at this address, please complete Questions 9 to 12 below. If not, please go to Question 13.

9. How suitable is your residence for children of various ages (please circle one response for the age range of each child residing with you):

	Very suitable →				Not at all suitable
Ages 0-5	5	4	**3.68**	2	1
Ages 6-12	5	4	**3.76**	2	1
Ages 13-18	5	**4.04**	3	2	1

Additional comments: ____________________

10. If you had one additional child living with you, would you remain in your current residence? Yes: **32.1%** No: **67.9%**

Additional comments: ____

____

11. Are there any particular challenges to raising a family in your building or unit?
44.6% of parents described particular challenges

____

____

12. If you have children or a child attending school, please indicate the primary method of transport used to get to school (please circle one answer):

Car: **62.7%** Public Transit: **11.8%** School Bus: **5.9%** Bicycle: **0%**
Walk: **17.6%** Other: **0%** Home-Schooled: **0%** Not Applicable: **2.0%**

Section Four: Senior Residents (65+)

If there are seniors (aged 65 and over) living at this address, please complete Questions 13 to 15 below. If not, please go to Question 16.

13. Overall, please indicate how suitable you feel your residence is for seniors (please circle one number):

Very suitable →				Not at all suitable
5	**4.17**	3	2	1

Additional comments: ____

____

14. Overall, how well do you feel your residence will support seniors as they 'age in place' (please circle one number):

Very well →				Not very well at all
5	4	**3.82**	2	1

Additional comments: ____

____

15. Are there any particular challenges for seniors living in your building or unit?
28.5% of seniors described particular challenges

Section Five: Resident Preferences and Behaviours

16. Please rate the following reasons for moving to your current home (please circle one answer for each):

	Strongly agree →				Strongly disagree	
Quality of unit	5	**4.16**	3	2	1	N/A
Quality of neighbourhood	5	**4.05**	3	2	1	N/A
Cost of unit	5	4	**3.61**	2	1	N/A
Proximity to family or friends	5	4	**3.46**	2	1	N/A
Proximity to employment	5	4	**3.68**	2	1	N/A
Proximity to schools	5	4	3	**2.89**	1	N/A
Proximity to community facilities	5	4	**3.72**	2	1	N/A
Proximity to shops and services	5	**4.17**	3	2	1	N/A
"Green" (sustainable) building design	5	4	**3.16**	2	1	N/A
Increase or decrease in family size	5	4	**3.36**	2	1	N/A
Required more or less interior space	5	4	**3.56**	2	1	N/A
Required more or less outside space	5	4	**3.30**	2	1	N/A

Other (please specify):____________________

Additional comments: ____________________

17. When buying a home, would you be willing to pay an additional expense for features that reduce energy and water consumption and therefore lower the operating costs of the home? If yes, how much (please circle one response):

Not willing: **14.4%** Under $1000: **22.3%** $1000 to $4,999: **34.6%**
$5,000 to $9,999: **19.3%** $10,000 to $19,999: **7.0%** Over $20,000: **2.3%**

18. Where did you live immediately prior to moving to this residence (please circle one response for each category):

a) Location
City of North Vancouver: **37.7%**
Elsewhere on the North Shore: **33.9%**
Elsewhere in MetroVancouver: **15.0%**
Outside MetroVancouver: **13.4%**

b) Type of Dwelling
Single family house: **46.4%**
Duplex/Triplex: **3.6%**
Townhouse: **9.6%**
Apartment/Condo: **40.4%**

c) Type of Tenure
Owned: **66.3%**
Rented: **30.3%**
Other: **3.4%**

19. If you have firm intentions to leave you current address in the next 1 to 2 years, please indicate your reasons why: **34.8% of respondents indicated reasons for leaving**

____

____

20a. How many residents living within your household are in paid employment for at least 20 hours a week or more? **Average of 0.98 employed persons per household**

b. Do any of these residents work primarily from home?
Yes No If yes, how many residents? **12.6% of employed residents**

21. For each resident in paid employment outside the home, please indicate their work destination and primary method of transport (place one X for each person in the box corresponding to their destination and method of transport):

	Work Destination			
Method of Transport	City of North Vancouver	Remainder of North Shore	Metro-Vancouver	Outside this Region
Car (driver)	**14.1%**	**13.9%**	**30.4%**	**3.8%**
Car (passenger)	**0.5%**	**0%**	**2.6%**	**0.2%**
Public transit	**1.7%**	**1.2%**	**15.1%**	**1.0%**
Bicycle	**1.9%**	**0.5%**	**2.2%**	**0%**
Walk	**9.6%**	**0.2%**	**0%**	**0%**
Other	**0.7%**	**0%**	**0%**	**0.5%**

22a. Are any residents currently enrolled in post-secondary education (college, university)?
Yes: **9.1%** No: **90.9%** If yes, how many residents? ________

b. If yes, what is their primary method of transport to get to college/university?
Car: **48.9%** Public Transit: **44.4%** Bicycle: **0%** Walk: **0%**
Other: **6.7%**

23. Approximately what percentage of your typical day-to-day needs for shops and services (basic groceries, pharmacy, banking, cafes, dry cleaning, etc) are you able to meet within a 10-15 minute walk from your home (please circle one response):
Under 25%: **10.3%** 25 to 49%: **17.9%** 50% to 74%: **25.7%** Over 75%: **46.1%**

24. In general, for all purposes (work, school, shopping, etc), would you say you drive more or less than you did before you moved to your current address (please circle one response):
More: **8.8%** Less: **64.5%** About the same: **26.7%**

25. How many of the following does your household own (please circle one number for each):

Cars/trucks/vans	0	**1.21**	2	3	4+
Motorcycles/scooters	**0.07**	1	2	3	4+
Bicycles	**0.82**	1	2	3	4+

26. If your household owns any bicycles, where are they stored (please indicate the number of bicycles stored in each location):

Inside your dwelling unit: **15.6%** In the building's cycle storage: **38.8%**
Other (please specify): **45.6%**

27. How many parking stalls have been assigned to your dwelling unit? **1.23**

28. When buying a home, would you prefer a reduction in the number of parking stalls assigned to your unit if that meant a reduction in the purchasing price of the unit (please circle one):

Yes: **18.6%** No: **65.5%** Don't know: **15.8%**

Section Six: About Your Household

29. Please indicate the number of residents for each age range currently living within your household:

Age in years	0-4	5-9	10-14	15-19	20-34	35-49	50-64	65+
Number of residents	**5.0%**	**2.0%**	**1.9%**	**1.6%**	**17.4%**	**23.1%**	**26.8%**	**22.3%**

30. Please indicate your household's total gross annual income (please circle one response):

Less than $40,000: **16.4%** $40,000 to $64,999: **24.6%** $65,000 to $89,999: **19.6%**
$90,000 to $114,999: **13.5%** $115,000 to $139,999: **10.7%** Over $140,000: **15.2%**

31. Please indicate the approximate percentage of your total gross household income that is used to pay your rent, mortgage, or strata fees (please circle one response):

Less than 10%: **30.1%** 11% to 30%: **41.2%** 31% to 50%: **23.7%**
Over 50%: **5.0%**

Many thanks you for your time!

Remember, please return surveys no later than Monday, September 29th. Surveys can be returned in the envelope provided (no postage required), dropped off at City Hall (141 West 14th Street), faxed (604-985-0576), or emailed (dhawkins@cnv.org). All responses will remain anonymous.