

# **Rental Housing Strategy – Study # 1**

**Submitted to:**

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**by:**

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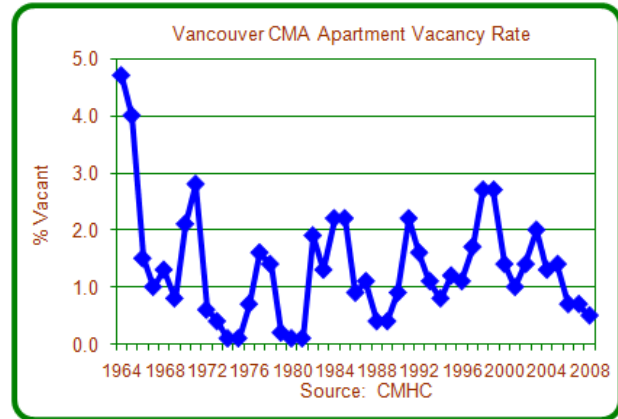
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## Part 1 – Summary and Conclusions

### Introduction

The City of Vancouver and Metro Vancouver (used interchangeably here with “Vancouver CMA”) have one of the tightest rental markets in the country, both currently and historically. The chart illustrates the cycles seen in the Vancouver CMA rental market over the past 45 years. During those 45 years, the Vancouver CMA vacancy rate has averaged just 1.3%. For the past three years, the vacancy rate has been well below 1%, indicating a critical shortage of rental opportunities, and has resulted in rent increases that have exceeded overall inflation. Rent increases in the City of Vancouver have been 3.8% in 2006, 5.5% in 2007, and 3.9% in 2008.



This study has been completed for the City of Vancouver by Will Dunning Inc., to assist City staff with the development of a rental housing strategy. The City strategy involves the development of policies and tools to encourage the preservation and expansion of the rental housing stock.

The scope of this study is to review rental housing demand and supply over a 15 year period. Scenarios are developed for rental housing demand, as well as for the evolution of housing need. Conclusions are drawn on gaps and pressures on the rental housing supply.

In addition to this introductory section, this report includes four major sections:

- Part 2 reviews current data on housing need within the City and discusses factors that have and will influence the evolution of housing need.
- Part 3 discusses the rental apartment market within the Vancouver CMA and the City. It develops housing market forecasts, including forecasts of vacancy rates and rent increases to 2012.
- Part 4 looks at factors that will influence the long-term demand for rental housing and uses a demographic model to estimate potential requirements for additional rental housing in the City, to 2021. Three scenarios are provided.
- Part 5 uses a different demographic model to project changes in housing need for the City’s renters, to 2021. Four scenarios are developed.

This introductory section summarizes each of the major sections of the report. It concludes with a discussion of Implications (starting on Page 8), which highlights the very substantial challenges facing the rental sector within the City.

### Housing Needs in the City of Vancouver

Renters in the City of Vancouver have an above-average share of housing affordability problems. In 2006, 30% of the City’s renters were in “core housing need”, a rate higher than the national average of 27%. Just over 35,000 renter households in the City are in core need.

The core housing need concept combines three housing problems:

- Housing affordability – paying 30% or more of household income for shelter (including rent plus tenant-paid utilities).
- Suitability – living in a dwelling that has fewer bedrooms than required (based on a national standard).
- Adequacy - living in a dwelling that is in need of major repair.

The core need concept includes an income test: households who could in theory afford to rent a median priced unit are not counted in the core need totals. Many households who have housing problems have incomes above the applicable thresholds and they are counted as not being in core housing need. However, because of the chronically low vacancy rates in the Vancouver rental market, lack of choice is forcing them to pay more than the threshold amounts – they are not “voluntarily over-consuming”. Consequently the true extent of housing needs within the City is greater than indicated by the core need data.

For City renter households in need, the cost for adequate and suitable housing was more than they could afford, by an average of \$4,005 per year or \$334 per month (in 2006). In total, this affordability gap was \$141 million in 2006.

By far the most common housing need problem is affordability: among those who were included in the core need analysis, 27.0% of renters had an affordability problem (alone or in combination with another problem); 6.8% had a suitability (crowding) problem; and 3.7% had an adequacy (need for repair) problem.

The incidence (percentage) of renters in core need is highest for lone parent families (a very high rate of 48.4%) and non-family households (singles living alone or sharing with unrelated people, with an incidence of 32.3%). The incidences are below average for couples without children (18.4%) and couples with children (27.2%). Within the City of Vancouver, 63% of renters core need is for non-family households. For all of Canada, this group has a lower (but still substantial) 54% share of core need among renters.

By age group, the incidence of core need is highest for renter households in retirement ages (at 41.7% for those aged 65 to 74 and 44.3% for those aged 75 and older. These two age groups account for 18% of the total.

**Table 1-1**  
**Renter Households in Core Need by Age Group of Household Maintainer in the City of Vancouver versus Canada, 2006**

Age Group	Vancouver City		Canada
	Households in Core Need	% in Core Need	
15-24	2,085	27.4%	24.7%
25-34	7,040	22.1%	22.0%
35-44	8,530	29.3%	28.6%
45-54	6,975	32.9%	27.4%
55-64	4,310	35.1%	29.2%
65-74	2,900	41.7%	30.8%
75 and over	3,325	44.3%	31.8%
All Ages	35,160	30.2%	27.2%
Source: CMHC (Census-based housing indicators and data)			

During 2001 to 2006, the number of renters in the City of Vancouver in core need fell from 36,930 to 35,160, and the incidence of core need fell from 30.9% to 30.2%.

Factors that contributed to the improvement include:

- Gross rents (rents plus tenant-paid utilities) increased by 9.7%.
- Incomes (per adult) grew more rapidly, with the average increasing by 17.9%. The median income (the point at which one-half have higher incomes and one-half have lower incomes) rose by 12.8%.

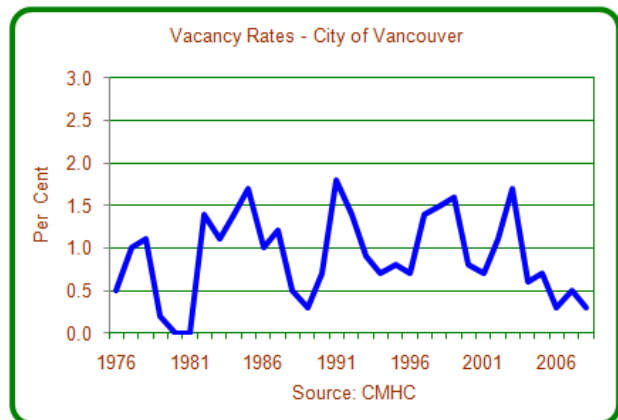
Based on these changes in incomes and rents, the incidence of housing need should have improved by even more than it did. The lesser improvement is due to shifting of upper income tenants to home ownership, which left behind a core of tenants with less ability to afford housing.

A further consideration is that the number and percentage of the City's tenants who pay from 30% to 99.9% of their income for shelter improved very little. The number fell by just 265 households (less than the drop of 1,770 shown by the core need estimates) and the percentage fell by just 0.2 percentage points (versus the 0.7 point drop in the core need estimates). The reason for this discrepancy is that more households in 2006 were considered to be over-consuming. As discussed earlier, given the state of the City's rental market this can't be considered "voluntary over-consumption" and it further confirms that housing needs within the City are greater than indicated by the core need data. The Census data shows that 45,315 City tenants paid from 30% to 99.9% of their income for shelter in 2006, far more than the 35,160 renters considered to be in core need.

### ***The Rental Housing Market***

Persistently low vacancy rates within the City can be attributed largely to limited growth of the rental supply. The even lower vacancy rates seen during the past three years (up to October 2008) are the consequence of rapid job creation and income growth, which has stimulated new household formation and demand for all forms of housing.

Low vacancy rates have resulted in rapid rent increases – the average rent in the City's private sector rental apartment market increased by 11.6% during 2005 to 2008, or an average of 3.7% per year. This is almost double the overall inflation rate for Vancouver, which was 2.1% per year over the same period.



There is some prospect that vacancy rates will be higher during the next three years than during the past three:

- The economic recession will reduce housing demand – fewer new households will move into rentals, and some tenants may move back to the family home or double-up with others.

- Meanwhile, completions of housing that is now under construction will result in movements out of the rental sector.

Forecasts developed here suggest that vacancy rates for the Vancouver CMA and the City may be in the ranges shown in the following table. The rise of vacancy rates and the softening of rent increases will initially be more rapid and more substantial in the CMA as a whole than in the City, but vacancy rates would soon start to tighten in the CMA. For the City, there may be a longer period of (gradual) rises in vacancies, due to high volumes of housing completions that will result in moves out of the rental sector.

The forecasting model employed here estimates that the “balanced market” vacancy rate (the rate at which rents would tend to increase at the same rate as overall inflation) for the Vancouver CMA is 1.9% and lower for the City at 1.4%. Based on the vacancy rate forecasts, rent increases are projected to more slowly during 2008 to 2012 than during 2005 to 2008.

Data from CMHC shows that as of April 2009, the vacancy rate in the Vancouver CMA was 1.9%, up sharply from a year earlier (0.9%), and rent increases have decelerated. These changes are consistent with the forecast. Unfortunately, April data is not available for the City.

The forecasts developed here incorporate the impacts of the recession, followed by a modest recovery in which the level of employment rises at about the same rate as the population. However, if the economy recovers more rapidly, vacancy rates would tighten more rapidly and rent increases during 2010 and 2012 would be stronger than suggested in the table.

<b>Table 1-2</b>		
<b>Rental Market Forecasts for the Vancouver CMA and the City of Vancouver</b>		
	Vancouver CMA	City of Vancouver
<b>Vacancy Rates</b>		
2008 Actual	0.5%	0.3%
2009	2.6%	0.7%
2010	2.1% to 2.2%	0.9%
2011	1.6% to 1.8%	0.9% to 1.0%
2012	0.8% to 1.3%	1.1% to 1.2%
<b>Average Annual Rent Increase</b>		
2005-2008 Actual	3.8%	3.7%
2008-2012	0.8% to 1.2%	2.1% to 2.2%
Source: Will Dunning Inc.		

### **Demographic Projections of Potential Housing Demand**

A demographic model is used to project potential requirements for new housing. The model starts with projections of future populations (which were developed by BC Stats, the central statistical agency of the Provincial government). The housing projection model applies data on housing choices (structural types of dwellings and housing tenures) by age group, to the projected future populations.

The total number of occupied dwelling units within the City is projected to expand by 22.4% during 2006 to 2021. Table 1-3 summarizes the projections for rental demand. All of the scenarios suggest that the rental sector will expand more slowly than the average (and more slowly compared to the ownership sector), with the consequence that over time rentals will

represent a falling share of the City’s housing stock. The slower growth for rentals is partly due to the aging of the population – older households are more likely to be home owners. In the second and third scenarios, an additional factor is increased home ownership within the various age groups. The projections suggest that most of the rental demand will be within apartment buildings rather than low-rise types of dwellings.

Key assumptions for the three scenarios are:

- The first scenario assumes that for each age group the choice rates will be held at 2006 levels.
- The second scenario reflects that there has been substantial shifting to home ownership – it assumes that tenure choice rates would shift further to home ownership during 2006 to 2011, but then be stable after 2011.
- The third scenario reflects that there has been a shift away from low-rise housing forms towards apartments, and assumes that this will continue (in addition to the shifting of tenure choices).

The second scenario might be said to reflect changes in consumer preferences, whereas the third scenario is a possible outcome in an environment where firstly, there are constraints on the capacity to provide additional low-rise dwellings, and secondly, reduced housing affordability is forcing consumers to make compromises. In actuality, these two conditions are closely related, since a major driver of cost increases is the limited capacity for new development.

The three scenarios indicate that the need for new rental supply is in a range of 1,000 to 1,500 units per year. By contrast, actual growth in the inventory of occupied rental units has been considerably less, averaging about 450 units per year during 1996 to 2006.

<b>Table 1-3 Three Scenarios for Rental Housing Requirements in the City of Vancouver</b>			
	<i>Scenario 1 Demographic Change Only</i>	<i>Scenario 2 Shifting Tenure Choices</i>	<i>Scenario 3 Shifts in Dwelling Types and Tenure Choices</i>
# of Renter Households in 2021 (versus 131,525 in 2006)	154,190	146,600	151,250
% Change versus 2006	17.2%	11.5%	15.0%
Growth of Renter Households per Year During 2006-2021			
Low-rise	313	277	-106
Apartments	1,198	728	1,421
Total	1,511	1,005	1,315
% of Housing Tenant-Occupied in 2021 (versus 51.9% in 2006)	49.7%	47.3%	48.8%
Source: Will Dunning Inc.			

The estimates in Table 1-3 are “projections”, not “forecasts”. They extrapolate factors and conditions that we can see today. Actual future outcomes will be influenced by changes that we cannot foresee.

The housing projections are based on projections of population (generated by BC Stats). The projections assume relatively strong rates of population growth for the City. For example, the

City's projected population growth rate for 2006 to 2011 (7.1% in total) is more rapid than the actual rate of growth for 2001 to 2006 (5.9%). The population projections are based on "natural growth" and assumptions about migration. However, where growth occurs within the broader region will be influenced by any development constraints as well as the types and costs of housing that can be developed. It is possible that migration and actual population growth (and therefore household formation) will be less than projected - population growth and household formation that "should" occur within the City might happen elsewhere.

### ***Projections of Core Need for Renters***

A second demographic model is used to project numbers (and percentages) of renter households in the City that will be in core housing need during 2006 to 2021. Similar to the first model, it applies age specific choices and characteristics to the projected future populations. In this analysis, four scenarios are developed. All four scenarios indicate that the numbers of renter households in need will rise during 2006 to 2021.

- The first scenario assumes stability for each age group for the key "choice rates" (household formation rates, types of households formed, and tenure choices). It also assumes that the incidences of housing need will be stable for each group within the population. This scenario provides a starting point by dealing only with demographic forces (population growth and aging). This scenario suggests that the number of renter households in need would increase, and the overall incidence of need would rise.
- The second scenario moves beyond the demographic forces, by incorporating a shift to home ownership during 2006 to 2011, as well as recent trends for incomes and rents that will influence incidences of core housing need (it is reasonable to expect that rapid rent increases have raised the incidences). The choice rates and incidences of need are held constant after 2011. This scenario shows slower growth in the number of renter households. But, since most households that exit from rentals to become home owners are not in core need, there would be little change in the actual number of renters in need. Since there would be fewer renter households, the incidence of need would rise further.
- The third scenario adds a demographic shift – longer life spans for males, which has the potential to shape future household formation rates. For example, this should result in fewer elderly females living alone and increase the number of married couples in those age brackets; it could potentially influence remarriage rates for lone parents. These changes in household type patterns would also result in some shifting in tenure choices, so that rental demand would grow less rapidly than in the prior scenarios. However, in this scenario, the total number of renters in core need is not altered very much and so the incidence of need increases.
- The fourth scenario adds the impact of increasing education. As today's more educated young people age, average incomes should increase in older age brackets. This would reduce the numbers of households in need and the incidence. It is possible that there could be a further impact, if the higher incomes result in more shifting to home ownership. However, the available data is not conclusive on this point, so the number of renter households is assumed to be unaffected.

This set of four scenarios incorporates some of the major demographic and economic forces that are likely to influence future trends for core housing need among the City's renters. The first two scenarios indicate that there will be pressures for increased need, due to a growing and aging population, as well as due to rising rent levels. On the other hand, the third and fourth

scenarios suggest that there are some positive social and demographic forces that will restrain the growth of need. Overall, in combination these scenarios suggest that there will be further expansion of housing problems among the City's renters.

**Table 1-4**  
**Four Scenarios for Core Housing Need**  
**Among Renter Households in the City of Vancouver**

	<i>Scenario 1</i> <i>Demographic</i> <i>Change Only</i>	<i>Scenario 2</i> <i>Shifting Tenure</i> <i>Choices and</i> <i>Economic</i> <i>Circumstances</i>	<i>Scenario 3</i> <i>Layering on</i> <i>Shifts in</i> <i>Male:Female</i> <i>Ratios</i>	<i>Scenario 4</i> <i>Adding Impact</i> <i>of Increased</i> <i>Education on</i> <i>Incomes</i>
<b>Growth in Renter Households</b>				
# in core need analysis in 2021 (vs 116,510 in 2006)	137,454	134,045	131,431	131,431
Change per Year versus 2006	1,396	1,169	995	995
% Change versus 2006	18.0%	15.1%	12.8%	12.8%
<b>Core Need Among Renters in 2021</b>				
# in Core Need (vs.35,140 in 2006)	42,440	42,278	41,963	38,410
Incidence (vs. 30.2% in 2006)	30.9%	31.5%	31.9%	29.2%
Total Affordability Gap (in 2006 dollars, vs \$141 million in 2006)	\$171 million	\$170 million	\$170 million	\$156 million
Source: Will Dunning Inc.				

### **Implications**

Currently, the city does not have enough rental housing, particularly for families and for those with lower incomes, and this is reflected in the persistently low vacancy rates. Pressure on rents and on tenant affordability would be reduced if there were sustained increases in vacancy rates, which would reduce rent increases and might even reduce the absolute level of rents.

- Forecasts developed here indicate that the Vancouver CMA and City vacancy rates are likely to be higher during 2009 to 2012 than they have been in recent years, and rent increases will be muted. These anticipated changes are the consequence of economic recession. They are short term changes and do not represent the long-term change that is needed.
- To generate sustained increases in vacancy rates, to alleviate the persistent rental market crisis, requires persistent expansion of the housing supply.
- Increased rental supplies would have the most direct effects on vacancy rates, but expansion of home ownership opportunities, by drawing tenants out of the rental market, would be beneficial to the tenants who remain.

The City of Vancouver has seen some new additions of rental supply, partly through construction of purpose-built rental projects, as well as creation of secondary apartment units within the low-rise housing stock, and through conversions of existing low-rise dwelling from owner-occupancy to rental. Each of these sources, however, provides modest amounts of new rental supply. The largest source of new rentals appears to be investor-owned condominium apartments (although there is uncertainty about how much rental supply is generated by this source). Meanwhile, there are removals from the rental inventory, due to conversions of existing dwellings from rental to ownership, as well as by demolitions. Census data shows that the number of occupied rental units in 2006 (131,535) was virtually unchanged from 2001

(131,420). This indicates that during 2001 to 2006, inflows of supplies into the rental sector were roughly matched by outflows. The implication is that while population growth should be resulting in increased demand for rentals, lack of supply has prevented that potential demand from becoming actual demand.

A further consideration is that losses from the rental inventory will frequently be in the lower parts of the rental spectrum but most additions will be in the upper parts of the spectrum. The consequence is that while the rental inventory may be stable in overall numbers, it appears to be shrinking at lower rent levels. This study has found evidence that lack of rental opportunities has constrained rental demand, and especially for low income households (Census data suggests that household formation has been constrained in the lower parts of the income spectrum).

As was noted earlier, there is already a shortage of rental opportunities for those with modest incomes, and for families. The projections indicate that this situation will intensify and the shortages will become even worse. The consequences of this are (and this can be expected to continue for as long as supply shortages persist):

- Households that should be located within the City (due to work or for other reasons) move away from the City in order to find appropriate housing opportunities.
- Household formation is reduced (for example, doubling-up with unrelated people, or in multi-generational family situations).
- There are high and rising levels of severe housing affordability problems.
- Increasing numbers of individuals and households are homeless or at risk of homelessness.

The suppression of renter demand (especially among those with low incomes) has limited the numbers of households in core need and the incidence of need: it may seem paradoxical that if more rental housing was available, there would be more need. The flipside of this is that a future expansion of rental housing opportunities, especially at lower rents, would mean more formation of renter households - it would likely increase the number of households with housing needs, and might even increase the incidence of need.

Vacancy rates are lowest and rents are highest in the western and central areas of the City (CMHC survey zones 1 to 6). The greatest needs for additional supply are in those areas. However, due to vacancy chains (sequences of moves that occur after one tenant moves) supplies of new ownership and rental housing elsewhere in the City will provide some relief across the City (however, there is a risk that this process of “sorting” will increase polarization within the neighbourhoods of the City). Similarly, while new supplies of higher end rental and ownership housing do not directly benefit those in need, the process of vacancy chains means that any expansions of the housing supply provide some relief.

Whether a person is employed full-time is one of the best predictors of core need status. Strategies that promote community economic development and encourage labour force participation have the potential to positively influence housing affordability.

Similarly, increases in education that have actually occurred have the potential to reduce housing needs in future. Further promotion of education and skills training may be beneficial in long-term strategies to reduce housing needs.



***About Will Dunning and Will Dunning Inc.***

Will Dunning has been studying housing markets since 1982. For 16 years he worked at Canada Mortgage and Housing Corporation in various market analysis positions. For his last six years at CMHC he was the manager of the market analysis department at the Toronto Branch, and was responsible for all aspects of economic, demographic, and market analysis for the Greater Toronto Area.

Will has a Bachelor of Arts degree in Economics from McGill University and a Master of Arts degree in Economics from the University of British Columbia. In the fall of 2000 he established Will Dunning Inc, which specializes in the economic and demographic analysis of housing markets, and particularly rental housing markets.

## ***Part 2 - Housing Needs in the City of Vancouver***

Part 2 of this report provides data on housing needs within the City of Vancouver, and for reference areas: Canada, British Columbia, and the rest of the Vancouver Census metropolitan Area (“CMA”)<sup>1</sup>. It shows that housing problems (including affordability problems and overcrowding) are much more prevalent within the City than in the reference areas, and with considerably larger associated costs. However, as is discussed below, this higher prevalence within the City is due to its mix of housing tenures – a high proportion of the City’s housing stock is tenant-occupied, and tenants are much more likely to be in core housing need than are home owners. Looking at the two housing tenures separately, the rates of core need in the City are similar to those found in the rest of the Vancouver CMA.

In addition to showing numbers of households in core housing need and the incidence rates (the percentages of households who are in core housing need), estimates are provided of “shelter cost gaps” or “affordability gaps” – the total amounts by which actual shelter costs exceed what the households in need could afford to pay (based on 30% of their incomes).

This section also discusses factors that have and will influence the extent of core housing need among the City’s renters. Rental market conditions will be examined later in this report (in Part 3) as these are key to understanding past and future trends. Part 5 develops demographically-driven scenarios that incorporate key factors for the evolution of housing need.

### ***The Concept of Core Housing Need***

Housing needs are often assessed using the ratio of shelter costs (including utilities) to income (abbreviated as “STIR”). A STIR of 30% is often used as the threshold for housing affordability.

“Core housing need” is a more elaborate approach to housing needs, which has been developed by Canada Mortgage and Housing Corporation. In addition to considering housing affordability, it includes “suitability” (or crowding) and physical “adequacy” (need for major repair). It also applies an income test: households whose income allows them - in theory - to afford adequate, suitable housing in their community without paying 30% or more of their income, are considered to not be in core housing need. Additionally, some households are excluded from the analysis: households with zero or negative income or for whom housing costs exceed income, as well as farm households and on-reserve households. Households whose maintainers are aged 15 to 29 and attend school are not considered to be in core housing need (even if they technically meet the definition of a household in core housing need). For Canada, 94.6% of households were included in the core need analysis in 2006<sup>2</sup>. For the City of Vancouver, 91.3% of households were included. For tenants, 88.6% of the City’s households were included in the core need analysis. With a considerable portion of households being excluded from analysis (for the reasons noted above), it is quite possible that the extent of housing problems within the City of Vancouver is being under-stated.

The most recent comprehensive data on core housing need is based on the 2006 Census.

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<sup>1</sup> In this report, the Vancouver Census Metropolitan Area (“CMA”) and Metro Vancouver are used interchangeably.

<sup>2</sup> 12.44 million households were counted in the 2006 Census; 11.77 million were included in core need estimates.

For Canada, 30.5% of households had one or more of the three housing problems in 2006 (an increase from 30.1% in 2001). But, more than one-half of those with housing problems had incomes above the applicable income thresholds and are therefore not in core need. (The core need analysis assumes that they could find suitable, adequate housing at a lower, affordable rent. Therefore, it is deemed that they are spending 30% or more by choice.) This left 12.7% of households in core housing need in 2006, an improvement from 13.7% in 2001. Just under 1.5 million households were in core need in 2006, out of 11.8 million households that were included in the analysis.

By tenure:

- 22.7% of Canadian homeowners (about 1.85 million households) had one or more of the three problems. Of these, about 28% (just over 500,000 households) were in core housing need. Out of all owners, 6.3% were in core need in 2006, down marginally from 6.6% in 2001.
- Among renters, 48% (1.74 million) had at least one of the three problems, and of these more than one-half (56%, or just under one million) were in core need. This means that 27.2% of renter households in Canada were in core housing need in 2006, down from 28.3% in 2001.

By type of housing problem:

- By far, affordability is the most common problem: 90% of households in core housing need had an affordability problem, alone or with another problem (a suitability and/or an adequacy problem). Thus, 10% of households in core need did not have an affordability problem (they paid less than 30% of their income for shelter), but to obtain housing that was adequate and suitable in their community would require more than 30% of their income.
- As noted, not all households with high shelter-cost-to-income ratios are in core need. While 2.52 million households in the analysis had STIRs equal to or greater than 30%, 1.34 million (53.2%) were in core need. For renters, 69.3% of households with high STIRs were in core need; for owners, the figure was 36.5%.

In British Columbia, 14.6% of households were in core need in 2006 (significantly above the national average of 12.7%). This includes 8.2% among home owners (6.3% for Canada) and 29.9% among renters (27.2% for Canada).

For this report, CMHC has provided estimates of gaps between households' ability to pay for housing (based on their income) versus housing costs<sup>3</sup>. For Canada, the total affordability gap for core need households – the difference between what they can afford to pay based on 30% of their income versus the amounts they would need to pay to access housing that meets housing standards – is estimated at a total of \$4.66 billion as of 2006<sup>4</sup>. On average, the affordability gap per core need household is \$3,180 per year, or \$265 per month.

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<sup>3</sup> The data provided by CMHC shows income gaps: the amounts of income that are required to pay for acceptable housing versus actual incomes. In this report, the figures are converted to “affordability gaps” or “shelter cost gaps”, by multiplying the income gaps by a factor of 0.3.

<sup>4</sup> Households' actual spending on housing may vary from the amounts assumed and therefore their actual cost gaps may be more than or less than the calculated amounts.

### ***Housing Needs in the City of Vancouver***

Three tables in this section show the extent of core housing need within the City of Vancouver. The first table shows that just under 50,000 households in the City were in core housing need in 2006. Almost three-quarters (73.5%) of core need in the City is for renters. For all of Canada, by contrast, renters represent a lower share of core need (65.7%).

Within the City, 20.6% of households were in core housing need in 2006, far in excess of the rate for Canada (12.7%), and the reference areas of the rest of the Vancouver CMA (15.5%) and the province of British Columbia (14.6%).

Looking at the tenures separately:

- For homeowners, the incidence within the City is higher than for the reference areas.
- For tenants, the incidence within the City (30.2%) is lower than for the rest of the Vancouver CMA (32.0%), similar to the rate for the province of British Columbia (29.9%), and higher than the rate for all of Canada (27.2%).

	<i>Owned</i>	<i>Rented</i>	<i>Total</i>
<b>Number in Core Need</b>			
Vancouver City	12,420	35,160	47,580
Rest of CMA	37,360	44,205	81,565
Vancouver CMA	49,780	79,365	129,145
British Columbia	88,335	133,140	221,475
Canada	512,645	981,755	1,494,395
<b>% in Core Need</b>			
Vancouver City	10.8%	30.2%	20.6%
Rest of CMA	9.6%	32.0%	15.5%
Vancouver CMA	9.9%	31.2%	17.0%
British Columbia	8.2%	29.9%	14.6%
Canada	6.3%	27.2%	12.7%
Source: CMHC (Census-based housing indicators and data)			

As was noted earlier, for all of Canada's households in core housing need, in 2006 there was a \$4.66 billion gap between what they could afford to pay for shelter (based on 30% of income) versus the costs for acceptable housing in their communities. Within the City of Vancouver, the total gap was \$186 million. The average gap per core need household in Vancouver was \$3,916 per year, 25% higher than the figure for all of Canada. Within the City, the gap was higher for renters (\$4,005 per year) than for home owners (\$3,663 per year). For all of Canada and for the province, the situation was reversed, with average gaps higher for home owners than for renters.

	<i>Owned</i>	<i>Rented</i>	<i>Total</i>
<b>Average Gap Per Household in Core Need</b>			
Vancouver City	-\$3,663	-\$4,005	-\$3,916
Rest of CMA	-\$3,669	-\$3,956	-\$3,825
Vancouver CMA	-\$3,668	-\$3,978	-\$3,858
British Columbia	-\$3,620	-\$3,594	-\$3,604
Canada	-\$3,180	-\$3,090	-\$3,121
<b>Total Gap (\$ millions)</b>			
Vancouver City	-\$46	-\$141	-\$186
Rest of CMA	-\$137	-\$175	-\$312
Vancouver CMA	-\$183	-\$316	-\$498
British Columbia	-\$320	-\$478	-\$798
Canada	-\$1,630	-\$3,034	-\$4,664
Source: CMHC (Census-based housing indicators and data)			

Factors that have generated the high incidence of core housing need in the City of Vancouver are explored in more detail below. The factors include:

- A high proportion of the City's dwellings are tenant-occupied, and tenants have a higher incidence of core need than do home owners.
- Housing costs are high in the City for both owner-occupied and rental dwellings.
- Higher proportions of households in the City have low incomes.
- The mix of households in the City is skewed toward one household type (non-family households – this category includes singles and non-related people who share a dwelling) that has a high incidence of core need.
- Immigrants, especially those who have arrived recently, have an above-average incidence of need, and the population of the City of Vancouver has a high proportion of recent immigrants.

### ***Core Need for Renters in the City of Vancouver by Demographic Sub-Group***

This section reviews data on the extent<sup>5</sup> of core housing need for tenants within the City of Vancouver, segmented by several demographic variables. The first subsection below looks at need by age group. Subsequent subsections look at other demographic variables. For most of those variables, three tables are shown.

- The first table contrasts incidence rates for the City with rates for reference areas.
- The second table provides more-detailed data for the City of Vancouver: for each of the variables a dimension is added showing age groups. There are three blocks within these tables. The upper and middle blocks show the numbers of renter households in the City of Vancouver who are in core need and the incidence rates for each sub-group. For comparison the lower blocks of the tables show incidence rates for Canada.
- The third table shows – for renters within the City of Vancouver - the average amounts of shelter cost gap for each sub-group, and the percentage shares of the total gap.

<sup>5</sup> Percentages shown in this section are based on the subset of households that are included in the CMHC core need analysis.

### Renter Core Need by Age Group

The following table shows the rates of core housing need by age group for the City versus the reference areas. It shows that within the City, the numbers of renter households in core housing need are largest for the prime working age groups (households whose maintainer is aged 25 to 54 years). These three age groups in combination account for almost two-thirds (64%) of core need among the City's renters. However, the incidences of need are lowest in these age groups. The incidence is very high among older households.

Comparing the City to the rest of the CMA:

- For younger age groups (under 45 years), the incidence of need within the City is lower than for the CMA.
- For older age groups, the incidence is higher within the City than for the rest of the CMA. However, for the oldest age bracket, the incidence is lower within the City than for the rest of the CMA.

**Table 2-3**  
**Renter Households in Core Need by Age Group of Household Maintainer**  
**In the City of Vancouver versus Reference Areas, 2006**

Age Group	Vancouver City		Rest of CMA	Vancouver CMA	British Columbia	Canada
	Households in Core Need	% in Core Need				
15-24	2,085	27.4%	33.2%	30.4%	27.5%	24.7%
25-34	7,040	22.1%	27.2%	24.4%	24.4%	22.0%
35-44	8,530	29.3%	31.3%	30.4%	29.7%	28.6%
45-54	6,975	32.9%	28.0%	30.1%	29.6%	27.4%
55-64	4,310	35.1%	30.9%	32.7%	31.8%	29.2%
65-74	2,900	41.7%	40.7%	41.1%	36.3%	30.8%
75 and over	3,325	44.3%	48.7%	47.0%	39.9%	31.8%
All Ages	35,160	30.2%	32.0%	31.2%	29.9%	27.2%

Source: CMHC (Census-based housing indicators and data)

### Renter Core Need by Household Type

The next dimension considered is household type. The first table below shows that within the City of Vancouver there are relatively few family households, and there is a very high proportion of non-family households<sup>6</sup>.

<sup>6</sup> This household type is defined as "either of one person living alone or of two or more persons who share a dwelling, but do not constitute a family".

**Table 2-4**  
**Households by Type of Household**  
**In the City of Vancouver versus Reference Areas, 2006**

<i>Household Type</i>	<i>Vancouver City</i>	<i>Rest of CMA</i>	<i>Vancouver CMA</i>	<i>British Columbia</i>	<i>Canada</i>
Couples without Children	19.1%	22.2%	21.2%	25.9%	25.1%
Couples with Children	20.8%	32.6%	28.9%	26.7%	29.6%
Lone-parent Families	7.1%	8.7%	8.2%	8.2%	9.0%
Multiple-family Households	7.5%	9.4%	8.8%	7.2%	5.9%
Non-Family Households	45.6%	27.0%	32.8%	32.1%	30.4%
All Types	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Statistics Canada - 2006 Census. Catalogue Number 97-554-XCB2006035.

The next table provides the core need data by type of household. Within the City of Vancouver, 62.9% of core need for renters (about 22,000 out of the roughly 35,000 renter households in core need) is in the non-family household type. This is the consequence of the high concentration of these households within the City. By contrast, in the rest of the Vancouver CMA, non-family households comprise 46% of core need for renters; in all of Canada, the figure is 54.0%.

Looking across the City and the reference areas, the highest incidence of core need is for lone-parent families, followed by non-family households. Because there are relatively few lone-parent families within the City, this household type has a relatively low share of the City's core housing need for renters - 13.1%, versus 22.5% in the rest of the Vancouver CMA and 23.0% for all of Canada.

Across the reference areas, the rate of core need is generally lowest for couple families without children (although within the City there is a lower rate for multiple-family households, but this category has few households).

For four of the five household types, the incidence of core housing need among the City's renters exceeds the rate for all of Canada, and by substantial margins. The one exception is for multiple-family households, which is a very small percentage of all households and of core housing need.

**Table 2-5**  
**Renter Households in Core Need by Household Type**  
**In the City of Vancouver versus Reference Areas, 2006**

Household Type	Vancouver City		Rest of CMA	Vancouver CMA	British Columbia	Canada
	Households in Core Need	% in Core Need				
Couples without Children	3,845	18.4%	18.7%	18.6%	15.9%	13.4%
Couples with Children	4,470	27.2%	27.1%	27.1%	23.4%	22.7%
Lone-parent Families	4,590	48.4%	48.0%	48.1%	47.3%	42.4%
Multiple-family Households	160	13.6%	18.1%	16.8%	18.1%	22.3%
Non-Family Households	22,100	32.3%	35.1%	33.6%	32.8%	29.1%
All Types	35,160	30.2%	32.0%	31.2%	29.9%	27.2%

Source: CMHC (Census-based housing indicators and data)

The next table shows that within the City area, the largest amounts of core housing need are for non-family households in the prime working ages of 25 to 54. Considerable numbers of renter households in need are also found for couples with children and lone parent families in the 35 to 54 age brackets.

Looking at this detailed data on incidences for Canada and the City there are some similarities and some differences:

- Within the City, the incidences are higher for almost all of the subgroups compared to the Canada rates.
- The most notable exception to this is that for the youngest age group of lone parent families, the incidence is lower for the City than for Canada. However, looking at the other age groups for lone parent families, the incidence rates for Canada fall substantially for older age groups, but for the City the decline in rates is considerably less.
- Among childless couples, the incidence rates for Canada are relatively stable across the age groups (apart from the youngest group, which has few households). In the City of Vancouver, on the other hand, the incidence rate rises sharply for households in the retirement ages of 65 and older.
- For couples with children, the incidence in the City rises sharply the age group 75 and older, but is essentially flat for all of Canada.
- For non-family households, in both Canada and the City, incidences are lowest for the young working ages and rise in the later working ages and retirement ages.

<b>Table 2-6</b>						
<b>Distribution of Renter Households in Core Housing Need, Within the City of Vancouver, by Age Group and Type of Household, 2006</b>						
<i>Age Group</i>	<i>Type of Household</i>					<i>Total</i>
	Couples without Children	Couples with Children	Lone-parent Families	Multiple-family Households	Non-Family Households	
<b>Number of Households in Core Need</b>						
15-24	535	105	120	0	1,325	2,085
25-34	1,185	775	715	20	4,345	7,040
35-44	570	2,010	1,675	30	4,240	8,530
45-54	375	1,125	1,355	55	4,065	6,975
55-64	330	315	375	30	3,255	4,310
65-74	445	60	185	0	2,205	2,900
75 and over	410	80	160	10	2,655	3,325
All Ages	3,845	4,470	4,590	160	22,100	35,160
<b>City of Vancouver - Incidence of Core Need</b>						
15-24	32.4%	44.7%	53.3%	0.0%	24.2%	27.4%
25-34	13.9%	27.5%	57.7%	7.8%	22.8%	22.1%
35-44	13.6%	28.4%	53.1%	14.3%	29.3%	29.3%
45-54	15.2%	25.1%	44.6%	18.6%	37.3%	32.9%
55-64	19.5%	23.8%	34.7%	12.8%	40.9%	35.1%
65-74	34.6%	18.8%	48.7%	0.0%	45.5%	41.7%
75 and over	38.3%	38.1%	42.7%	28.6%	45.6%	44.3%
All Ages	18.4%	27.2%	48.4%	13.6%	32.3%	30.2%
<b>Canada – Incidence of Core Need</b>						
15-24	20.5%	28.8%	67.2%	32.4%	18.0%	24.7%
25-34	11.2%	20.8%	53.4%	22.9%	17.2%	22.0%
35-44	14.3%	25.3%	43.1%	26.7%	25.7%	28.6%
45-54	13.0%	22.5%	33.7%	21.9%	30.9%	27.4%
55-64	14.1%	17.3%	31.4%	17.9%	36.2%	29.2%
65-74	12.4%	13.7%	30.1%	15.6%	38.9%	30.8%
75 and over	10.9%	14.6%	28.3%	10.9%	37.7%	31.8%
All Ages	13.4%	22.7%	42.4%	22.3%	29.1%	27.2%
Source: CMHC (Census-based housing indicators and data)						

As is shown in the next table, the largest average affordability gaps are for lone parent families, followed by couples with children and non-family households.

Non-family households account for three-fifths of the total affordability gap for renters in the City (\$86 million per year out of the total of \$141 million per year). Substantial shares are accounted for by lone parent families and couples with children for which the household maintainers are aged 35 to 54.

Age Group	Type of Household					Total
	Couples without Children	Couples with Children	Lone-parent Families	Multiple-family Households	Non-Family Households	
<b>Average Gap per Core Need Household</b>						
15-24	-\$2,902	-\$2,134	-\$7,292	N/A	-\$3,163	-\$3,278
25-34	-\$3,064	-\$3,727	-\$5,877	-\$4,126	-\$3,247	-\$3,537
35-44	-\$3,543	-\$4,168	-\$5,482	-\$4,192	-\$4,004	-\$4,300
45-54	-\$3,535	-\$4,259	-\$4,835	-\$3,683	-\$4,394	-\$4,406
55-64	-\$3,915	-\$3,478	-\$4,677	-\$4,454	-\$4,719	-\$4,555
65-74	-\$3,267	-\$3,475	-\$4,793	N/A	-\$3,690	-\$3,684
75 and over	-\$2,699	-\$3,459	-\$4,864	N/A	-\$3,440	-\$3,409
All Ages	-\$3,216	-\$3,996	-\$5,268	-\$4,110	-\$3,880	-\$4,005
<b>Share of the Total Affordability Gap for Renters</b>						
15-24	1.1%	0.2%	0.6%	0.0%	3.0%	4.9%
25-34	2.6%	2.1%	3.0%	0.1%	10.0%	17.7%
35-44	1.4%	5.9%	6.5%	0.1%	12.1%	26.0%
45-54	0.9%	3.4%	4.7%	0.1%	12.7%	21.8%
55-64	0.9%	0.8%	1.2%	0.1%	10.9%	13.9%
65-74	1.0%	0.1%	0.6%	0.0%	5.8%	7.6%
75 and over	0.8%	0.2%	0.6%	0.0%	6.5%	8.0%
All Ages	8.8%	12.7%	17.2%	0.5%	60.9%	100.0%
Source: CMHC (Census-based housing indicators and data)						

### Renter Core Need for Immigrants

Immigration has been identified as a factor that influences the incidence of housing need, as immigrants, and particularly those who have arrived in Canada most recently, have above-average rates of housing need.

The table below illustrates that in the Vancouver CMA in general and the City of Vancouver in particular, immigrants are a very high share of the population. The share for the City (45.1%) is more than double the share for all of Canada (19.6%).

In addition, while non-permanent residents are a small percentage of Canada's population (0.8%) they are a more substantial share of the population of the City of Vancouver (3.1%)

**Table 2-8**  
**Population by Period of Immigration**  
**In the City of Vancouver versus Reference Areas, 2006**

<i>Period of Immigration</i>	<i>Vancouver City</i>	<i>Rest of CMA</i>	<i>Vancouver CMA</i>	<i>British Columbia</i>	<i>Canada</i>
Before 1981	14.3%	11.1%	11.9%	10.6%	7.6%
1981 to 1990	8.2%	5.7%	6.4%	4.1%	3.2%
1991 to 1995	7.7%	6.4%	6.7%	4.0%	2.6%
1996 to 2000	7.4%	6.9%	7.0%	4.1%	2.7%
2001 to 2006	7.5%	7.0%	7.2%	4.3%	3.5%
Total Immigrants	45.1%	37.1%	39.3%	27.2%	19.6%
Non-Permanent Residents	3.1%	1.4%	1.9%	1.2%	0.8%
Non-Immigrants	51.8%	61.5%	58.9%	71.6%	79.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Statistics Canada - 2006 Census Profiles.

Data in the next table indicates that immigrants represent 43.9% of renter core need within the City of Vancouver, which is slightly lower than the immigrants' share of the City's population (45.1%). Factors that have contributed to this are:

- Immigrant renter households have a higher incidence of core need (35.8% overall) than do non-immigrant renters (26.9%).
- Many immigrants settle initially in rental housing (for immigrant headed households who arrived during 2001 to 2006, almost 70% lived in rentals, versus 50.4% for all households) and recently-arrived tenant immigrants have a high incidence of core housing need (40.9% versus 26.9% for non-immigrant tenants in the City).
- However, many immigrants move to home ownership at some point after arrival, so that among all households headed by immigrants, 39.9% are tenants, which is considerably lower than the 58.8% share for all non-immigrant households.
- In addition, among tenants who remain in the rental sector, those who arrived at earlier dates tend to have an incidence of need that is lower than the rate for those who arrived most recently, as is shown in the table below.
- Therefore while newly arrived immigrants tend to increase the overall incidence of core need in the rental sector, as immigrants become more settled over time that impact is diminished.
- Looking at the City's total housing stock (ownership and rental combined) the incidence of core need among immigrants is 22.7%, higher than the 18.5% rate for non-immigrants. For those arriving during 2001 to 2006, the overall incidence is 36.3%. For earlier periods of arrival, the overall incidences are :
  - 27.3% for those who arrived during 1996 to 2001.
  - 27.6% for arrivals during 1991 to 1996.
  - 24.0% for arrivals during 1981 to 1990.
  - 16.1% for those who arrived prior to 1981 (which is less than the 18.5% rate for non-immigrants).

**Table 2-9  
Renter Households in Core Need by Period of Immigration  
In the City of Vancouver versus Reference Areas, 2006**

Period of Immigration	Vancouver City		Rest of CMA	Vancouver CMA	British Columbia	Canada
	Households in Core Need	% in Core Need				
Before 1981	4,740	34.4%	32.5%	33.4%	31.8%	32.8%
1981 to 1990	2,785	35.5%	33.2%	34.4%	33.7%	35.3%
1991 to 1995	2,595	38.2%	35.0%	36.5%	35.5%	37.3%
1996 to 2000	2,215	30.9%	34.1%	32.7%	32.1%	34.9%
2001 to 2006	3,125	40.9%	45.9%	43.9%	42.1%	44.1%
All Immigrants	15,460	35.8%	36.4%	36.1%	34.5%	36.4%
Non-Permanent Residents	975	27.3%	40.0%	32.5%	32.0%	32.9%
Non-Immigrants	18,730	26.9%	29.2%	28.1%	28.1%	24.5%
Total	35,160	30.2%	32.0%	31.2%	29.9%	27.2%

Source: CMHC (Census-based housing indicators and data)

Among immigrants in the rental sector, core need is found most frequently for households whose maintainer arrived in Canada during 2001 to 2006 and is in the working age brackets.

Looking at the incidences (the middle block of the table below):

- For the earliest arrivals (prior to 1981) incidences of core need tend to be similar to or even lower than for non-immigrants in the same age groups.
- On the other hand, for those who arrived during 2001 to 2006, incidences of core need are much higher than for non-immigrants for all age groups (except for the 75 and over bracket, in which there are very few immigrants and therefore the data for this subset is not meaningful).
- Incidences are relatively high for immigrants who arrived during the two periods covering 1981 to 1995; in the City incidences are generally lower for the subsequent arrival period (1996 to 2000).

Comparing the incidences for the City's immigrants to all of Canada's:

- For those arriving recently (during the two periods covering 1996 to 2006), for the working age groups of 25 to 64, the incidences are lower in the City than for all of Canada. For older age groups, the City incidences are higher than for Canada, but there are few households in this sub-group within the City and the differences in incidences are not material.
- For earlier periods of arrival, incidences for the City (for the working age groups) tend to be higher than the rates for Canada, although there are some instances of lower rates for the City – those cases tend to be for smaller sub-groups and they have little impact on the overall incidence.
- In both the City and Canada, renting immigrants have incidences of core need that are above the overall averages (and non-immigrants have rates below average). Because there are large numbers of immigrant-headed households within the City of Vancouver, this contributes to the higher overall incidence of core need for the City.

- Within the City of Vancouver, non-permanent residents in the rental sector are a relatively small component of core housing need, and the incidence for this group within the City is below average.

**Table 2-10**  
**Distribution of Renter Households in Core Housing Need,**  
**Within the City of Vancouver, by Age Group and**  
**Period of Immigration, 2006**

Age Group	Period of Immigration						Non-Permanent Residents	Total
	Before 1981	1981 to 1990	1991 to 1995	1996 to 2000	2001 to 2006	Non-Immigrants		
<b>Number of Households in Core Need</b>								
15-24	0	70	60	75	85	1,605	185	2,085
25-34	155	330	465	325	850	4,440	475	7,040
35-44	510	745	805	860	1,405	3,995	205	8,530
45-54	635	775	570	595	545	3,770	75	6,975
55-64	1,020	285	255	190	140	2,400	25	4,310
65-74	935	230	245	95	60	1,325	0	2,900
75 and over	1,490	350	185	75	25	1,195	0	3,325
All Ages	4,740	2,785	2,595	2,215	3,125	18,730	975	35,160
<b>City of Vancouver - Incidence of Core Need</b>								
15-24	N/A	28.0%	26.1%	24.2%	34.7%	27.2%	28.2%	27.4%
25-34	19.4%	22.4%	37.2%	22.2%	33.6%	19.7%	27.3%	22.1%
35-44	23.7%	36.1%	39.9%	30.5%	44.3%	24.8%	26.6%	29.3%
45-54	27.7%	37.3%	32.2%	34.6%	46.8%	31.6%	37.5%	32.9%
55-64	32.6%	36.3%	39.5%	35.2%	43.1%	35.7%	19.2%	35.1%
65-74	40.3%	46.9%	49.5%	50.0%	57.1%	40.1%	0.0%	41.7%
75 and over	48.1%	51.9%	47.4%	68.2%	27.8%	38.2%	0.0%	44.3%
All Ages	34.4%	35.5%	38.2%	30.9%	40.9%	26.9%	27.3%	30.2%
<b>Canada – Incidence of Core Need</b>								
15-24	N/A	26.6%	32.0%	32.4%	36.4%	24.1%	25.0%	24.7%
25-34	23.6%	24.8%	32.6%	32.1%	38.0%	19.3%	30.2%	22.0%
35-44	28.3%	35.7%	37.7%	33.8%	47.2%	24.3%	37.8%	28.6%
45-54	27.1%	33.6%	34.5%	37.0%	51.6%	24.7%	38.8%	27.4%
55-64	29.1%	32.7%	35.9%	37.8%	45.2%	28.3%	30.2%	29.2%
65-74	35.6%	49.0%	50.0%	48.3%	55.8%	27.9%	41.6%	30.8%
75 and over	38.8%	57.0%	58.4%	47.8%	38.6%	28.5%	46.3%	31.8%
All Ages	32.4%	35.3%	37.3%	34.9%	44.1%	24.5%	32.9%	27.2%

Source: CMHC (Census-based housing indicators and data)

As is shown in the next table, the largest average affordability gaps are for immigrant-headed households that arrived during 2001 to 2006, and within that group, the gaps are largest for households headed by people aged 65 and older. For other household groups, gaps are below average in these age groups. The suggestion is that among recently immigrated tenant households, household sizes are large (which results in higher costs for acceptable housing). Across the other periods of immigration, for households headed by a person aged 65 and over, average gaps are larger than for non-immigrants, which suggests that these households have more people per household than non-immigrant households.

**Table 2-11**  
**Affordability Gaps for Renter Households Within the City of Vancouver,**  
**by Age Group and Period of Immigration, 2006**

Age Group	Period of Immigration						Non-Permanent Residents	Total
	Before 1981	1981 to 1990	1991 to 1995	1996 to 2000	2001 to 2006	Non-Immigrants		
<b>Average Gap per Core Need Household</b>								
15-24	N/A	-\$4,038	-\$2,931	-\$2,952	-\$3,985	-\$3,283	-\$3,051	-\$3,278
25-34	-\$3,669	-\$3,793	-\$3,451	-\$3,682	-\$4,113	-\$3,422	-\$3,351	-\$3,537
35-44	-\$3,829	-\$4,272	-\$4,475	-\$3,937	-\$4,770	-\$4,261	-\$4,178	-\$4,300
45-54	-\$4,147	-\$4,021	-\$4,165	-\$3,961	-\$5,417	-\$4,488	-\$5,051	-\$4,406
55-64	-\$4,374	-\$4,659	-\$4,516	-\$4,340	-\$5,195	-\$4,596	N/A	-\$4,555
65-74	-\$3,366	-\$4,106	-\$4,153	-\$5,325	-\$5,915	-\$3,575	N/A	-\$3,684
75 and over	-\$3,383	-\$3,655	-\$3,702	-\$5,210	-\$5,769	-\$3,184	N/A	-\$3,409
All Ages	-\$3,764	-\$4,080	-\$4,083	-\$3,991	-\$4,694	-\$3,951	-\$3,583	-\$4,005
<b>Share of the Total Affordability Gap for Renters</b>								
15-24	0.0%	0.2%	0.1%	0.2%	0.2%	3.7%	0.4%	4.9%
25-34	0.4%	0.9%	1.1%	0.8%	2.5%	10.8%	1.1%	17.7%
35-44	1.4%	2.3%	2.6%	2.4%	4.8%	12.1%	0.6%	26.0%
45-54	1.9%	2.2%	1.7%	1.7%	2.1%	12.0%	0.3%	21.8%
55-64	3.2%	0.9%	0.8%	0.6%	0.5%	7.8%	0.0%	13.9%
65-74	2.2%	0.7%	0.7%	0.4%	0.3%	3.4%	0.0%	7.6%
75 and over	3.6%	0.9%	0.5%	0.3%	0.1%	2.7%	0.0%	8.0%
All Ages	12.7%	8.1%	7.5%	6.3%	10.4%	52.5%	2.5%	100.0%
Source: CMHC (Census-based housing indicators and data)								

Part 5 of this report considers whether future immigration might affect the incidence of core housing need among renters in the City of Vancouver. It is concluded that immigration will most likely have a neutral role.

### Renter Core Need by Aboriginal Status

Aboriginals (self-identified) represent a small share of the Canadian population (3.8%) and slightly higher in the province of British Columbia (4.8%). For the Vancouver area, including the City and the rest of the Vancouver CMA, the share is lower, at 1.9% in both areas.

Aboriginal households<sup>7</sup> have high incidences of core housing need, but especially within the City of Vancouver: almost one-half (48.4%) of Aboriginal tenants within the City are in core need. This far exceeds the incidences for the reference areas. However, since Aboriginal households are a small percentage of households in the City, the impact on the City's overall incidence is minor.

<sup>7</sup> For this dataset, CMHC has defined Aboriginal households as “any single-family household where at least one spouse, common-law partner or lone parent is considered part of the Aboriginal identity population, or at least 50% of the household members are considered to be part of the Aboriginal identity population”.

**Table 2-12**  
**Renter Households in Core Need by Aboriginal Status of Household**  
**In the City of Vancouver versus Reference Areas, 2006**

Aboriginal Status of Household	Vancouver City		Rest of CMA	Vancouver CMA	British Columbia	Canada
	Households in Core Need	% in Core Need				
Aboriginal	2,470	48.4%	36.4%	41.7%	37.1%	34.9%
Non-Aboriginal	32,690	29.3%	31.8%	30.7%	29.3%	26.8%
Total	35,160	30.2%	32.0%	31.2%	29.9%	27.2%

Source: CMHC (Census-based housing indicators and data)

Looking at age groups for the City's Aboriginal households in the renter sector, incidences are far above the non-Aboriginal rates for five of the seven age groups. For the two age groups for which the differences are less substantial (15 to 24 and 75 and over), there are few Aboriginal households in the City and therefore these cases have little impact on the overall incidence.

Comparing the detailed incidences for the City and Canada, the City's rates are in excess of the Canada rates.

**Table 2-13**  
**Distribution of Renter Households in Core Housing Need,**  
**Within the City of Vancouver, by Age Group and**  
**Aboriginal Status of Household, 2006**

Age Group	Aboriginal	Non-Aboriginal	Total
<b>Number of Households in Core Need</b>			
15-24	125	1,965	2,085
25-34	535	6,505	7,040
35-44	600	7,935	8,530
45-54	625	6,350	6,975
55-64	395	3,915	4,310
65-74	170	2,725	2,900
75 and over	30	3,300	3,325
All Ages	2,470	32,690	35,160
<b>City of Vancouver - Incidence of Core Need</b>			
15-24	31.3%	27.3%	27.4%
25-34	43.0%	21.3%	22.1%
35-44	45.8%	28.5%	29.3%
45-54	53.4%	31.7%	32.9%
55-64	61.2%	33.7%	35.1%
65-74	64.2%	40.7%	41.7%
75 and over	46.2%	44.3%	44.3%
All Ages	48.4%	29.3%	30.2%
<b>Canada - Incidence of Core Need</b>			
15-24	38.2%	23.7%	24.7%
25-34	33.4%	21.2%	22.0%
35-44	34.8%	28.2%	28.6%
45-54	34.2%	27.1%	27.4%
55-64	37.6%	28.8%	29.2%
65-74	33.9%	30.7%	30.8%
75 and over	33.7%	31.8%	31.8%
All Ages	34.9%	26.8%	27.2%

Source: CMHC (Census-based housing indicators and data)

In addition to having very high incidences of core housing need, Aboriginal households who are in core need have large affordability gaps. The consequence of this combination is that Aboriginal households account for 9% of the total affordability gap in the rental sector, even though they account for a significantly smaller share of the City's renter households (about 4% to 5%). For all of Canada, Aboriginal households also account for 9% of the affordability gap in the rental sector.

**Table 2-14**  
**Affordability Gaps for Renter Households Within the City of Vancouver, by Age Group Aboriginal Status of Household Maintainer, 2006**

Age Group	Type of Household		Total
	Aboriginal	Non-Aboriginal	
<b>Average Gap per Core Need Household</b>			
15-24	-\$5,352	-\$3,148	-\$3,278
25-34	-\$4,541	-\$3,454	-\$3,537
35-44	-\$5,226	-\$4,227	-\$4,300
45-54	-\$5,592	-\$4,294	-\$4,406
55-64	-\$5,200	-\$4,490	-\$4,555
65-74	-\$4,715	-\$3,627	-\$3,684
75 and over	-\$3,165	-\$3,406	-\$3,409
All Ages	-\$5,132	-\$3,920	-\$4,005
<b>Share of the Total Affordability Gap for Renters</b>			
15-24	0.5%	4.4%	4.9%
25-34	1.7%	16.0%	17.7%
35-44	2.2%	23.8%	26.0%
45-54	2.5%	19.4%	21.8%
55-64	1.5%	12.5%	13.9%
65-74	0.6%	7.0%	7.6%
75 and over	0.1%	8.0%	8.0%
All Ages	9.0%	91.0%	100.0%
Source: CMHC (Census-based housing indicators and data)			

### Renter Core Need by Labour Force Status

Whether a person is employed influences their income and therefore their likelihood of being in core housing need. Consequently variations in local labour market conditions may influence incidences of need.

The first table in this section shows that within the City of Vancouver, labour market conditions are quite similar to the average for all of Canada<sup>8</sup>: as is shown within the table, within the City, the distribution of the population across these labour force statuses is about the same as for all of Canada.

<sup>8</sup> The data refers to individuals' circumstances in the one week prior to the Census and therefore might not necessarily represent conditions over longer periods of time.

**Table 2-15**  
**Population (15 Years and Over) by Labour Force Status**  
**In the City of Vancouver versus Reference Areas, 2006**

<i>Labour Force Status</i>	<i>Vancouver City</i>	<i>Rest of CMA</i>	<i>Vancouver CMA</i>	<i>British Columbia</i>	<i>Canada</i>
In the Labour Force	66.4%	66.9%	66.7%	65.6%	66.8%
Employed	62.4%	63.3%	63.0%	61.6%	62.4%
Unemployed	4.0%	3.6%	3.7%	3.9%	4.4%
Not in the Labour Force	33.6%	33.1%	33.2%	34.4%	33.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Statistics Canada - 2006 Census Profiles.

The next table reviews the incidence of core housing need among renter households, depending on the labour force status of the household maintainers. It shows patterns that apply across all of the geographies covered in the table:

- The highest incidences of core need are for households whose maintainers are not in the labour force<sup>9</sup> or are unemployed. For these households, the incidences of core need are about 1.5 times the average incidence.
- The lowest incidence is for households whose maintainer is employed full-time<sup>10</sup>.
- Renter households whose maintainer is employed part-time also have a high incidence of core housing need.

But, within the City of Vancouver, for four out the five statuses (except for the unemployed), the incidences of core need are above the rates for Canada. These higher incidences can be understood as largely the consequence of high housing costs.

**Table 2-16**  
**Renter Households in Core Need by Labour Force Status**  
**In the City of Vancouver versus Reference Areas, 2006**

<i>Labour Force Status</i>	<i>Vancouver City</i>		<i>Rest of CMA</i>	<i>Vancouver CMA</i>	<i>British Columbia</i>	<i>Canada</i>
	<i>Households in Core Need</i>	<i>% in Core Need</i>				
Not in Labour Force	14,220	51.0%	49.6%	50.2%	46.8%	41.0%
Unemployed	1,810	39.9%	47.4%	43.8%	41.6%	41.5%
Employed	19,135	22.8%	24.7%	23.8%	22.4%	18.5%
Employed Full-Time	14,080	19.9%	22.2%	21.1%	19.6%	16.1%
Employed Part-Time	4,085	41.1%	42.8%	41.9%	40.1%	34.0%
Total	35,160	30.2%	32.0%	31.2%	29.9%	27.2%

Source: CMHC (Census-based housing indicators and data)

The next table provides more detail on renter households (within the City of Vancouver) who are in core housing need, by labour force status. Key conclusions from this data are:

<sup>9</sup> Typically, being out of the labour force is the consequence of being retired, being disabled, or having become discouraged about finding work.

<sup>10</sup> In this data, the threshold for full-time employment is 30 hours in the week. For unknown reasons, the two categories of full-time and part-time employment sum to less than the total number of households with employment.

- Among core need households who are not in the labour force, about 40% are headed by a person aged 65 or older. For these ages, about 45% are in core housing need. For households in this group whose maintainer is aged 35 to 64, the incidence of core need is very high – about 60%. These households account for about 20% of renter core need.
- Households whose maintainer is unemployed represent a small share of core need among tenants – about 5%.
- Employed households in core need are concentrated in the so-called prime working ages of 25 to 54: over 15,000 households in this group are in core need, or about 44% of total core need for renters.
- Among employed renters in the working ages, the incidence does not vary much across the age groups.
- There is a very small number of households in core need for which the household maintainer is aged 65 and is employed.

Looking at the detailed incidence rates for the City in relation to Canada, in most of the sub-groups, the incidences are higher for the City. The exceptions to this are for “not in the labour force” and “unemployed” in the two youngest age groups.

<i>Age Group</i>	<i>Not in Labour Force</i>	<i>Unemployed</i>	<i>Employed</i>	<i>Employed Full-Time</i>	<i>Employed Part-Time</i>	<i>Total</i>
<b>Number of Households in Core Need</b>						
15-24	265	95	1,725	1,315	370	2,085
25-34	1,040	335	5,665	4,645	855	7,040
35-44	2,070	570	5,895	4,225	1,260	8,530
45-54	2,615	530	3,825	2,635	980	6,975
55-64	2,460	245	1,605	1,020	450	4,310
65-74	2,565	10	325	165	150	2,900
75 and over	3,205	25	100	70	25	3,325
All Ages	14,220	1,810	19,135	14,080	4,085	35,160
<b>City of Vancouver - Incidence of Core Need</b>						
15-24	26.0%	26.8%	27.7%	26.4%	33.0%	27.4%
25-34	39.2%	26.3%	20.3%	18.8%	34.6%	22.1%
35-44	61.2%	46.9%	24.0%	20.3%	47.8%	29.3%
45-54	66.0%	51.0%	23.7%	19.6%	49.5%	32.9%
55-64	59.6%	44.5%	21.1%	16.9%	39.0%	35.1%
65-74	45.8%	15.4%	25.0%	21.3%	31.3%	41.7%
75 and over	44.8%	83.3%	31.3%	34.1%	22.7%	44.3%
All Ages	51.0%	39.9%	22.8%	19.9%	41.1%	30.2%
<b>Canada – Incidence of Core Need</b>						
15-24	42.9%	34.3%	20.5%	19.7%	23.7%	24.7%
25-34	48.5%	38.8%	17.0%	15.3%	31.5%	22.0%
35-44	58.8%	47.5%	21.3%	18.5%	43.3%	28.6%
45-54	57.8%	43.9%	17.9%	14.8%	41.5%	27.4%
55-64	45.6%	39.3%	15.6%	12.1%	32.3%	29.2%
65-74	33.1%	24.2%	14.1%	10.9%	18.3%	30.8%
75 and over	32.1%	36.1%	17.5%	14.2%	20.9%	31.8%
All Ages	41.0%	41.5%	18.5%	16.1%	34.0%	27.2%
Source: CMHC (Census-based housing indicators and data)						

Among core need households in the rental sector, affordability gaps are largest for households whose maintainers are not in the labour force or are unemployed, and especially for the 35 to 64 age brackets.

Households whose maintainer is not in the labour force account for almost one-half of the total renter affordability gap (46.1%), including 14.5% for those with maintainers aged 65 and older, and almost one-third for those with maintainers aged less than 65 (31.7%). Households with employed maintainers in the working ages account for almost one-half of the total gap (46.7%).

<b>Table 2-18</b>						
<b>Affordability Gaps for Renter Households Within the City of Vancouver, by Age Group and Labour Force Status of Household Maintainer, 2006</b>						
Age Group	Labour Force Status					Total
	Not in Labour Force	Unemployed	Employed	Employed Full-Time	Employed Part-Time	
<b>Average Gap per Core Need Household</b>						
15-24	-\$4,746	-\$3,260	-\$3,051	-\$2,887	-\$3,542	-\$3,278
25-34	-\$4,878	-\$4,521	-\$3,233	-\$3,143	-\$3,750	-\$3,537
35-44	-\$5,644	-\$4,811	-\$3,776	-\$3,639	-\$4,241	-\$4,300
45-54	-\$5,420	-\$4,729	-\$3,668	-\$3,438	-\$4,239	-\$4,406
55-64	-\$5,041	-\$5,234	-\$3,707	-\$3,400	-\$4,201	-\$4,555
65-74	-\$3,714	N/A	-\$3,534	-\$3,777	-\$3,439	-\$3,684
75 and over	-\$3,381	-\$3,942	-\$4,024	-\$4,064	-\$3,923	-\$3,409
All Ages	-\$4,567	-\$4,698	-\$3,520	-\$3,349	-\$4,054	-\$4,005
<b>Share of the Total Affordability Gap for Renters</b>						
15-24	0.9%	0.2%	3.7%	2.7%	0.9%	4.9%
25-34	3.6%	1.1%	13.0%	10.4%	2.3%	17.7%
35-44	8.3%	1.9%	15.8%	10.9%	3.8%	26.0%
45-54	10.1%	1.8%	10.0%	6.4%	3.0%	21.8%
55-64	8.8%	0.9%	4.2%	2.5%	1.3%	13.9%
65-74	6.8%	0.0%	0.8%	0.4%	0.4%	7.6%
75 and over	7.7%	0.1%	0.3%	0.2%	0.1%	8.0%
All Ages	46.1%	6.0%	47.8%	33.5%	11.8%	100.0%
Source: CMHC (Census-based housing indicators and data)						

### Renter Core Need by Major Source of Income

The last view of the incidence of core need looks at renter households by major source of income<sup>11</sup>. For Canada, the lowest incidences of core need are for households whose major sources of income are “retirement and other income”, “wages and salaries”, or “investment income”. The incidences of core need are much higher for households whose major sources of income government transfers or self-employment. (Government transfers include: Old Age Security pension and Guaranteed Income Supplement, Allowance and Allowance for the Survivor; benefits from Canada or Quebec Pension Plan; benefits from Employment Insurance; child benefits; and other income from government sources, such as provincial social assistance or disability assistance). A similar pattern holds for the City of Vancouver. However, for each of the sources of income, the incidence within the City is far above the incidence for all of Canada.

<sup>11</sup> Households can have more than one source of income. This variable identifies the largest income source for each household. Data was not found on the distribution of the population or households by sources of incomes and therefore this section, unlike prior sections, does not provide a table on the distributions of total households.

Again, this data is suggestive that high housing costs in the City of Vancouver are the primary cause for the high incidence of core housing need.

Within the City of Vancouver, close to one-half of core housing need among renters is for households whose major source of income is employment. Over 40% is for households whose major source is government transfer payments.

**Table 2-19**  
**Renter Households in Core Need by Major Source of Household Income**  
**In the City of Vancouver versus Reference Areas, 2006**

Labour Force Status	Vancouver City		Rest of CMA	Vancouver CMA	British Columbia	Canada
	Households in Core Need	% in Core Need				
Wages and Salaries	16,290	19.9%	20.9%	20.4%	18.3%	14.4%
Self-Employment	2,515	37.7%	40.9%	39.4%	36.5%	35.6%
Government Transfers	14,680	69.7%	69.2%	69.4%	64.1%	55.3%
Investment Income	515	27.1%	30.2%	28.5%	23.5%	15.2%
Retirement and Other Income	1,160	24.1%	24.4%	24.3%	19.5%	12.6%
Total	35,160	30.2%	32.0%	31.2%	29.9%	27.2%

Source: CMHC (Census-based housing indicators and data)

Looking at the City of Vancouver data in more detail:

- Among core need households whose major source of income is wages and salaries, most (80%) are in the 25 to 54 age bracket. This subset of households accounts for 37% of all core need among renters.
- For core need households with government transfers as the major income source, 39% have maintainers aged 65 or older – these households account for 16% of renter core need. Non-senior households with government transfers as the major source of income account for 25% of core need among renters.

Comparing incidences of need for the City and Canada, the incidences for the City are higher for most of the sub-groups, and of the four exceptions, three have small numbers of households and the differences are immaterial.

Across the various sub-groups, the City incidences often exceed the all Canada rates by substantial margins. Some of the largest and most material differences are for households whose primary source of income is transfers from government.

<b>Table 2-20</b>						
<b>Distribution of Renter Households in Core Housing Need, Within the City of Vancouver, by Age Group and Major Source of Household Income, 2006</b>						
<i>Age Group</i>	<i>Major Source of Income</i>					<i>Total</i>
	<i>Wages and Salaries</i>	<i>Self-Employment</i>	<i>Government Transfers</i>	<i>Investment Income</i>	<i>Retirement and Other Income</i>	
<b>Number of Households in Core Need</b>						
15-24	1,720	125	160	10	75	2,085
25-34	5,180	635	955	30	240	7,040
35-44	4,770	685	2,705	135	235	8,530
45-54	3,150	655	2,800	150	225	6,975
55-64	1,260	380	2,335	120	220	4,310
65-74	175	25	2,580	25	90	2,900
75 and over	45	15	3,145	50	80	3,325
All Ages	16,290	2,515	14,680	515	1,160	35,160
<b>City of Vancouver - Incidence of Core Need</b>						
15-24	26.1%	46.3%	54.2%	6.1%	25.4%	27.4%
25-34	18.5%	38.4%	73.7%	14.0%	31.8%	22.1%
35-44	20.7%	32.2%	83.4%	42.2%	56.6%	29.3%
45-54	20.3%	42.1%	82.8%	44.8%	57.7%	32.9%
55-64	17.6%	44.7%	75.9%	36.4%	25.9%	35.1%
65-74	13.4%	13.5%	58.8%	16.1%	9.7%	41.7%
75 and over	8.7%	42.9%	58.3%	13.3%	6.7%	44.3%
All Ages	19.9%	37.7%	69.7%	27.1%	24.1%	30.2%
<b>Canada - Incidence of Core Need</b>						
15-24	18.6%	30.0%	65.9%	7.6%	22.3%	24.7%
25-34	13.7%	33.0%	67.5%	14.9%	31.5%	22.0%
35-44	16.0%	38.3%	70.8%	25.3%	52.5%	28.6%
45-54	13.6%	38.6%	70.9%	29.2%	35.7%	27.4%
55-64	11.4%	37.1%	65.3%	29.8%	14.2%	29.2%
65-74	6.5%	12.3%	41.9%	7.2%	3.7%	30.8%
75 and over	4.6%	10.6%	40.6%	5.0%	2.6%	31.8%
All Ages	14.4%	35.6%	55.3%	15.2%	12.6%	27.2%
Source: CMHC (Census-based housing indicators and data)						

Affordability gaps are largest for households whose primary source of income is transfers from government (especially those whose maintainer is aged less than 65). Households whose primary source of income is transfers from government account for more than one-half of the total gap for renters.

**Table 2-21**  
**Affordability Gaps for Renter Households Within the City of Vancouver,**  
**by Age Group and Major Source of Household Income, 2006**

Age Group	Major Source of Income					Total
	Wages and Salaries	Self-Employment	Government Transfers	Investment Income	Retirement and Other Income	
<b>Average Gap per Core Need Household</b>						
15-24	-\$2,979	-\$2,568	-\$6,831	N/A	-\$3,648	-\$3,278
25-34	-\$3,119	-\$3,434	-\$5,811	-\$3,532	-\$3,768	-\$3,537
35-44	-\$3,437	-\$3,852	-\$5,971	-\$3,916	-\$4,040	-\$4,300
45-54	-\$3,383	-\$3,859	-\$5,692	-\$4,082	-\$4,632	-\$4,406
55-64	-\$3,176	-\$4,100	-\$5,484	-\$4,362	-\$3,455	-\$4,555
65-74	-\$3,754	-\$4,941	-\$3,716	-\$3,920	-\$2,659	-\$3,684
75 and over	-\$2,814	N/A	-\$3,461	-\$1,918	-\$2,058	-\$3,409
All Ages	-\$3,262	-\$3,737	-\$4,907	-\$3,812	-\$3,734	-\$4,005
<b>Share of the Total Affordability Gap for Renters</b>						
15-24	3.6%	0.2%	0.8%	0.0%	0.2%	4.9%
25-34	11.5%	1.5%	3.9%	0.1%	0.6%	17.7%
35-44	11.6%	1.9%	11.5%	0.4%	0.7%	26.0%
45-54	7.6%	1.8%	11.3%	0.4%	0.7%	21.8%
55-64	2.8%	1.1%	9.1%	0.4%	0.5%	13.9%
65-74	0.5%	0.1%	6.8%	0.1%	0.2%	7.6%
75 and over	0.1%	0.0%	7.7%	0.1%	0.1%	8.0%
All Ages	37.7%	6.7%	51.2%	1.4%	3.1%	100.0%
Source: CMHC (Census-based housing indicators and data)						

### **Renter Households in Core Need by Type of Problem**

It was noted earlier in this section that affordability is by far the most common problem for renters in core housing need. Within the City of Vancouver, 27.0% of renters (among those who were included in the core need analysis) had an affordability problem (alone or in combination with another problem): 89% of renters in core need had an affordability problem. Furthermore, two-thirds of the City's renter households in core need had only an affordability problem and neither of the other two problems.

However, there are significant numbers of renters within the City who have another type of problem, especially suitability (the number of bedrooms in the unit is less than the expected norm for the household based on its composition). Relatively few renters in core need have an adequacy need (the dwelling is in need of major repair).

The following table provides data on renters in core need, by type of problem, by type of household, for the City and the reference areas. The three right-most columns in the table show the percentages of renters that have each of the three types of problems. This includes renters who have just one problem or combinations of problems – since households with more than one problem are counted more than once in these figures, the totals of these three columns add to more than the total incidences (which are shown in the fourth last column).

The table shows:

- Within the City, 6.8% of renter households have a suitability problem and are in core need. More than one-half of these have a suitability problem combined with an affordability problem. The incidence of suitability problems is even higher in the rest of the Vancouver CMA (8.3%).
- The 6.8% rate for the City is considerably higher than the rate for all of Canada (4.9%).
- Looking at the data by type of household, incidences of suitability problems are very high in the City for families with children, and much higher than for all of Canada. As shown, for lone parent families in the rental sector, 27.5% within the City have a suitability problem, versus 15.1% for all of Canada; for renting couples with children, 17.5% in the City have suitability problems versus 11.5% for all of Canada.
- For households without children (including couples without children and non-family households) the incidences of suitability problems are less severe. However, once again, the City of Vancouver has incidences much higher than for all of Canada.
- The data also shows that suitability problems are very often combined with affordability problems (shown in the fourth column of data in the table). Among lone parent families, in the City's rental sector, 16.7% - one-in-six - have both problems and are in core need (considerably higher than the 7.9% rate for all of Canada); for couples with children, 9.9% are in the same situation (well above the 6.3% rate for all of Canada).

The data on incidences of suitability problems suggests that within the City of Vancouver (and elsewhere within the Vancouver CMA) there is a shortage of affordable rental housing that is suitable for families. Data on housing inventories (shown later) confirms this.

**Table 2-22**
**Renters in Core Need by Type of Problem (as % of all Renters), by Type of Household**

Household Type	Location	Below one housing standard			Below multiple housing standards				Total % In Core Need	Subtotals - % with Problems		
		Affordability	Suitability	Adequacy	Affordability and suitability	Affordability and adequacy	Suitability and adequacy	All Problems		Affordability	Suitability	Adequacy
Couples without children	Van. City	12.4%	1.6%	0.4%	2.6%	1.1%	0.1%	0.3%	18.4%	16.3%	4.6%	1.8%
	Rest of CMA	14.0%	1.1%	0.7%	1.5%	1.1%	0.1%	0.2%	18.7%	16.7%	2.9%	2.1%
	Van. CMA	13.2%	1.4%	0.5%	2.0%	1.1%	0.1%	0.2%	18.6%	16.5%	3.7%	2.0%
	BC	11.5%	0.9%	0.5%	1.4%	1.2%	0.1%	0.2%	15.9%	14.3%	2.6%	1.9%
	Canada	10.2%	0.4%	0.4%	0.9%	1.3%	0.0%	0.1%	13.4%	12.6%	1.5%	1.8%
Couples with children	Van. City	8.3%	6.6%	0.6%	9.9%	0.7%	0.3%	0.7%	27.2%	19.7%	17.5%	2.3%
	Rest of CMA	10.1%	5.3%	0.4%	8.7%	1.3%	0.5%	0.8%	27.1%	20.9%	15.3%	3.1%
	Van. CMA	9.5%	5.7%	0.5%	9.1%	1.1%	0.5%	0.8%	27.1%	20.5%	16.0%	2.8%
	BC	9.2%	4.4%	0.7%	6.5%	1.5%	0.5%	0.7%	23.4%	17.9%	12.1%	3.3%
	Canada	9.0%	3.9%	0.8%	6.3%	1.4%	0.5%	0.7%	22.7%	17.5%	11.5%	3.4%
Lone parent families	Van. City	16.6%	7.3%	1.5%	16.7%	2.8%	1.5%	2.0%	48.4%	38.1%	27.5%	7.9%
	Rest of CMA	21.5%	6.3%	1.5%	11.8%	3.5%	1.2%	2.1%	48.0%	38.9%	21.4%	8.3%
	Van. CMA	19.9%	6.6%	1.5%	13.4%	3.3%	1.3%	2.0%	48.1%	38.6%	23.3%	8.1%
	BC	22.8%	5.2%	1.5%	10.9%	4.2%	0.9%	1.7%	47.3%	39.7%	18.8%	8.4%
	Canada	21.6%	4.7%	1.8%	7.9%	3.9%	0.9%	1.5%	42.4%	35.0%	15.1%	8.2%
Multiple-family households	Van. City	2.1%	4.7%	0.0%	5.1%	0.9%	0.0%	0.0%	13.6%	8.1%	9.8%	0.9%
	Rest of CMA	6.1%	6.3%	0.0%	4.8%	0.4%	0.5%	0.4%	17.9%	11.6%	12.0%	1.3%
	Van. CMA	4.9%	5.8%	0.0%	4.9%	0.5%	0.4%	0.3%	16.6%	10.6%	11.3%	1.1%
	BC	4.9%	5.6%	0.0%	5.0%	1.2%	0.6%	0.9%	18.1%	12.0%	12.2%	2.7%
	Canada	3.4%	8.4%	0.4%	6.6%	0.6%	1.9%	0.9%	22.3%	11.5%	17.8%	3.8%
Non-family households	Van. City	26.6%	0.5%	0.9%	1.1%	2.8%	0.1%	0.2%	32.3%	30.8%	1.9%	4.0%
	Rest of CMA	30.1%	0.4%	0.9%	0.9%	2.7%	0.1%	0.1%	35.1%	33.8%	1.5%	3.7%
	Van. CMA	28.2%	0.5%	0.9%	1.0%	2.8%	0.1%	0.2%	33.6%	32.2%	1.7%	3.9%
	BC	27.9%	0.4%	0.8%	0.8%	2.8%	0.1%	0.1%	32.8%	31.6%	1.3%	3.8%
	Canada	25.2%	0.2%	0.6%	0.5%	2.4%	0.0%	0.1%	29.1%	28.2%	0.8%	3.1%
Total	Van. City	20.4%	2.2%	0.8%	3.9%	2.2%	0.2%	0.4%	30.2%	27.0%	6.8%	3.7%
	Rest of CMA	20.8%	2.7%	0.8%	4.6%	2.1%	0.4%	0.6%	32.0%	28.1%	8.3%	3.9%
	Van. CMA	20.6%	2.5%	0.8%	4.3%	2.2%	0.3%	0.5%	31.2%	27.6%	7.6%	3.8%
	BC	20.7%	1.9%	0.8%	3.3%	2.4%	0.3%	0.5%	29.9%	26.9%	5.9%	4.0%
	Canada	19.2%	1.6%	0.8%	2.7%	2.3%	0.3%	0.4%	27.2%	24.6%	4.9%	3.7%

Source: CMHC (Census-based housing indicators and data)

### ***High Shelter Cost to Income Ratios***

Further detail on core need separates the data into those with STIRs from 30% to less than 50%, and those with STIRs from 50% to less than 100%. The households in the latter group spend at least half of their pre-tax income for shelter. This group, which has been granted the acronym “INALH”, faces much greater affordability challenges and is at the greatest risk of homelessness.

The following table separates renter households in core need within the City of Vancouver into these two categories.

Among renter households in core need, about 40% (14,220) have STIRs of 50% or higher. This amounts to 12.2% of the tenants within the City of Vancouver. About 60% of renters in need have STIRs from 30% to less than 50%.

For tenants with high STIRs, affordability gaps are considerably higher (averaging \$4,882) than for tenants with STIRs in the range of 30% to less than 50% (\$3,408).

Due to their large average affordability gaps, tenants with high STIRs account for almost one-half (49.3%) of the total affordability gap in the tenant sector of the City.

Characteristics most associated with high STIRs are:

- Major source of income is government transfers (28.2% of tenants within this group have STIRs of 50% or more), self-employment (20.7% have high STIRs), or investments (20.5% incidence of high STIRs).
- The household maintainer is unemployed (20.4% incidence), not in the labour force (20.0% incidence), or works part-time (18.1% incidence).
- The household is Aboriginal (18.0% incidence of high STIRs).
- The household is a lone parent family (17.4% incidence).
- The household maintainer is elderly (75 years or older – the incidence of high STIRs for this group is 16.2%).
- The household has immigrated recently (during 2001 to 2006 – the incidence of high STIRs is 15.2%).

The lowest incidences of high STIRs are found for:

- Multiple family households (just 4.3% have high STIRs, although there are few households in this group).
- Households whose major source of income is wages and salaries (7.4% incidence).
- Couple families with or without children, both of which have 7.7% incidences of high STIRs.
- Households whose maintainer is employed full-time (7.8% incidence) or which have retirement income or other income as its major source of income (9.6% incidence).

By age group, incidences of high STIRs are lowest for the youngest working age group (25 to 34) and higher for each succeeding age bracket. The data shows that there are even larger increases in incidences of STIRs in the 30% to 49.9% range. The consequence is that in the

older age groups, among households in core need less than 40% have STIRs of 50% or more, but in the younger age groups more than 40% have STIRs of 50% or more.

**Table 2-23**  
**Renter Households in Core Need, by Shelter Cost to Income Ratio,**  
**City of Vancouver, 2006**

Characteristic	Number of Households in Core Need		% Incidence		Average Shelter Cost Gap		Shelter Cost Gap as % of Total Gap for Tenants	
	30-49.9%	50-99.9%	30-49.9%	50-99.9%	30-49.9%	50-99.9%	30-49.9%	50-99.9%
<b>Age Group of Household Maintainer</b>								
15-24 years	1,100	990	14.5%	13.0%	-\$2,256	-\$4,395	1.8%	3.1%
25-34 years	3,900	3,140	12.2%	9.9%	-\$2,703	-\$4,573	7.5%	10.2%
35-44 years	5,020	3,510	17.2%	12.1%	-\$3,521	-\$5,412	12.6%	13.5%
45-54 years	4,315	2,660	20.4%	12.6%	-\$3,859	-\$5,295	11.8%	10.0%
55-64 years	2,580	1,730	21.0%	14.1%	-\$4,085	-\$5,243	7.5%	6.4%
65-74 years	1,915	980	27.5%	14.1%	-\$3,460	-\$4,140	4.7%	2.9%
75 years and over	2,105	1,220	28.0%	16.2%	-\$3,251	-\$3,668	4.9%	3.2%
<b>Household Type</b>								
Couples without children	2,245	1,605	10.7%	7.7%	-\$2,510	-\$4,182	4.0%	4.8%
Couples with children	3,205	1,265	19.5%	7.7%	-\$3,408	-\$5,484	7.8%	4.9%
Lone parents	2,940	1,655	31.0%	17.4%	-\$4,309	-\$6,956	9.0%	8.2%
Multiple-family	105	50	8.9%	4.3%	-\$3,801	-\$5,176	0.3%	0.2%
Non-family	12,455	9,645	18.2%	14.1%	-\$3,350	-\$4,565	29.6%	31.3%
<b>Aboriginal Status</b>								
Aboriginal household	1,545	920	30.3%	18.0%	-\$4,595	-\$6,029	5.0%	3.9%
Non-Aboriginal	19,395	13,295	17.4%	11.9%	-\$3,313	-\$4,804	45.6%	45.4%
<b>Labour Force Status</b>								
Not in labour force	8,650	5,570	31.0%	20.0%	-\$4,196	-\$5,140	25.8%	20.3%
Unemployed	885	925	19.5%	20.4%	-\$3,828	-\$5,529	2.4%	3.6%
Employed	11,410	7,725	13.6%	9.2%	-\$2,776	-\$4,621	22.5%	25.3%
Full-time	8,540	5,540	12.0%	7.8%	-\$2,625	-\$4,461	15.9%	17.6%
Part-time	2,295	1,795	23.1%	18.1%	-\$3,309	-\$4,985	5.4%	6.4%
<b>Major Source of Income</b>								
Wages and salaries	10,245	6,040	12.5%	7.4%	-\$2,563	-\$4,446	18.6%	19.1%
Self employment	1,130	1,380	16.9%	20.7%	-\$2,581	-\$4,685	2.1%	4.6%
Government transfer payment	8,735	5,940	41.5%	28.2%	-\$4,525	-\$5,470	28.1%	23.1%
Investment income	125	390	6.6%	20.5%	-\$3,985	-\$3,706	0.4%	1.0%
Retirement income and other income	690	465	14.3%	9.6%	-\$3,115	-\$4,654	1.5%	1.5%
<b>Period of Immigration</b>								
Non-immigrant	10,395	8,335	14.9%	12.0%	-\$3,330	-\$4,722	24.6%	27.9%
Non-permanent resident	485	485	13.6%	13.6%	-\$2,481	-\$4,718	0.9%	1.6%
Immigrant	10,060	5,395	23.3%	12.5%	-\$3,532	-\$5,153	25.2%	19.7%
Prior to 1981	3,070	1,670	22.3%	12.1%	-\$3,466	-\$4,313	7.6%	5.1%
1981 to 1990	1,830	955	23.4%	12.2%	-\$3,581	-\$5,039	4.7%	3.4%
1991 to 1995	1,725	865	25.4%	12.7%	-\$3,336	-\$5,591	4.1%	3.4%
1996 to 2000	1,470	750	20.5%	10.5%	-\$3,237	-\$5,449	3.4%	2.9%
2001 to 2006	1,965	1,160	25.7%	15.2%	-\$3,974	-\$5,920	5.5%	4.9%
<b>All Households</b>	<b>20,945</b>	<b>14,220</b>	<b>18.0%</b>	<b>12.2%</b>	<b>-\$3,408</b>	<b>-\$4,882</b>	<b>50.7%</b>	<b>49.3%</b>

Source: CMHC (Census-based housing indicators and data)

### ***Core Housing Need within the Subsidized Housing Sector***

Some households living in subsidized rental housing are in core housing need. Two CMHC reports shed some light on this.

“Recent Trends in Housing Affordability and Core Housing Need”<sup>12</sup> looked at the incidence of core housing need among renters who received housing subsidies, during 2002 to 2004. It found that:

- For all of Canada, only 39.6% of these subsidized renters were not in core need during any of the years; 22.9% were in core need during all three years, and 37.6% were in core need in one or two of the three years.
- This data does not indicate the actual incidence of core need for this group, but implies that 35% to 48% of subsidized renters were in core need each year.

“Low Income Urban Households not in Core Need”<sup>13</sup> found that – for urban areas of Canada - among low income renters that live in subsidized housing, 48.4% were in core need in 2005, while this is a high incidence rate, it is lower than the 64.9% rate for those not in subsidized housing. In this analysis low income was defined as an income in the lowest quintile (with household incomes up to \$27,022).

- The data in the report implies that in total there were about 950,000 to 975,000 renters in core need in 2005.
- Of these renters in core need, 750,000 to 775,000 had low income (incomes in the lowest quintile). Of these, about 200,000 are in subsidized housing.
- These 200,000 households represent about one-fifth of all renter households in core need.
- This data does not provide a complete picture of core need within the assisted sector, as it excludes: occupants with incomes above the \$27,022 income threshold and households in the assisted sector who do not receive subsidies (according to their responses in the survey). Therefore, total core need within the assisted rental sector in Canada is higher than the 200,000 households estimated above and the share of total core need is higher than one-fifth.

While these two CMHC reports do not provide a complete picture of core need within the assisted sector, they do indicate that for all of Canada there is a non-trivial amount of core need within assisted housing.

Also, the reports do not discuss reasons for the extent of core need within the assisted sector. This author suggests several possible factors:

- Minimum rents paid by assisted households may exceed 30% of their incomes.
- Relatedly, for social assistance recipients, limits on the shelter component of social assistance means that many will pay well over 30% of their income on shelter.
- There may be some charges paid by tenants on top of their 30% rent-to-income payment, which Statistics Canada counts as shelter costs and therefore results in STIRs exceeding 30%.

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<sup>12</sup> Published in the “Canadian Housing Observer, 2008”, pages 5-20. See Figure 2-14 on page 16.

<sup>13</sup> CMHC Research Highlight, Socio-Economic Series issue number 09-001. See Table 6, page 7

- Within the assisted inventory, some non-income tested tenants may pay more than 30% of their income for rent.

The City of Vancouver<sup>14</sup> estimates that as of 2006, 16% of the rental inventory (21,000 out of about 131,000 units) was in the non-market (assisted) sector. The available data does not support any conclusions about core need within the City's assisted inventory, but it is likely that a significant proportion of the City's 35,160 renter households in core need are in the assisted sector.

To further understand housing needs within the City, it is suggested that the City further examine the extent of housing need within the assisted sector.

### ***Persistence of Core Housing Need***

The CMHC report cited above, on core need during 2002 to 2004<sup>15</sup> provides very interesting data on the persistence of core need. As CMHC describes in the article, the core need data is usually a snapshot at one point in time, but does not indicate how long individuals (or households) remain in core need or the extent to which there is movement in or out of need.

Key findings from this CMHC analysis are:

- Over the three years, on average about 11.7% of individuals<sup>16</sup> were in core need. But, only 4.6% were in core need for all three years. 6.6% were in core need for one of the three years and 4.2% were in core need for two years.
- This means that 15.4% were in core need at least some of the time and 84.6% were not in core need in any of the years.
- Among Canadians who lived in unsubsidized rentals for all three years, 67.0% were not in core need in any of the three years, 13.7% were in core need all three years, and 19.3% were in core need for one or two of the years.
- Even among renters who lived in subsidized housing all three years there were shifts in and out of core need: there were more individuals occasionally in core need (37.6%) than persistently in core need (22.9%). 39.6% of these individuals were never in core need during the three years.

There are several factors and processes that can produce this dynamism, including changes in household situations (and housing situations) as well as personal economic changes (housing costs and incomes).

### ***Contrasting Core Need Data with Data on STIRs***

As noted early in this section, in the discussion of the concept of core housing need, not all households are included in the analysis. Households are excluded from the analysis if they have zero or negative incomes or if their annual shelter cost equals or exceeds their income

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<sup>14</sup> Source: City of Vancouver Administrative Report October 14, 2008 "Rental Housing Strategy: Process and Consultancies". See page 4, Figure 1.

<sup>15</sup> See pages 14 to 18 of the 2008 Canadian Housing Observer.

<sup>16</sup> This 12% share is for individuals. The share of households in core need over the same period was about 14%.

(their STIR is 100% or more)<sup>17</sup>. For the City of Vancouver, 88.6% of tenants were included in the core need analysis and 11.4% were excluded.

An additional consideration is that (for households that are included in the analysis) households with STIRs from 30% to less than 100% are considered to be not in core need if they have incomes above certain thresholds (which correspond to median rents for the type of units needed): households with incomes above the thresholds are assumed to be voluntarily over-consuming. The table below summarizes data from CMHC's core need analysis, and illustrates the extents to which renter households are assumed to be voluntarily over-consuming housing (and are therefore not counted as being in core need).

This data shows that among renters in the City included in the core need analysis, 38.0% have an affordability "problem" (their STIR is 30% or more, but less than 100%). However, a lower percentage - 27.0% - have affordability problems and are in core need. This means that 11.0% of renters in the City are excluded from affordability-based core need on the basis of their incomes. For the rest of the Vancouver CMA, there is a lower incidence of affordability problems (36.0% versus 38.0% in the City). But, in the rest of the Vancouver CMA, fewer are excluded based on incomes (7.9% versus 11.0% in the City). Therefore, even though within the City a higher share of renters have affordability problems, the core need data shows a lower incidence of core need in the City than in the rest of the CMA.

The lower block of the table shows a similar scenario for all types of housing problems (affordability, suitability, and adequacy). While there is a higher incidence of problems within the City (53.2% versus 52.7% for the rest of the CMA), a higher proportion of the City's renters are excluded based on incomes, which results in a lower incidence of core need among the City's renters (30.2%) than in the rest of the CMA (32.0%).

- However, in 2006, the vacancy rate in the City of Vancouver was just 0.3%. It is arguable that among those who were deemed to be over-consuming housing, this was not always voluntary, because of lack of choice in the market.
- Furthermore, in the core need analysis, the upper income thresholds are based on housing costs for the entire Vancouver Census Metropolitan Area). With rents being considerably higher in the City than in the rest of the CMA, there will be households within the City that are deemed to be voluntarily over-consuming because their incomes are high enough to pay Vancouver CMA rents, even though the incomes are not high enough to pay City rents.
- In theory, these households might cease their "voluntary over-consumption" of housing by relocating to lower costs areas outside of the City. However, that might impose other non-housing costs, such as the costs in time and money of getting to a workplace – the household might be able to reduce its STIR by relocating, but at the cost of making itself worse-off overall.

In consequence of the factors discussed in the two points above, and is illustrated by the data below, the true extent of housing needs within the City's rental sector is greater than indicated by the core need estimates.

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<sup>17</sup> Two other causes for exclusion – farm households and on reserve households – will be less material for the City.

**Table 2-24  
Renter Households in Core Need Analysis, 2006**

	<i>Vancouver City</i>	<i>Rest of CMA</i>	<i>Vancouver CMA</i>	<i>British Columbia</i>	<i>Canada</i>
Total Households in Core Need Analysis	116,490	137,950	254,440	445,340	3,608,030
<b>With Affordability Problems</b>					
Below Affordability Standard	44,250	49,660	93,910	167,770	1,278,725
In Core Need	31,440	38,795	70,235	119,825	886,115
Not in Core need	12,810	10,850	23,660	47,955	392,625
% Below Affordability Standard	38.0%	36.0%	36.9%	37.7%	35.4%
% in Core Need	27.0%	28.1%	27.6%	26.9%	24.6%
% Excluded from Core Need Due to Income Thresholds	11.0%	7.9%	9.3%	10.8%	10.9%
<b>With Any Problems (Affordability, Suitability, Adequacy)</b>					
Below Any Standard	61,885	72,695	134,580	230,665	1,739,900
In Core Need	35,160	44,205	79,365	133,140	981,755
Not in Core need	26,725	28,490	55,215	97,525	758,150
% Below Any Standard	53.1%	52.7%	52.9%	51.8%	48.2%
% in Core Need	30.2%	32.0%	31.2%	29.9%	27.2%
% Excluded from Core Need Due to Income Thresholds	22.9%	20.7%	21.7%	21.9%	21.0%
Source: CMHC (Census-based housing indicators and data)					

### ***Changes in Housing Need for Renters During 2001 to 2006***

The table below shows that during 2001 to 2006 the numbers of renters in core housing need fell in the City of Vancouver and the four reference areas. In addition, the incidences of core housing need for renters fell in 2006 in the City, the province, and all of Canada. However, the incidence rose in the rest of the CMA and increased fractionally for all of the Vancouver CMA.

The extent of core housing need for home owners showed less improvement, with numbers rising for each of the areas. Incidences rose for the City of Vancouver and the rest of the CMA, but fell for all of Canada and the province.

The total incidence of core housing need in the City fell by one percentage point<sup>18</sup>, more than the 0.7 point reduction within the rental sector. The larger drop in the overall incidence occurred because there was a shift away from renting towards home ownership. In 2001, 56.0% of the City's households were renters; by 2006 the share fell to 51.9%. This occurred because there was essentially no change in the number of tenant households in the City (at about 131,500), but the number of home owners rose by about 18,750 (to 121,825).

<sup>18</sup> As was discussed above, there is ambiguity in the data, related to exclusions. The Census data shows that among all households in the City, the percentage paying 30% or more for shelter rose from 35.6% in 2001 to 37.1% in 2006.

**Table 2-25**  
**Numbers and Shares of Households in Core Need, 2001 and 2006, by Housing Tenure**

	<i>Owned</i>		<i>Rented</i>		<i>Total</i>	
	<i>2001</i>	<i>2006</i>	<i>2001</i>	<i>2006</i>	<i>2001</i>	<i>2006</i>
<b># in Need</b>						
Vancouver City	10,200	12,415	36,930	35,160	47,135	47,580
Rest of CMA	29,625	37,365	45,530	44,205	75,145	81,565
Vancouver CMA	39,825	49,780	82,460	79,365	122,280	129,145
British Columbia	79,490	88,330	144,180	133,140	223,675	221,470
Canada	473,845	512,640	1,011,490	981,750	1,485,335	1,494,395
<b>% in Need</b>						
Vancouver City	10.4%	10.8%	30.9%	30.2%	21.6%	20.6%
Rest of CMA	8.6%	9.6%	31.3%	32.0%	15.4%	15.5%
Vancouver CMA	9.0%	9.9%	31.1%	31.2%	17.3%	17.0%
British Columbia	8.3%	8.2%	31.4%	29.9%	15.8%	14.6%
Canada	6.6%	6.3%	28.3%	27.2%	13.7%	12.7%

Source: CMHC (Census-based housing indicators and data)

In the City, the number of renter households in core need fell by 1,770, and the incidence fell by 0.7 percentage points. There is ambiguity in these estimated reductions. Two tables illustrate issues.

The first table shows that more tenants were excluded from the analysis in 2006. In 2001, 90.0% of the City's tenant households were included; in 2006, the share fell to 88.6%.

**Table 2-26**  
**Renter Households Included in Core Need Estimates**

	2001	2006
<b>Renter Households Tested</b>		
Vancouver City	119,435	116,490
Rest of CMA	145,535	137,950
Vancouver CMA	264,970	254,440
British Columbia	458,675	445,340
Canada	3,575,950	3,608,025
<b>Total Renter Households</b>		
Vancouver City	132,755	131,535
Rest of CMA	162,990	153,510
Vancouver CMA	295,745	285,045
British Columbia	512,360	493,995
Canada	3,907,170	3,878,500
<b>% Tested</b>		
Vancouver City	90.0%	88.6%
Rest of CMA	89.3%	89.9%
Vancouver CMA	89.6%	89.3%
British Columbia	89.5%	90.2%
Canada	91.5%	93.0%

Source: CMHC (Census-based housing indicators and data); Statistics Canada Census Profiles

Secondly, data from the Census indicates that there was a rise in the number and percentage of renter households in the City who paid 30% or more of their income for shelter, from 57,630 (43.9%) in 2001 to 59,165 (45.0%) in 2006. This increase was largely accounted for by the number of tenants paying 100% or more for shelter (who are disqualified from the core need estimates): there as an increase of 1,800 for this category.

But, the number of tenants with STIRs from 30% to less than 100% - who are eligible to be included in the core need analysis - changed only slightly (falling by 265). The reduction in the number in core need was larger (1,770). The change in the core need estimates is not consistent with this data on STIRs.

This data hints that the reduction in core need among renters in the City of Vancouver was due to a rise in the number of households who had STIRs from 30% to less than 100%, but whose rents and incomes were above the thresholds used in the analysis. These households are counted as not being in core need, despite their high STIRs: the analysis assumes that they are voluntarily over-consuming housing. But given the very low vacancy rates in the City (and that rents in the City's private rental market exceed those in the rest of the CMA) it is much more likely that these are often situations of necessity rather than choice.

A third issue, which has been identified by City staff, is that some rooming houses and residential hotels were counted as private dwellings in 2001 (meaning that the occupants could be counted as being in core need) whereas in 2006 these housing options were considered collective dwellings, and were excluded from the analysis and therefore not counted as being in core need.

**Table 2-27**  
**Tenants Paying 30% or more of Income for Rent,**  
**City of Vancouver, 2001 and 2006**

	2001	2006
Tenant Households (non-farm, non-reserve)	131,420	131,535
Number Paying $\geq$ 30% for Shelter	57,630	59,165
% Paying $\geq$ 30% for Shelter	43.9%	45.0%
Number Paying 30-99.9% for Shelter	45,580	45,315
Number Paying $\geq$ 100% for Shelter	12,050	13,850
Source: Statistics Canada Census Profiles		

### ***Factors Influencing Changes in Core Need for Renters***

Several factors combined to produce the changes in core housing need that were recorded during 2001 to 2006. This section reviews changes in rents and incomes.

#### *Changes for Rents*

Three different measures of are available for changes in rents.

CMHC's rental market survey reports average rents for privately-initiated row and apartment structures in buildings with three or more units. Within the City of Vancouver, row units

comprise less than 1% of the survey universe. Therefore, this discussion focuses on just apartment units. The data suggests that for the City of Vancouver, the average rent increased by 14.5% during the 2001 to 2006 Census period. Limitations of this dataset include:

- It omits significant components of the rental sector, including rented condominium units, assisted housing (non-profit and co-operatives), as well as units in structures with less than three units.
- The calculations of changes in rents can be distorted by movements into and out of the inventory. In particular, CMHC has taken some condominium-registered buildings out of the survey inventory (even though they are still occupied as rentals).
- The data omits utility costs, which are part of the shelter cost used in the needs analysis. Depending on inflation rates for utility costs, shelter costs may increase more or less rapidly than rents.

The Consumer Price Index generates estimates of cost increases for rented accommodation, which includes rent plus utilities paid by the tenants. The increase is estimated at 4.6% during May 2001 to May 2006, for the Vancouver CMA. This data has several limitations that appear to result in under-estimation of rent increases:

- Since it is based on a concept of constant quality, it is designed to eliminate any changes that result from improvements in quality, and it does not capture the effects on average costs of new additions or upgrading of existing properties.
- It appears that the methodology results in adjustments for quality that systematically result in under-estimates of increases in rental costs<sup>19</sup>.
- The methodology captures rent increases that occur during continuing tenancies, but not those that occur when tenants move – this likely results in further under-estimation of rent increases (although in soft markets it may over-estimate increases, because reductions that happen on turnover are not captured).
- The data is for the Vancouver CMA as a whole, which may have different rates of rent increase than the City.

The third source is the Census, which provides averages of “gross rents”, which includes payments for electricity, oil, gas, coal, wood or other fuels, water and other municipal services, and the monthly rent. For the City, the average gross rent increased by 9.7% during the 2001 to 2006 Census period. This data is based on all rental units, unlike the CMHC survey. However, in using the data one needs to be aware that the calculations of changes can be distorted by movements into and out of the rental inventory – it is not a measure of changes for “constant quality”; secondly, since this data includes assisted housing, it does not reflect the cost increases faced by tenants in the private rental sector.

Overall, the Census data (showing an increase of 9.7% for the Census period) appears to be the most appropriate to use in interpreting changes in core housing need.

Comparing the Census data to the rent component of the Consumer price Index, it appears that the CPI may have under-estimated rent increase by as much as one percentage point per year. And, the increases reported by the CMHC survey of the private rental market may have been about one percentage point per year higher than for the entire rental sector.

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<sup>19</sup> The issue is that repairs and maintenance are assumed to result in quality improvements and in response rent increases are reduced.

Changes in Incomes

The following table summarizes income growth within the City of Vancouver during 2000 to 2005. It shows that income growth within the City exceeded the growth in the cost of rental accommodation (which was in the range of 9.7% during the Census period):

- Average income (per person aged 15 and over) expanded by 17.9%. The median income for this category increased less rapidly, by 12.8%.
- For households, average income grew by 17.9%, and the median grew by 12.5%.
- For couple families (including those with and without children) the average income grew by a very strong 28.7% and the median by almost as much (23.1%).
- For the first three categories shown in the table, average incomes grew more rapidly than the medians. This is not unusual, and it generally means that incomes grew more rapidly in the upper parts of the income distribution than in the lower parts.
- For one-person households, the average income grew by 13.6%, and the median grew more rapidly at 16.3%. This is an unusual occurrence, and suggests that incomes grew more slowly at the tails of the distribution (high or low end) than in the middle. Data shown below suggests that in this instance the slower growth was at the low end.

**Table 2-28**  
**Income Growth in the City of Vancouver, 2000 to 2005**

	Average Household Incomes			Median Incomes		
	2000	2005	% Change	2000	2005	% Change
Individuals	\$31,058	\$36,605	17.9%	\$20,988	\$23,682	12.8%
All Households	\$57,916	\$68,271	17.9%	\$42,026	\$47,299	12.5%
Couple Families	\$75,341	\$96,993	28.7%	\$56,931	\$70,065	23.1%
One-person Households	\$34,262	\$38,913	13.6%	\$25,341	\$29,468	16.3%

Source: Statistics Canada Census Profiles, compiled by Will Dunning Inc.  
Note: incomes are in actual dollars, not inflation-adjusted.

The following set of tables provides estimates of changes across the income distributions<sup>20</sup>, for the categories shown above. The estimates are approximations and may differ from any official statistics prepared by Statistics Canada, and the percentage changes that are shown may be slightly inaccurate. The tables show estimates of incomes at the first decile (10% of incomes in the category are lower and 90% are higher), first quintile (20% of incomes are lower and 80% are higher), etc.

The first table is for incomes of individuals rather than for households. These estimates suggest that for individuals, income growth was slower in the lower half of the distribution than in the upper half, and the increases at the lower thresholds were generally less than the rate of increase (9.7%) for gross rents, and lower than the overall inflation rate (10.4%). On the other hand, increases for the median income and third and fourth quintiles exceeded the rate of increase for gross rents and overall inflation. The average income increased quite rapidly, and well in excess of the threshold figures.

<sup>20</sup> The estimates were calculated by the author using data on income distributions published in the 2001 and 2006 Census Profiles. The estimates are rounded to the nearest \$100; percentage changes are use the unrounded estimates.

<i>Income Threshold</i>	<i>2000</i>	<i>2005</i>	<i>% Change</i>
1st decile	\$3,100	\$3,300	5.3%
1st quintile	\$8,000	\$8,800	10.3%
2nd quintile	\$16,300	\$17,600	8.0%
3rd quintile	\$28,200	\$31,400	11.2%
4th quintile	\$45,500	\$51,400	12.8%
Average	\$31,058	\$36,605	17.9%
Source: Statistics Canada Census Profiles, calculations by Will Dunning Inc.			
Notes: Calculations exclude individuals with no income; incomes are in actual dollars, not inflation-adjusted.			

The rapid growth in incomes per person is mainly attributable to increased income from employment, through a combination of growth in wage rates and an increase in the percentage of the population that is employed:

- For the province of British Columbia, the average weekly wage increased by 10.2% in 2005 compared to 2000 (the wage data is available only for the province, and this data is assumed to provide a reasonable proxy for the City).
- Census data shows that the percentage of adults (aged 15 and over) who were employed (for residents of the City) increased from 59.7% in 2001 to 62.4% in 2006. Since this data is for a different time period than the income data<sup>21</sup>, it does not necessarily explain the growth in incomes. An alternative source of employment data (the labour Force Survey) indicates that for Vancouver CMA the employment rate increased from 62.1% in 2000 to 63.4% in 2005. This also confirms that a larger share of the population received employment income in 2005 than in 2000.

Growth in average incomes was also influenced by changes in investment income and income from government transfers.

- The Census provides data on income from these sources, at a provincial level.
- Taking that data for 2000 and 2005, estimates were created of income per adult (15 years and over) residing in British Columbia.
- As is shown in the next table, income per person rose by 15.1% for investment income, well in excess of overall inflation.
- For government transfers, the increase was 6.2% per person, less than the overall inflation rate and rent increases. However, this occurred because in the stronger economy, a smaller proportion of the population received government transfers in 2005 (63.8%) than in 2000 (64.9%). Calculated on the basis of transfers per person who received them, the average increased by 8.1%.

<sup>21</sup> The employment data is for early May, the week before the Census, whereas the income data is for the prior calendar year.

<b>Table 2-30</b>			
<b>Income from Investments and Government Transfers, British Columbia, 2000 to 2005</b>			
	<i>Aggregate Amount (\$ billions)</i>	<i>Number of Persons 15 Years and Older With Income From Any Source</i>	<i>Average Amount (1)</i>
<b>Investment income</b>			
2000	\$4.92	2,990,520	\$1,646
2005	\$6.12	3,230,565	\$1,894
% Change	24.3%		15.1%
<b>Income from Government Transfers</b>			
2000	\$10.42	2,990,520	\$3,483
2005	\$11.95	3,230,565	\$3,700
% Change	14.8%		6.2%
Source: Statistics Canada - 2006 Census. Catalogue Number 97-563-XCB2006009; Statistics Canada - 2001 Census Cat. No. 97F0020XCB2001046			
Note: (1) average per person with income from any source			

The next step in this analysis looks at incomes per household. The following tables show changes in the income thresholds for all households and then for two types of households.

For all households, the threshold incomes increased most rapidly for the two lowest thresholds. There are at least two possible interpretations:

- It could mean that economic growth enabled more households with formerly low incomes to find employment and thereby experience strong income growth.
- However, it could also mean that individuals with low incomes were less likely to form households (and/or to double-up, dissolve existing households, or to move out of the City). It has been seen that for individuals the lower income thresholds increased slowly in comparison to rents: it may be that the deterioration of reduced housing affordability reduced the number of low income households. The data on households by type supports this suggestion: it shows that in 2001, 46.5% of households in the City were non-family; in 2006 the share was lower at 45.6%. For lone parent families the share fell slightly, from 8.4% in 2001 to 8.2% in 2006.

<b>Table 2-31</b>			
<b>Income Thresholds in 2000 and 2005 for All Households in the City of Vancouver</b>			
<i>Income Threshold</i>	<i>2001</i>	<i>2006</i>	<i>% Change</i>
1st decile	\$9,400	\$10,800	14.9%
1st quintile	\$16,800	\$19,000	13.1%
2nd quintile	\$33,600	\$37,400	11.3%
3rd quintile	\$52,900	\$58,900	11.4%
4th quintile	\$83,800	\$94,100	12.2%
Average	\$57,916	\$68,271	17.9%
Source: Statistics Canada Census Profiles, calculations by Will Dunning Inc.			

The next table shows incomes (the various thresholds and the averages) for two household types. This data shows that during 2000 to 2005 there was very strong income growth for husband-wife families, far above the growth rate for individual incomes and for one person households. One possible explanation is that some of these households may have increased the number of persons with employment income, due to increased housing costs and increased opportunities to find employment. But, this is unlikely to fully explain the large increase of incomes.

There is some interesting ambiguity in the income data for couple families (husband wife families with or without children) and for one person households.

- For both of the types of households shown in the table below, the lowest income threshold increased more rapidly than for the other thresholds and the average incomes. Once again, this may be partly due to increased employment. But it is likely that in addition to this, reduced housing affordability meant less household formation by individuals with low incomes and more migration out of the City to more affordable locations.
- The idea that household formation may have been reduced is supported by data shown later in this report, which shows that within the City (during 1996 to 2006) there was a substantial reduction in the formation rate of non-family households, especially among the elderly; for older age groups there was increased formation of family households; and for young age groups there was a reduction in the formation rate for lone parent families. This set of changes suggests that there was a significant process of single elderly people moving in with their adult children, as well as younger adults staying in the parental homes. This might be partly a cultural change, but reduced housing affordability does appear to be an important factor.
- The idea of increased move-outs from the City due to housing affordability is supported by a comparison of rates of income growth for the City and the rest of the CMA. The second table below shows that for four categories of households and individuals, average incomes increased more rapidly in the City. This is consistent with out-migration by lower income individuals and households in search of lower cost housing (although it isn't definitive proof of the proposition). The difference between the City versus the rest of the CMA is greater for husband-wife families than for one person households, suggesting that economic out-migration has been more pronounced for families than for singles.

**Table 2-32**  
**Household Income Thresholds in 2000 and 2005, City of Vancouver**

Income Threshold	Husband-Wife Families			One-Person Households		
	2001	2006	% Change	2001	2006	% Change
1st decile	\$16,700	\$22,700	35.7%	\$5,500	\$6,500	18.0%
1st quintile	\$27,600	\$34,800	26.0%	\$10,800	\$12,100	11.9%
2nd quintile	\$46,700	\$57,700	23.4%	\$19,200	\$21,800	13.3%
3rd quintile	\$69,000	\$83,900	21.7%	\$33,300	\$37,000	11.1%
4th quintile	>\$100,000	>\$100,000	NA	\$50,800	\$57,200	12.7%
Average	\$75,341	\$96,993	28.7%	\$34,262	\$38,913	13.6%

Source: Statistics Canada Census Profiles, calculations by Will Dunning Inc.

<b>Table 2-33</b>			
<b>Growth of Average Incomes in the City of Vancouver and the Rest of the CMA, 2000 to 2005</b>			
	<i>City of Vancouver</i>	<i>Rest of CMA</i>	<i>Vancouver CMA</i>
<b>Husband-Wife Families</b>			
2000	\$75,341	\$75,665	\$75,585
2005	\$96,993	\$93,805	\$94,595
% Change	28.7%	24.0%	25.2%
<b>One-Person Households</b>			
2000	\$34,262	\$33,356	\$33,746
2005	\$38,913	\$37,523	\$38,108
% Change	13.6%	12.5%	12.9%
<b>Individuals</b>			
2000	\$31,058	\$31,568	\$31,421
2005	\$36,605	\$35,932	\$36,123
% Change	17.9%	13.8%	15.0%
<b>Employment Income by Individuals with Employment Income</b>			
2000	\$33,913	\$34,044	\$34,007
2005	\$38,303	\$37,365	\$37,627
% Change	12.9%	9.8%	10.6%
Source: Statistics Canada, Census Profiles; calculations by Will Dunning Inc.			

### *A Simple Simulation*

Based on the high-level data on incomes and rents, it might be expected that the incidence of high STIRs would have fallen during 2001 to 2006. This section creates a simulation of that expectation.

The simulation was developed using the Public Use Microfile (Households file) from the 2001 Census, for the Vancouver CMA. The “PUMF” is a 1-in-37 sample of Canadian households. It contains many of the data elements collected by the Census, although some response categories are compressed, and some data is suppressed or modified (through applying maximum values). The PUMF dataset permits the analyst to investigate an extremely wide range of questions about the characteristics of Canadian households.

***PUMF Data Has Significant Compromises that May Affect STIRs***

It must be noted that the PUMF data contains some significant compromises that have the potential to affect the estimates of shelter-cost-to-income-ratios:

- There are maximum value cut-offs for shelter costs: for renters in the Vancouver CMA the maximum is \$1,915 per month. A significant number of renters (6.0% of the sample) have reported shelter costs at this maximum.
- Average incomes for tenants reported in the PUMF dataset (\$40,248) are lower compared to the Census data (\$41,220).

In consequence, the PUMF-based estimates developed here of housing costs and STIRs are underestimated (although the degree of error is unknown). The reader should view the estimates as approximate and indicative rather than as exact.

The table below compares the estimates of Vancouver CMA tenants with high STIR's as of 2001 from the PUMF estimates and published Census data. It shows that the PUMF estimates are slightly lower than the published Census data. The two datasets are quite similar in terms of the percentage of household with high STIRs (from 30% to 99%).

	Published Census Data	PUMF	Difference %age points
STIRs 30% or more	43.2%	42.9%	-0.3%
STIRs 30-99.9%	34.1%	33.8%	-0.3%
Source: Statistics Canada – 2001 Census Profiles; analysis of 2001 PUMF by Will Dunning Inc.			

The bottom line in this discussion is that while the compromises within the PUMF data may distort some results, especially within sub-groups, in general, the data appears to provide reasonably reliable estimates of STIRs.

For the Vancouver CMA, the sample includes 8,002 tenant households<sup>22</sup>. This very large sample size allows for detailed cross-tabulation of data. That said there are some limitations in the PUMF estimates, which are discussed in the box above.

Several new data elements were created by combining variables within the data set. In particular, shelter-cost-to-income-ratios were generated by dividing shelter costs (gross rents) by total household incomes.

The simulation projected STIRs to 2006 by applying rates of increase found in 2006 Census data:

- Employment income – 10.6% (the change in employment income per person with employment income).
- Investment income – 15.1%.

<sup>22</sup> Five of the 8,002 households were deleted from the analysis as rent data was not available.

- Government transfers – 8.1% (the change per person receiving transfers)<sup>23</sup>.
- Other income – 10.4% (the inflation rate over the period, as measured by the Consumer Price Index).
- Gross rent – 9.7% (the change in average gross rents).

The simulation is consistent with the expectation, and suggests that the share of Vancouver CMA tenants with high STIRs should have fallen slightly (by 0.1 percentage point). The actual outcome was similar: the share of Vancouver CMA tenants with STIRs of 30% or higher fell by 0.2 percentage points. This simulation also implies that the incidence of core housing need among the CMA's renters should have fallen slightly, since the share of renters with STIRs from 30% to less than 100% drops by 0.2 percentage point. In actuality, the incidence of core need among renters moved slightly in the opposite direction, increasing fractionally from 31.1% in 2001 to 31.2% in 2006. Overall, the outcomes were quite similar to the simulation.

**Table 2-35**  
**Tenant Households in the Vancouver CMA,**  
**by STIRs in 2001 and Simulation for 2006**

	2001	2006	Change (in percentage points)
Nil Income	0.8%	0.8%	0.0%
0-30%	56.3%	57.3%	1.1%
30-49.9%	20.7%	20.0%	-0.9%
50-99.9%	13.1%	12.9%	-0.2%
100% +	9.1%	9.1%	0.1%
Total	100.0%	100.0%	0.0%
Subtotal			
30-99.9%	33.8%	32.8%	-1.2%
30% +	42.9%	41.9%	-1.1%

Source: Analysis by Will Dunning Inc. using the 2001 Census Public Use Microfile (Households file) and Statistics Canada Census Profiles

However, there is reason to think that the outcome should have been better than the simulation: since a larger share of the population was employed in 2005 and 2006 than in 2000 and 2001<sup>24</sup>, more people received employment income and total income from employment increased by more than the factor that was used above. A back-of-the-envelope estimate suggests that the increase in employment should have caused the percentage of renters with STIRs less than 30% to increase by 0.8 percentage points, and the incidence of housing need would have fallen by the same amount.

In this light, the lack of improvement in affordability for renters is a failure that needs to be explained, and there is an explanation available.

The simulation projects future STIRs for households that existed in 2001. It does not take any account of changes that might result from shifting household formation rates or tenure choices.

<sup>23</sup> The various components of transfer incomes may have increased at differing rates, and the 8.1% change represents a composite for the components.

<sup>24</sup> According to the Labour Force Survey, in 2000 59.8% of Vancouver CMA adults (aged 15 and over) were employed. In 2005, the rate increased to 61.9% and in 2006 it was 63.0%.

It also does not incorporate any changes that may result from shifts in the income distribution, for example the possibility that low income households may have seen below average growth of employment income.

The failure of rental housing affordability to improve as much as suggested by the simulation can be attributed to slow growth of incomes in the rental sector. The table below shows incomes by tenure in “constant” (inflation-adjusted) dollars. It shows that the average income for tenants fell by 2.8% in real terms (the average income increased in actual dollars, but by less than overall inflation). On the other hand, the average income for home owners increased by 2.5% in constant dollars (rising by more than the inflation rate).

<i>Housing Tenure</i>	<i>2000</i>	<i>2005</i>	<i>% Change</i>
Renters	\$46,232	\$44,915	-2.8%
Owners	\$86,296	\$88,488	2.5%
All Households	\$70,654	\$73,277	3.7%
<b>Source:</b> Statistics Canada, 2006 Census of Population, Statistics Canada catalogue no. 97-563-XCB2006049; compiled by Will Dunning Inc..			

This slow income growth for renters may be partly due to slow wage growth for low income occupations, and because rates of increase for government transfers may have been less than growth of wages. But, it is also due to tenure shifting. During 2001 to 2006 there was a large amount of movement of high income renters into the home ownership sector: this change biased the average incomes – the data in this table does not tell us what happened to incomes of individual who were tenants in 2001. But, it does imply very strongly that upper income renters have shifted to home ownership. This is the main reason that renter housing affordability in the Vancouver CMA did not improve during 2001 to 2006.

### Extending the Simulation

Looking farther ahead, trends have, until very recently, appeared to be slightly favourable for renters’ affordability. A review of current trends suggests some assumptions that can be used in projecting changes in affordability for 2006 to 2011:

- During 2005 to 2008, rental costs may have increased by about 8%. This is based on the data for the CPI rent component and the CMHC survey. The CPI rent component has increased by 4.8% during the past three years. If this data under-estimates rental costs by one point per year (as was suggested earlier), the actual cost increased by about 7.7%. CMHC’s rent survey shows an increase of 11.7% for October 2005 to 2008<sup>25</sup>. If the CMHC survey of the private rental market over-estimates increases for the entire rental sector by one point per year, then the increase is about 8.7%.
- The average weekly wage in British Columbia increased by 10.8% during 2005 to 2008, rising by more than rental costs. Furthermore, the percentage of adults who are employed in the Vancouver CMA rose to 63.9% in 2008 from 63.4% in 2005. Therefore,

<sup>25</sup> This is based on a weighted average that may differ from data published by CMHC.

as occurred during 2000 to 2005, more households moved from reliance on government transfers as the main source of income to reliance on employment income, and this will have given a further boost to average household income.

- As for investment income, there may well have been a reduction, due to the stock market meltdown and lower interest rates. However, according to the PUMF data, just 2.7% of tenant income in the Vancouver CMA was from investments in 2000.
- Transfers from government accounted for 13.1% of tenant income in 2000. If transfers have increased by the overall inflation rate since 2005, average incomes from this source may have increased by 6.4% during 2005 to 2008, which is less than the rate of rent increase.
- Income from other sources accounted for 3.7% of tenant income and may have increased at the overall inflation rate.

Combining these changes, for the first three years of this Census period, rental housing affordability may have improved for most tenants whose major source of income is employment, but deteriorated for those who received most of their income from investments, government transfers, or other sources.

For the remainder of this Census period there has been a marked change.

- Rental costs are likely to increase much less rapidly, based on an expectation of higher vacancy rates, as well as lower costs for heating fuels. The forecast developed in the next section suggests that rents in the Vancouver CMA's private rental market will be flat or falling during 2008 to 2011. New data from CMHC's April 2009 rental market survey seems to support this, as the CMA vacancy rate doubled from a year ago (to 1.9% this April from 0.9% in April 2008) and rent increases have decelerated. The year-over-year increase as of April is 2.8% versus 4.3% as of October 2008 – this suggests that rent increases have moderated in the past six months. Combining data for 2005 to 2008 with projections for 2008 to 2011, over the entire Census period average rental costs might increase by 8%.
- However, the rapidly developing recession has resulted in a weaker labour market. The percentage of adults who are employed has fallen to 62.1% as of October 2009, a sharp change from the 2008 average of 63.9%. The author's forecast is that the employment rate may be in the range of 62.5% by the 2011 Census date. For those who remain employed, average wages might increase by 11% during the Census period, more rapidly than rents and this group should see an improvement in housing affordability.
- Investment income is assumed to be unchanged compared to 2005. For a very small minority of renters who rely on investments for a large part of their income, affordability will deteriorate.
- Income from government transfers and from other sources is assumed to increase by the same rate as overall inflation, which is assumed to total 8.5% over the period<sup>26</sup>. With

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<sup>26</sup> It was shown earlier that during 2000 to 2005 average income from transfers increased by 8.1%, which was less than overall inflation (10.4%), which creates uncertainty about whether transfer incomes will keep up with inflation during 2005 to 2010. The actual outcome during 2005 to 2010 will depend on events for the various components of transfers. One component, the shelter component of welfare for a single person, increased significantly in 2007, from \$325 to \$375. This in itself would contribute to transfer payments increasing by more than the inflation rate. (This large increase only partially offset the real losses that had accrued during a prolonged period without adjustments). An additional factor is that there will be a change in the shares of incomes from each of the components. If, for example, there are increases in the shares for public pensions (CPP and OAS), and/or for

rent increases assumed to average slightly below the overall inflation rate, households reliant on these income sources may see a very small improvement in affordability.

Taking these assumptions, changes in housing affordability are simulated for the 2006 to 2011 period. The estimates indicate that affordability would improve considerably for those tenants who are employed, very slightly for those whose primary income source is government transfers, and would deteriorate for those whose primary income source is investments. If there is no change in the percentage of tenants who are employed, overall, affordability would improve and the share of tenants with STIRs less than 30% would rise by 1.1 percentage point (with a corresponding reduction in the incidence of housing need).

However, employment has weakened. Assuming that the employment rate (the percentage of adults who are employed) is 61% in 2010, versus 63.4% in 2005, there would be a slight deterioration in incomes and affordability for renters. The share with STIRs less than 30% would fall by 0.2 percentage points and the incidence of need would increase correspondingly.

Another consideration is that departures of high income tenants to home ownership have continued. Just as happened during 2001 to 2006, this process will cause the outcome to be worse than expected, as high income tenants depart. This consideration is explored further in the later section (Part 5) that develops demographic projections of core housing need for renters. A scenario that incorporates this factor (the third scenario) projects that during 2006 to 2011, the incidence of core need among renters in the Vancouver CMA would rise, from 30.2% in 2006 to 30.9% in 2011. A final scenario, which adds another demographic factor (changes in the male:female balance in the population) projects an incidence of 31.1% as of 2011.

### *Conclusion on the Impact of Income Trends*

To conclude this discussion: the data on incomes provided above, especially in conjunction with data that is shown later on shifting household formation rates, vacancy rates, average rents, and rental housing inventories, suggests that there is a process of economic rationing underway in the City of Vancouver housing market. Deteriorating housing affordability and housing shortages are discouraging household formation, especially in the lower reaches of the City's income distribution, and encouraging movement to areas outside of the City where housing costs are lower.

A first-round consequence is that growth of population and households within the City is less than would occur if there was more affordable rental housing.

Secondly, if more affordable housing was available then there would be more low income households within the City and, in a seeming paradox, there might be more households in housing need within the City. While this might seem to be a worse outcome, it would mean that more households are able to exercise choice in the market.

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Employment Insurance, and a reduced share for social assistance, then average transfer incomes might increase by more than the overall inflation rate.

## **Conclusion**

This review commenced with a finding that the incidence of core need among renters is higher in the City of Vancouver (30.2%) than for all of Canada (27.2%). This could be the result of at least two conditions:

- Different characteristics of the population – if the City has more households within sub-groups that are particularly disadvantaged, then this mix could explain some or all of the higher incidence of need for the City.
- Alternatively, for various sub-groups, the incidences of need might be higher for Vancouver than for Canada.

The data indicates that the mix of characteristics in Vancouver is not appreciably different than for Canada, at least not to a degree that explains the overall difference in incidence of need. Some factors that partly explain the high incidence of core need within the City are:

- The City has a high proportion of non-family households, which have high incidences of core need, but it also has a low proportion of lone parent families.
- In the City, a high share of the population consists of immigrants and immigrants have a higher incidence of need than non-immigrants.

More significantly, it has been found that for major segments within Vancouver's population, there are higher incidences of need than for all of Canada. This is the main cause for the high overall incidence of housing need among the City's renters.

The explanation for those higher incidences can be found in the Vancouver rental market, including its persistently low vacancy rates and high rents. The table below contrasts average apartment rents for the City with other major areas (Census Metropolitan Areas) across Canada. Vancouver rents are the highest in the country<sup>27</sup>. Compared to the averages for the CMAs of Canada, City of Vancouver rents are higher by:

- 31% for bachelor apartments.
- 29% for one bedroom apartments.
- 59% for two bedroom apartments.
- 89% for apartments with three or more bedrooms.

These calculations are based on a survey universe of purpose-built rentals. In actuality, there are other significant components of rental supply in the City, including assisted housing, rented condominium apartments, and accessory units. The second table below shows gross rents as estimated by the 2006 Census for all rental units, for Canada, British Columbia, and the Vancouver CMA. (The gross rent concept includes the rent paid as well as tenant-paid utility costs.) This table shows that within the Vancouver CMA, the share of the rental inventory that has low rents (say below \$600 per month) is substantially lower than for all of Canada: within the Vancouver CMA, 20% of gross rents are below \$600; for Canada the share is almost twice as large, at 38.5%. The third table below provides detailed rent distributions for the City and the Vancouver CMA. This data shows that while the City has a substantial inventory in the lowest

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<sup>27</sup> The average rents in the City of Vancouver are the highest in the country for bachelor, 2 bedroom, and 3+ bedroom units. For 1 bedroom units, the City's average rent is second highest, slightly behind Calgary CMA's.

rent range (less than \$400), it has relatively little inventory in the modest ranges, especially from \$400 to \$699.

Rental market conditions and the outlook for the City of Vancouver are discussed in Part 3 of this report.

**Table 2-37**  
**Average Apartment Rents for the City of Vancouver and**  
**Census Metropolitan Areas, October 2008**

	<i>Bach</i>	<i>1 BR</i>	<i>2 BR</i>	<i>3+ BR</i>
<b>City of Vancouver</b>	<b>\$779</b>	<b>\$936</b>	<b>\$1,318</b>	<b>\$1,749</b>
Abbotsford BC	\$522	\$627	\$765	\$807
Barrie ON	\$694	\$860	\$954	\$1,144
Brantford ON	\$557	\$674	\$752	\$813
Calgary AB	\$775	\$951	\$1,148	\$1,063
Edmonton AB	\$707	\$847	\$1,034	\$1,170
Greater Sudbury ON	\$485	\$651	\$800	\$917
Guelph ON	\$616	\$766	\$869	\$1,021
Halifax NS	\$599	\$683	\$833	\$1,064
Hamilton ON	\$542	\$681	\$836	\$986
Kelowna BC	\$624	\$803	\$967	\$993
Kingston ON	\$558	\$743	\$880	\$1,327
Kitchener ON	\$561	\$712	\$845	\$978
London ON	\$525	\$671	\$834	\$967
Moncton NB	\$427	\$547	\$656	\$725
Montréal QUE	\$500	\$594	\$659	\$799
Oshawa ON	\$641	\$785	\$889	\$1,008
Gatineau QUE	\$492	\$572	\$677	\$759
Ottawa ON	\$671	\$827	\$995	\$1,227
Peterborough ON	\$578	\$717	\$850	\$1,043
Québec QUE	\$452	\$558	\$653	\$770
Regina SK	\$456	\$634	\$756	\$908
Saguenay QUE	\$352	\$412	\$518	\$553
St Catharines-Niagara ON	\$532	\$663	\$777	\$877
Saint John NB	\$430	\$518	\$618	\$663
St John's NFLD	\$487	\$558	\$630	\$691
Saskatoon SK	\$518	\$675	\$841	\$860
Sherbrooke QUE	\$368	\$437	\$543	\$658
Thunder Bay ON	\$467	\$589	\$719	\$836
Toronto ON	\$764	\$927	\$1,095	\$1,288
Trois-Rivières QUE	\$360	\$414	\$505	\$553
Vancouver BC	\$754	\$880	\$1,124	\$1,356
Victoria BC	\$626	\$764	\$965	\$1,180
Windsor ON	\$503	\$645	\$772	\$883
Winnipeg MB	\$464	\$602	\$769	\$920
Average - CMAs	\$595	\$744	\$828	\$925
City of Vancouver vs CMA Average	131%	126%	159%	189%
Source: Canada Mortgage and Housing Corporation rental market survey				

**Table 2-38**  
**Distribution of Gross Rents**  
**All Occupied Rental Units, 2006**

Gross Rent	Number of Occupied Units			% of Total		
	Canada	British Columbia	Vancouver CMA	Canada	British Columbia	Vancouver CMA
Less than \$400	517,325	50,565	28,000	13.4%	10.3%	9.9%
\$400 to \$599	970,395	76,935	29,140	25.1%	15.7%	10.3%
\$600 to \$799	1,056,050	141,945	76,925	27.4%	29.0%	27.1%
\$800 to \$999	656,245	100,005	64,780	17.0%	20.5%	22.8%
\$1,000 to \$1,199	314,575	48,165	31,760	8.1%	9.9%	11.2%
\$1,200 to \$1,499	206,705	37,820	27,510	5.4%	7.7%	9.7%
\$1,500 or more	139,860	33,275	25,635	3.6%	6.8%	9.0%
Total	3,861,155	488,715	283,755	100.0%	100.0%	100.0%
Average Gross Rent	\$728	\$828	\$893			

Source: Statistics Canada - 2006 Census. Catalogue Number 97-554-XCB2006049; compiled by Will Dunning Inc.

**Table 2-39**  
**Detailed Distribution of Gross Rents in 2006**

Gross Rent	Occupied Units			% of Total		
	City of Vancouver	Rest of Vancouver CMA	Vancouver CMA	City of Vancouver	Rest of Vancouver CMA	Vancouver CMA
Less than \$400	15,725	12,270	27,995	12.0%	8.1%	9.9%
\$400 to \$499	4,885	6,685	11,570	3.7%	4.4%	4.1%
\$500 to \$599	6,855	10,720	17,575	5.2%	7.0%	6.2%
\$600 to \$699	13,235	21,465	34,700	10.1%	14.1%	12.2%
\$700 to \$799	18,975	23,250	42,225	14.4%	15.3%	14.9%
\$800 to \$999	31,680	33,105	64,785	24.1%	21.7%	22.8%
\$1,000 to \$1,199	14,505	17,255	31,760	11.0%	11.3%	11.2%
\$1,200 to \$1,399	10,005	10,385	20,390	7.6%	6.8%	7.2%
\$1,400 to \$1,599	6,115	6,415	12,530	4.6%	4.2%	4.4%
\$1,600 to \$1,799	3,545	4,230	7,775	2.7%	2.8%	2.7%
\$1,800 to \$1,999	2,035	2,080	4,115	1.5%	1.4%	1.5%
\$2,000 to \$2,199	1,335	1,395	2,730	1.0%	0.9%	1.0%
\$2,200 to \$2,399	840	920	1,760	0.6%	0.6%	0.6%
\$2,400 or more	1,805	2,040	3,845	1.4%	1.3%	1.4%
Total	131,535	152,225	283,760	100.0%	100.0%	100.0%
Median gross rent	\$826		\$812			

Source: Statistics Canada - 2006 Census. Custom tabulation obtained by the City of Vancouver

**Part 3 – The Rental Housing Market**

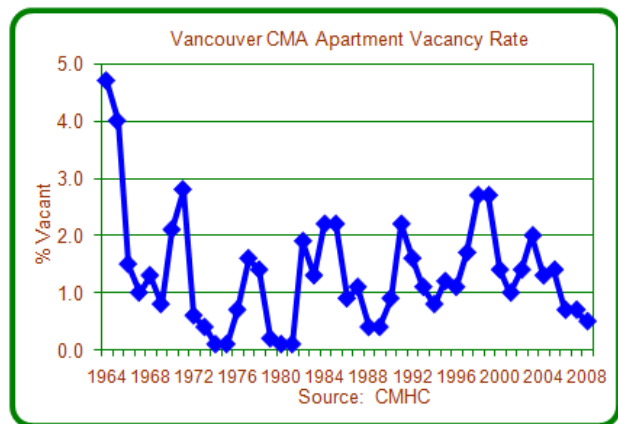
Several factors combine to produce outcomes in the rental housing market. This section reviews key factors. Then, a housing forecast model is used to forecast the rental market outlook, firstly, for Metro Vancouver (also known as the Vancouver CMA) and subsequently for the City of Vancouver. These market trends will be highly influential in determining the future path for housing needs within the City of Vancouver.

Part 5 of this report discusses implications for the short-term evolution of core housing need (as well as other factors that will affect the evolution of housing need over a longer horizon).

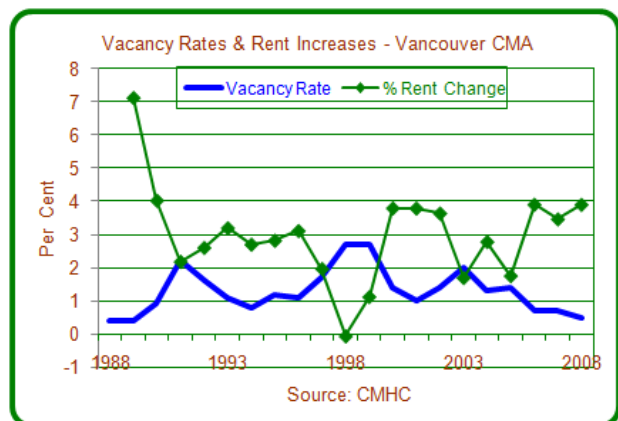
**Rental Housing Market – Vancouver CMA**

For many years, Canada Mortgage and Housing Corporation has conducted a rental market survey in October of each year. The following charts and table provide the resulting data for the Vancouver CMA.

The Vancouver CMA has one of the tightest rental markets in the country, both currently and historically. The chart illustrates the cycles seen in the Vancouver rental market over the past 45 years. During those 45 years, the Vancouver CMA vacancy rate has averaged just 1.3%. For the past three years, the vacancy rate has been well below 1%, which indicates a critical shortage of rental opportunities, and has resulted in rapid rent increases. Rent increases in the City of Vancouver have been 3.8% in 2006, 5.5% in 2007, and 3.9% in 2008.



The next chart looks at a shorter period of time (1988 to 2008) and illustrates that there is an inverse relationship between vacancy rates and rates of rent increase: in general, during periods of low vacancy rates rent increases are more rapid and conversely during periods of relatively high vacancy rates, rent increases are less rapid. During 1988 to 2008, the average rent in Vancouver CMA increased by 79.6%, or an average of 3.0% per year<sup>28</sup>. During the same 20-year period, the average inflation rate in Vancouver CMA was 2.3%. Rents increased by more than overall inflation



<sup>28</sup> These calculations rely on “fixed weight” average rents, in which the weights are based on the distribution of the rental inventory by unit type as of 2008. This calculation reduces distortions that may be caused by changing mixes within the marketplace. In consequence of using a fixed weight index, data shown in this section on average rents and rent increases may differ from data published by CMHC.

and therefore it can be said that rents increased in “real terms” by an average of 0.6% per year during 1988 to 2008.

Another useful comparison is with wages. For the province of British Columbia, the average weekly wages, for people employed full-time, increased by 2.3% per year during the 10-years from 1998 to 2008. Rent increases that averaged 3.0% per year exceeded income growth, negatively affecting affordability.

In a “balanced” rental market, we might expect rents to increase at about the same rate as overall inflation. Using the statistical forecasting model that is discussed below, it is estimated that in Vancouver CMA rents would be unchanged (in “real” dollars) at a vacancy rate of 1.9% - at this vacancy rate we would expect rents to increase at about the same rate as overall inflation<sup>29</sup>. During the past 20 years the vacancy rate has been below this threshold most of the time with the consequence that rents have increased by well in excess of the overall inflation rate. During the past three years, with vacancy rates under 1%, the average “real” rent has increased by 5.1% (or 1.7% per year more than the overall inflation rate).

**Table 3-1**  
**Rental Market Indicators for the Vancouver CMA**  
**Privately-Initiated Apartment Structures With 3 or More Units**

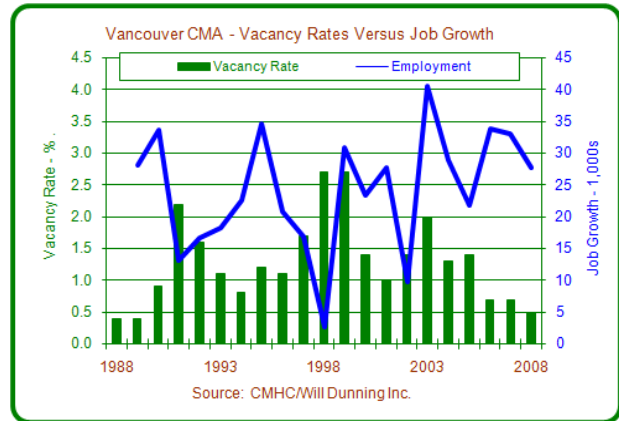
October of ...	Vacancy Rate	Average Rent (Actual \$s)	% Change	Rent in Inflation-Adjusted Dollars	% Change
1988	0.4	\$574		\$707	
1989	0.4	\$614	7.1	\$722	2.1
1990	0.9	\$639	4.0	\$714	-1.1
1991	2.2	\$653	2.2	\$701	-1.8
1992	1.6	\$670	2.6	\$696	-0.8
1993	1.1	\$692	3.2	\$694	-0.3
1994	0.8	\$710	2.7	\$700	0.9
1995	1.2	\$730	2.8	\$704	0.6
1996	1.1	\$753	3.1	\$722	2.6
1997	1.7	\$768	2.0	\$732	1.4
1998	2.7	\$768	0.0	\$727	-0.7
1999	2.7	\$776	1.1	\$725	-0.3
2000	1.4	\$806	3.8	\$732	0.9
2001	1.0	\$836	3.8	\$751	2.6
2002	1.4	\$867	3.6	\$758	1.0
2003	2.0	\$882	1.7	\$761	0.3
2004	1.3	\$906	2.8	\$763	0.3
2005	1.4	\$922	1.8	\$762	-0.1
2006	0.7	\$958	3.9	\$779	2.3
2007	0.7	\$991	3.5	\$792	1.6
2008	0.5	\$1,030	3.9	\$801	1.2

Source: CMHC Rental Market Survey; Will Dunning Inc.

<sup>29</sup> In earlier unpublished research (using data for 1989 to 2002), and taking a more sophisticated analysis approach, this author estimated that for Vancouver CMA, rents would be expected to increase at 2% per year with vacancy rates in the range of 1.3% to 1.8%. The recent data is broadly consistent with the earlier estimates.

Various factors have combined to generate cycles in the Vancouver CMA rental market vacancy rate. This discussion identifies key factors and speculates on their impacts. As is described later, the forecasting model estimates that the impacts on vacancies are more-or-less what we would expect:

- Growth of employment encourages the formation of new households, many of which move into rentals. In the forecasting model (as described below) it is estimated that for each 1,000 new jobs the number of vacancies is reduced by 34 units<sup>30</sup>. The chart to the right illustrates that during periods of rapid job creation, the Vancouver CMA vacancy rate has tended to fall and during periods of slow job creation the vacancy rate has tended to rise. It can also be seen that the relationship between job creation and the vacancy rate is not perfect - other factors are involved.



- Completions of new housing, by expanding the supply of available housing, reduce pressure on the existing rental inventory. In the Vancouver CMA model estimates, each completed home ownership unit increases the number of vacant rental apartments by about one-sixth of a unit; each completion of a rental unit is estimated to increase the number of apartment vacancies by more than one unit<sup>31</sup>.
- Completions of home ownership units (low-rise units and apartments) can result in vacancies in the rental sector because of movements out of rentals, and also because some new home owner units are actually made available on a rental basis. For example, CMHC estimates that in the Vancouver CMA, 22% of condominium apartments are rentals – either occupied by a tenant or vacant and available for rent. In the 2006 Census data for Vancouver CMA, among apartments that were completed during 1996 to 2006, 37% were tenant-occupied, even though the vast majority were constructed as condominiums. As is discussed later, it appears that CMHC might have under-estimated the number of rented condominium apartments in the City.
- Therefore, in times of high housing completions, the vacancy rate would tend to rise. However, the actual outcome will depend on other conditions (especially job creation). Therefore, while there have been high volumes of housing completions during the past three years, the vacancy rate did not rise, because strong job creation resulted in increased housing demand.
- Changes in the rental inventory for reasons other than new completions might also affect the vacancy rate.
  - Removal of units from the rental inventory can occur through demolitions, conversions to owner occupancy or non-residential use, or temporary removals due to renovation or repair; there can be increases in the rental inventory due to conversions from owner occupancy or from non-residential use. It can also

<sup>30</sup> Similar estimates have been found in other centres for which the vacancy forecasting model has been used.

<sup>31</sup> As can sometimes happen, the estimated impact is in the right direction, but the strength exceeds what we might expect. The estimated impact is a 1.34 increase in vacancies for every completed unit. Given that low volumes of rental completions are anticipated, the impact of this on the vacancy rate forecast is not severe.

happen that the estimate of the inventory is reduced by CMHC's on-going clean-up of the survey database, in which case the changes in the data might be accounting rather than actual.

- Demolitions of rentals can be expected to reduce vacancies, whereas conversions from non-residential uses will most likely result in increased vacancies.
- However, when existing dwellings are converted between rental and owner occupancy (in either direction), the impact on vacancies might be minimal: there is no direct impact on the total number of households or the total number of available dwelling units; most of the people who buy the converted units would otherwise have lived in rentals, so while there is a reduction in the number of rental units there is also a reduction in the number of households who want to rent. A study by the US Department of Housing and Urban Development<sup>32</sup> estimated that conversions of rental units to ownership caused the number of rental vacancies to fall by just 5% of the number of converted units (for each 100 units converted, there would be a 5 unit reduction of rental vacancies, and a 5 unit increase in vacancies of ownership housing<sup>33</sup>). While this research is dated and from another country, to this researcher the finding is generally consistent with events in some Canadian centres that have experienced substantial amounts of condominium conversion.
- The rental market universe reported by the CMHC survey has fallen, even though there have been housing completions that should have resulted in an expanding inventory. By rough calculation, it appears that there have been about 1,500 units per year removed from the Vancouver CMA survey inventory during the past 8 years. The causes of these removals are not clear, and therefore it is not possible to predict in advance what the impacts might be. CMHC staff have not studied the relevant data but express an opinion that the removals have been mainly condominium registered buildings that are primarily rented (and continue to be primarily rented). To the extent that this is the cause, there should be no impact on the vacancy rate.
- The modeling suggests that each unit removed from the inventory results in a 0.50 unit reduction in vacancies<sup>34</sup>, which is 10 times the factor found in the HUD study. Based on this estimate, it would appear that a large share of the removals from the inventory are real (they represent removals from the total housing inventory, such as demolitions or other types of physical conversions that reduce the number of dwelling units) and they are having a substantial negative impact on rental vacancies<sup>35</sup>. For real removals from the housing inventory we should expect that the impact on vacancies is close to 100%. If there are significant numbers of permanent removals this might rationalize the high (50%) factor

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<sup>32</sup> "The Conversion of Rental Housing to Condominium and Cooperatives" (1980).

<sup>33</sup> The HUD methodology was not able to follow vacancy chains to their conclusions. It is possible that due to subsequent moves, some vacancies would switch from ownership to rental housing, which would reduce the impact to even lower than the 5-per-100 factor.

<sup>34</sup> This estimate is statistically significant with a t-statistic of 2.72. However, the confidence interval for the estimate is very wide, ranging from 0.08 to 0.91.

<sup>35</sup> It could also be that the conversions create supplies of affordable ownership options that otherwise wouldn't be available, which might stimulate new household formation. In this case, the argument from the HUD research that housing demand is unaffected wouldn't hold. A further possible explanation is that conversions might be acting as an alternative to new construction, so that by reducing new construction the conversions are indirectly altering the total housing stock compared to what would otherwise be the case (causing it to be less).

found. An additional possibility is that the model might have produced an incorrect estimate – this would not be unheard for a model that is based on 16 data points.

- All of this, said, several versions of the model were tested, with or without the conversions variable. All of the versions forecast similar outcomes (higher vacancy rates than prior to the recession), although the amounts of change vary.
- The City may find it worthwhile to investigate further, with two possible streams of research: firstly, to identify reasons that buildings have been removed from the CMHC survey and whether they represent bona fide changes from rental to ownership occupancy, and secondly - if there are significant number of real conversions - to replicate the HUD research approach for evaluating the impacts of conversions.
- Increases in rents (especially increases that exceed overall inflation or growth of income) tend to reduce rental demand and thereby increase vacancies. In the estimates generated by the forecasting model, a \$1 increase in the “real” (inflation adjusted rent) would result in about 12 more vacancies, which is a quite small impact. However, during the past three years, the average rent in Vancouver CMA has increased significantly, by \$39 in real terms - the estimates suggest that this will have slightly reduced demand. If not for this effect, the vacancy rate might be even lower than the 0.5% that was recorded in October 2008.
- Another factor that might affect the vacancy rate is resale market activity. In advance of the analysis, the impact of resale buying is not predictable:
  - We might expect that there would be no impact on vacancies, since purchase of a resale unit doesn’t generally affect either the total number of households or the total number of housing opportunities. Therefore, the total number of vacancies in the community would be unchanged.
  - However, it might happen that the purchases reduce vacancies in the ownership sector, which would result in an increase in rental vacancies.
  - The purchases could result in changes in the inventory of secondary suites (some new purchasers will add them but some might deconvert the space – and so the direction of this effect is unpredictable).
  - Overall, there is no clear expectation about whether changes in resale activity increase or reduce rental vacancies. In the analysis for Vancouver CMA, the estimates suggest that an increase in resale activity has a small negative impact on the apartment vacancy rate<sup>36</sup>. A similar finding has occurred for some (but not all) centres for which this model has been used.
  - Due to uncertainty about the impacts of resale market activity, two versions of the vacancy forecasting model were used, with and without resale activity. The two models project very similar outcomes (the rental market forecast is discussed below). Therefore, uncertainty about the impact of resale activity is not a critical issue in the analysis and forecasting of future market conditions.

Identification of these factors helps us to further interpret trends in the Vancouver CMA rental market. A chart shown earlier illustrates the relationship between vacancy rates and one of the key drivers – changes in employment. It can be seen that, in general:

- During periods of weak job growth the vacancy rate tends to rise (in 1991, during 1997 and 1998, and in 2002).

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<sup>36</sup> The estimated impact is a 1.8 unit reduction in vacancies for each 100 units sold.



- Conversely, during periods of strong job growth, the vacancy rate tends to fall (1994 and 1995, 2000 and 2001, and 2006 to 2008).
- There are some exceptions to this relationship: in 2003 employment grew very rapidly yet the vacancy rate increased substantially. This illustrates that employment is not the only factor – in 2003 there was a large increase in housing completions, which meant that many renters were able to leave the rental sector for home ownership, and there was more choice in the rental market (in newly-constructed rental buildings and in new investor-owned condominiums).

This discussion sets the stage for forecasts of vacancy rates and rent increases.

### ***Rental Market Forecast – Vancouver CMA***

Over many years, the author has developed a complex housing market forecast system. The system was initially developed for the Toronto CMA but the approach has been found to be useful in other areas of Canada (provinces and other urban areas). One of the outputs of this model is forecasts of vacancy rates and rent increases - those forecasts are based on other forecasts, for employment growth and supplies of new housing.

#### ***Overview of the Will Dunning Inc. Housing Forecast System***

*The forecasting system includes several modules that forecast employment growth and housing activity. The system includes feedback loops between components.*

- *The employment module forecasts the employment-to-population ratio, growth in population, and the level of employment, as a function of: prices for raw materials, the TSX stock market index, the Canada-US exchange rate, the yield on 5-year Government of Canada bonds, and house prices (inflation-adjusted). Future values for house prices are forecast in feedback loops. For the other variables, assumptions are made about future trends.*
- *Resale market activity (sales) is forecast as a function of employment growth and housing affordability. Listings, price change, and affordability are forecast in a feedback system.*
- *New home sales (ownership dwellings, low-rise and apartment) are forecast as a function of resale activity (sales and listings), affordability, and employment growth.*
- *Housing starts (ownership housing – low-rise and apartment) are forecast based on new home sales.*
- *Starts of rental units are forecast based on interest rates, rents, and vacancy rates, although in some locales vacancy rates have been found to be unimportant to rental starts.*
- *Vacancy rates are forecast based on job creation, housing activity (resale activity and completions of new ownership and rental dwellings), and the level of rents (in inflation-adjusted terms).*
- *Rent increases are forecast based on vacancy rates.*

*Components of the model may vary depending on conditions for different market areas. For Vancouver, estimated removals of rental units have been added to analysis of rental vacancies; historical new home sales data are not available for Vancouver CMA so that stage of the model was skipped.*

### ***The Employment Situation***

Until quite recently, local economies across Canada had been in quite good health, with continued job creation. This includes Vancouver CMA. However, during the first half of 2008 economies weakened and then late in the year employment fell sharply.

The table below shows using the employment-to-population ratios – the percentage of adults who are employed (also known as the employment rate) for the Vancouver CMA, British Columbia, and the Vancouver CMA.

**Table 3-2  
Employment Rates in Canada,  
British Columbia, and Vancouver CMA**

<i>Annual Average</i>	<i>Canada</i>	<i>British Columbia</i>	<i>Vancouver CMA</i>
1996	58.4%	60.0%	61.6%
1997	58.9%	60.0%	61.1%
1998	59.7%	59.2%	60.4%
1999	60.6%	59.7%	61.0%
2000	61.3%	60.2%	62.1%
2001	61.1%	59.0%	61.3%
2002	61.7%	59.6%	62.0%
2003	62.4%	60.3%	62.8%
2004	62.7%	60.9%	63.1%
2005	62.7%	61.8%	63.3%
2006	63.0%	62.5%	63.7%
2007	63.5%	63.5%	64.4%
2008	63.6%	63.5%	63.9%
2009 (October)	61.2%	60.6%	62.1%

Source: Statistics Canada

The rise in the employment rates during this decade, until a peak early in 2008, indicated a very healthy situation in which employment grew more rapidly than the population. Various factors contributed to this, including:

- Increases in wealth (through growth in housing values and rises in the stock market) which raised confidence and encouraged consumers and businesses to spend and invest.
- Low interest rates.
- Rising commodity prices benefitted areas of Canada that produce them (including British Columbia), but hampered regions that use commodities to produce finished goods.
- One factor that tempered economic growth during much of this period was a strengthening Canadian dollar, which made it more difficult for Canadians to sell goods and services to other countries.

During the past year, however, there have been reversals for most of these key economic drivers:

- The meltdown of the stock market and falling home values during the winter of 2008/09 reversed the wealth effects, making consumers and businesses much less willing or able to spend and invest. More recently, the strong recovery in stock indexes – although not back to pre-recession levels – and surging housing values have done much to restore confidence among consumers and businesses.

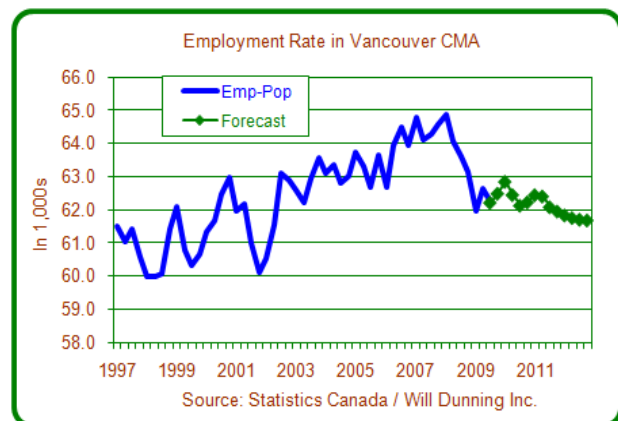
- Falling commodity prices hurt commodity-producing regions. Again, while there has been recovery of values for many commodities, in general, commodity indexes have not returned to pre-recession levels. The volatility has made it difficult for both producers and users of commodities to make investment and spending decisions.
- An unambiguously positive factor is that interest rates remain very low.
- The Canadian dollar has been quite strong, which makes it difficult for Canadians to compete in international markets.

In consequence of these changes, the employment situation deteriorated very sharply late in 2008 and the first quarter of 2009, and economic forecasts became very negative. Since then, improving conditions for key drivers have caused the economic recession to be less severe than had been anticipated and economic forecasts have become considerably less dire. At this time, discussions are about how strong the recovery might be.

Based on assumptions that seem reasonable to this analyst at this time, the employment rate for Vancouver CMA has been forecast. The assumptions include:

- The TSX stock index is assumed to be rise gradually from the current level (the assumed rate of increase is about 5% per year, which is in line with the long-term potential rate of growth for the Canadian economy).
- House prices are forecast within the forecasting system. As is discussed in more detail below, the modeling suggests that there will be further (but more gradual) increases in housing values in the Vancouver area.
- Interest rates are assumed to stay at current low levels until late in 2010 and then increase gradually.
- The Canadian dollar is assumed to strengthen further, to parity with the US dollar.
- Commodity prices are assumed to increase gradually, due largely to increasing demand in developing countries. In this scenario, commodity prices would be lower than during 2006 to mid-2008, but higher than during the first half of this decade.

The forecast that is illustrated in the chart to the right was developed during November 2009. It suggests that while the recession has ended, the rate of recovery would be moderate – the employment-to-population ratio would be roughly flat, meaning that employment would expand at the same rate as the population. In this scenario, the employment rate would fall slightly during 2011 and 2012 (meaning that employment would expand, but less rapidly than the population).



The modest recovery would be the consequence of:

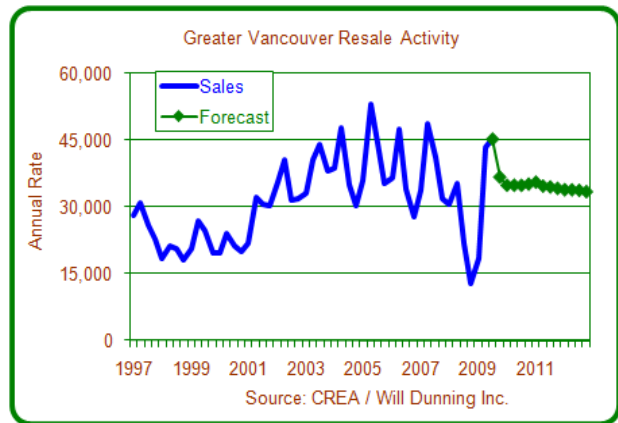
- The impacts of the weakened stock market, which would constrain spending by businesses and consumers.
- Slower growth of housing values would mean that the housing wealth effect would provide less economic stimulus than prior to the recession.

- Commodity markets weaker than during 2006 to 2008 would limit growth in related industries.
- The strong dollar would hamper export-oriented industries.

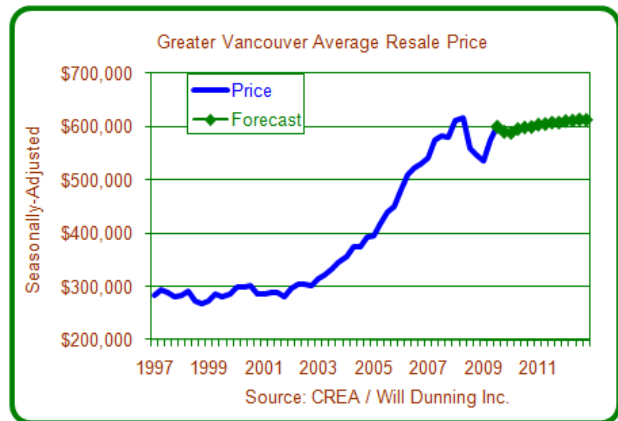
It is possible that this economic forecast is too conservative, and that the recovery might be more robust. Therefore, later in this section, an alternative scenario is developed in which this forecast for employment is replaced by one with slightly more rapid job creation.

Resale Housing Market

As is shown in the chart to the right, resale activity in Metro Vancouver was exceptionally strong during 2002 to 2007, but weakened during 2008<sup>37</sup>. With the continent-wide collapse of consumer confidence during the fall of 2008, sales collapsed. By the fourth quarter, sales had fallen to an annualized rate of about 12,800, a two-thirds reduction from the average rate of sales that had been seen during 2002 to 2007 (about 38,300 sales per year). The market slowdown was much more pronounced than for all of Canada, for which the reduction was 27% compared to the 2002-2007 average. The subsequent rebound of consumer confidence has resulted in a strong recovery of home sales and by the third quarter of 2009 activity was close to peak levels. This analyst takes the view (with support provided via the forecasting model) that the current high level of activity is partly due to catch-up for sales that did not occur during the winter, and that the sales rate may soon slow. The forecast shows sales settling down to a level that is still quite robust.



During 2002 to 2007, the average resale price almost doubled, increasing by 89%, or an average of 13.6% per year. The sharp reduction of sales during late 2008 and early 2009 caused housing values to fall. According to data from the Canadian Real Estate Association, as of the first quarter of 2009 the average resale price in Metro Vancouver was 12.5% lower than a year earlier. However, the average price has rebounded and at the time of writing is close to the record level seen in the first half of 2008. The forecast suggests that as sales slow in the coming months, the average price might fall back slightly.

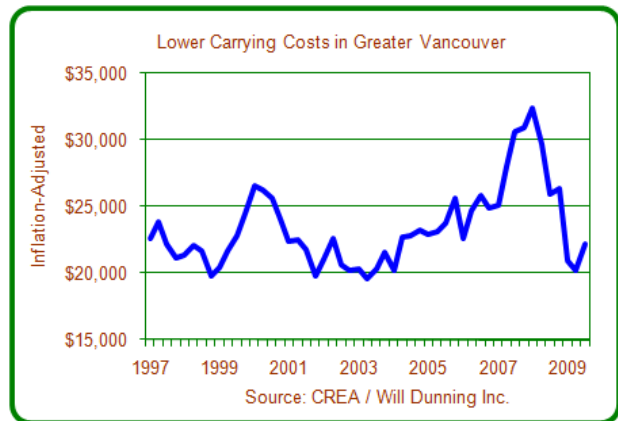


<sup>37</sup> This data from the Canadian Real Estate Association (“CREA”) captures all residential sales that occur through MLS®. As is noted by CREA, it does not include exclusive listings or private sales not marketed through MLS®, and excludes commercial, industrial and farm properties and vacant land.

Modeling of the Metro Vancouver resale housing market indicates that sales are influenced by an “investment motive”. This is not just purchasing of properties for investment purposes, but also includes the notion of buying more housing than one might otherwise, due to an expectation that values will rise rapidly. The modelling suggests that during 2002 to 2007 about 20% of resale activity in Metro Vancouver might have been induced by this investment motive. The consequence was that Vancouver experienced a housing bubble, in which expectations of rising prices became self-fulfilling. While most other areas of Canada saw strong housing activity during the same period, the data and the author’s modelling for other areas suggests that they were largely immune from this investment motive effect and did not experience housing market bubbles.

The flipside of an investment motive is that when there is a weakening of expectations about housing values, sales activity will slow sharply. This was demonstrated in Metro Vancouver during the fall of 2008 and winter of 2009. Looking forward, if during the next few years Vancouver experiences slower house price growth than it did earlier in this decade, housing activity would soften.

Of course, the investment motive is not the only factor in the housing market. Affordability has improved, due largely to reduced interest rates, but also to the price reductions seen earlier. The monthly cost of carrying a mortgage on an average resale property in Metro Vancouver is now about 30% lower than during 2007 and early 2008. Improved affordability is also providing support to current sales and should be a significant factor supporting continued relatively strong activity during 2010 to 2012. However, the greatest impacts of affordability are seen when there are changes in affordability – the impacts tend to be short-lived and dissipate over time. This is a secondary cause for the anticipation that sales will slow before long.



are changes in affordability – the impacts tend to be short-lived and dissipate over time. This is a secondary cause for the anticipation that sales will slow before long.

Over time, the most important factor for the resale market is the rate of job creation. As noted earlier, employment growth has slowed sharply in the past year: prior to the recession, employment has expanded more rapidly than the population, during the recession jobs were lost, and the recovery scenario is for employment to expand at about the same rate as the population. This creates a weaker economic environment than was seen earlier.

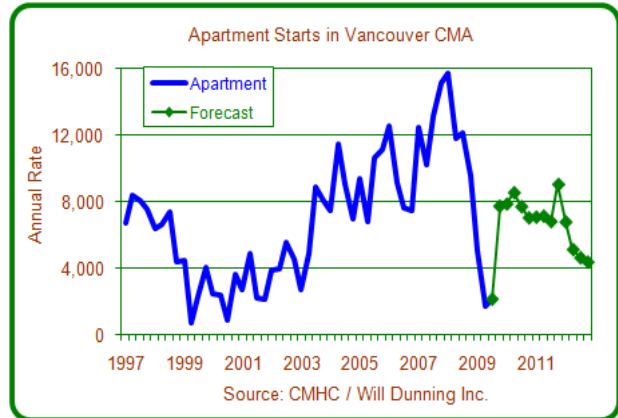
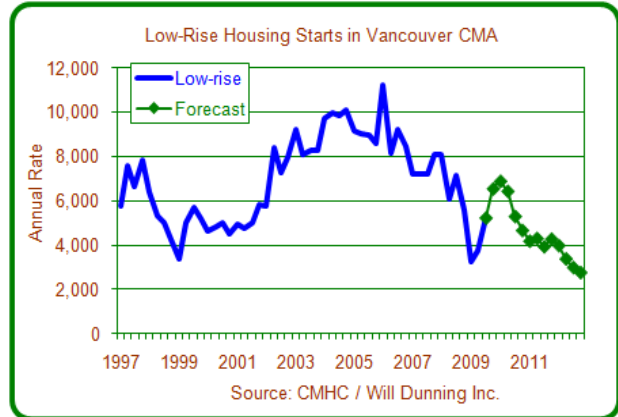
In conclusion, a strong economy and the “investment motive” resulted in strong sales and an upward spiral of prices during most of this decade. It seems likely that the upward spiral process may be at or close to an end. This process makes it difficult to forecast market trends, but it does seem likely that during the coming years the Vancouver resale housing market will be less robust than it has been during most of this decade.

New Housing Market

Housing starts in the Vancouver CMA increased rapidly during the first half of this decade, and then remained at high levels during 2004 to 2008. However, similar to the resale market, new housing starts turned late in 2008, falling sharply in Q4-2008 and further in Q1-2009.

Within the ownership sector, there were different patterns of activity for apartments and other dwelling types (single-detached, semi-detached, and town home units).

- Starts of single-family, semi-detached, and row units (grouped together as “non-apartment” housing) peaked in 2004, then fell slightly during 2005 and 2006, with a larger drop in 2007 (the charts show starts per quarter).
- Apartment starts, on the other hand, increased until 2008.
- In both sectors, starts fell very sharply during Q4-2008 and further in Q1-2009.
- Most recently, starts have recovered for low-rise homes, but as of the third quarter of 2009, apartment starts had not yet started to recover. This delayed activity in the apartment sector is attributable to the different production processes – it takes longer for apartments to reach the stage of progress at which a start is recorded.



Interpretations for these different trends include:

- Reduced housing affordability caused a shifting of consumer demand away from more expensive non-apartment housing options towards apartments that were relatively less expensive.
- Purchases by investors are more likely to occur in the apartment sector, as these properties can be easier to manage.
- The analysis model suggests that there is an investment motive in the new construction markets for both apartments and non-apartments, but that the investment motive is twice as strong for apartments as it is for the other types. Therefore, non-apartment activity was more closely aligned with underlying demand from owner-occupants, whereas apartment activity may have become misaligned relative to underlying demand. On this basis, it should be expected that a recession would cause a harder landing in the condominium apartment market than in the non-apartment sector.

Starts of ownership units (apartment and the non-apartment combined category) have been forecast based on forecasts for employment and the resale market, as well as the assumption that mortgage interest rates will remain relatively low (although rising gradually). The forecasts

of quarterly starts, which are illustrated in the charts above, suggest that housing starts may briefly rebound (due to the transitory effects of improved affordability and due to the rebound from an overly-negative reaction during the winter of 2008/09). But, the forecasts suggest that starts will decline further, due to the weakened employment situation and the softer resale market conditions.

In the rental sector<sup>38</sup>, CMHC recorded a moderate volume of purpose-built activity, which averaged about 600 units per year during 2004 to 2008 (this data excludes investor-purchased units that were constructed as condominiums).

In the forecasting system, rental starts are forecast based on a combination of the level of rents, vacancy rates, and interest rates. In general, rental starts are negatively related to the level of interest rates and vacancy rates and positively related to the level of rents (in inflation-adjusted terms).

- In previous analyses of various areas, the modeling has indicated that the “real” level of rents and interest rates are most important, but the level of vacancy rates is not very important. This finding makes sense in that current vacancy rates will tell the investor very little about future financial returns over a protracted holding period – mortgage interest costs and the level of revenue will be much more important in the decision to construct a new rental project.
- In the case of Vancouver CMA, none of these variables or combinations of them does a good job of “explaining” past rental starts and therefore they do not provide a basis for forecasting future starts. The most likely cause of this is that a significant share of starts of new rentals are non-profit (non-market, assisted) developments, and therefore they are influenced by government policies and programs rather than by market forces – the starts data does not indicate which starts were purely market and which were assisted. Future supplies of assisted rentals will depend upon the availability of government assistance.
- Moreover, given the changing financial environment, in which funding for new private market construction projects has become less available, a forecast of future private market rental starts based on past activity may not be very reliable.
- Given that interest rates are currently low and expected to remain low for some time to come, and that Vancouver CMA rents are currently at the highest level in 20 years, it should be expected that there would be some interest in developing new rental projects. Offsetting this, however, is the current funding environment, the high likelihood that excessive supplies of investor-owned condominiums will over-supply the high end rental market for the next few years (putting downward pressure on attainable rents for new rentals), as well as uncertainty about funding for new assisted housing projects.
- Therefore, in developing the forecasts for the Vancouver CMA rental market, it has been assumed that during 2010 to 2012, rental starts will be one-half of the average seen during 2004 to 2008, resulting in 300 starts per year.

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<sup>38</sup> In assigning the starts data to three sectors, the following approach was taken: the non-apartment ownership group includes all single-detached and semi-detached units and row starts not identified as rentals, the ownership apartment group includes all apartments not identified as rentals, and the rental group includes rows and apartments identified as rentals. This approach means that the non-apartment ownership grouping includes a few units identified as rentals (for example, for 2008, 19 single-detached units that were identified as rentals have been included within the low-rise ownership category).

The discussion above relates to housing starts. However, for the rental market, what matters is how many units are completed and become occupied.

With declining volumes of housing starts - a trend that is already well underway - the numbers of completions will be lower in future than during the past few years. This slowdown will occur sooner for low-rises than for apartments, due to longer construction periods for apartments.

### Rental Market Forecast

In the near term, the onset of an economic recession will reduce the demand for rentals:

- Reduced employment means fewer new households will be formed by young people, reducing movement into rentals.
- Some renters will move back with families or double-up with others.
- But, there will also be fewer moves out of rentals into home ownership and there will be some moves of home owners back to renting.
- More secondary units may be offered.
- Meanwhile, the housing that is now under construction will eventually become available for occupancy, and with the weaker economy, that supply will exceed the need, increasing vacancies in the total market (ownership and renter sectors combined). Most of the new completions will be in the ownership sector. More than 11,000 apartments have been completed since the last rental market survey (October 2008) and most of these are condominiums. These completions will have caused out-movements from the rental sector. Moreover, over 14,000 apartments were under construction at the end of September 2009, most of which are condominiums, and as these are completed there will be further out-moves from rentals.

It is possible that initially most of the rise in vacancies would be within the ownership sector. As the owners resolve those vacancies in the condo sector (by reducing prices and rents), there would be some shifting of vacancies to rentals.

The modeling of the Vancouver CMA rental market found causal relationships consistent with prior expectations, estimating the following impacts on the number of vacancies:

- Job creation results in fewer vacancies, since increasing employment results in a more demand for rentals. In these results, each 1,000 new jobs reduced the number of vacant units by 34. This is a similar magnitude compared to other centres for which the modeling has been employed.
- Resale market activity has a small impact on the number of vacancies. In the case of Vancouver CMA, the analysis suggests that each 1000 resales results in 1.8 fewer rental vacancies. As is discussed elsewhere, for this factor there are several impacts and it is not clear in advance whether there should be a positive or negative effect. In any event, the magnitude of this factor is not very large.
- Completions of low-rise and apartment ownership dwellings cause higher vacancies, with a statistical factor of 16 more vacancies for each 100 units completed.
- For each 100 completions of rental units the impact (statistically) is 134 more vacancies.
- Higher rents (in inflation-adjusted terms) reduce rental demand and increase vacancies. Each \$1 rise in the “real” average rent results in 12 more vacancies.

- Each removal of a rental unit from the existing inventory results in a 0.5 unit reduction in vacancies. The modeling mechanically projects that there would be continued removals from the inventory (1,500 units in 2009, 1,200 in 2010, and 1,000 in 2011 and 2012). However, it seems prudent to assume that there will be fewer removals going forward, due to the change in the economy and the home ownership market, and the financial environment. A modification made to the model generates estimates that removals will amount to 500 units per year.

Given that the analysis is conducted on annual data, over a prolonged period, the statistical factors should not be seen as definitive and immutable. However, they do provide a basis for forecasting future changes in the number of vacancies and vacancy rates.

This modeling exercise suggests that the Vancouver CMA vacancy rate will rise sharply in 2009, due to the downturn of employment combined with the high volumes of housing completions that have occurred: more housing has become available for occupancy and there are probably fewer new households available to occupy them. The resumption of job creation would lead to rising demand for rentals and falling vacancy rates during 2010 to 2012.

In reality, there is uncertainty about where those future vacancies will be – they could be concentrated within the ownership sector, in which case the rental vacancy rates will be less than projected.

These caveats established, the forecast vacancy rates are:

- 2.6% in October 2009 (up sharply from 0.5% in 2008).
- 2.2% in 2010.
- 1.8% in 2011.
- 1.3% in 2012.

Based on these forecast vacancy rates, rents might fall in actual dollars in 2009, because the vacancy rates would be above the balanced market vacancy rate (which is somewhere under 2%, as was discussed earlier). Rents would increase during 2010 to 2012. If the vacancy rate rises to the levels suggested above, rents might fall in actual dollars, from \$1,030<sup>39</sup> in October 2008 to \$1,006 in 2009, but then increase to \$1,017 in 2010, \$1,035 in 2011, and \$1,065 in 2012.

The forecast above is based on an assumption that there will be a reduction in removals from the rental inventory. If removals are assumed to be at the higher rates that were indicated above, the vacancy rates would fall more rapidly, to 0.6% by 2012, and rents would increase more rapidly (reaching an average of \$1,100 by 2012).

Other combinations of modelling were used (different combinations of factors that influence changes in vacancies). The alternative approaches also forecast that the vacancy rate would increase in 2009 but then fall during 2010 to 2012.

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<sup>39</sup> As was noted earlier in this section, the average rents utilized in this analysis may differ from those reported by CMHC, because they are based on an index approach, which holds the mix of units by type stable from year-to-year. This is done to avoid the data distortions that might result from a shift in the actual mix.

### ***Another Opinion – CMHC Forecasts***

Forecasts released by CMHC in November 2009 for the Vancouver CMA housing market are broadly similar in direction:

- CMHC forecasts that employment will fall by 0.5% in 2009 (versus 0.2% in this analysis) and in 2010 would rise by 2.0% (versus 2.1% in this analysis). Total employment in 2010 would be 1,260,000 in the CMHC forecast, virtually identical to 1,265,000 in this forecast.
- Resale activity is forecast at 33,000 units in 2009 (versus about 36,000 in this forecast) and 35,000 in 2010 (the same as in this analysis).
- The average resale price is projected to fall by 2.3% in 2009 (versus 2%) and rise by 4.3% in 2010 (versus 2.3%).
- Housing starts are forecast at 9,000 in 2009 (versus 9,300) and 13,000 in 2010 (versus 13,900).
- In the CMHC forecasts the vacancy rate would rise to 1.2% in 2009 (considerably less of a rise compared to this forecast of a 2.6% vacancy rate. CMHC sees a further increase to 1.5% in 2010 (versus 2.2% in this forecast).
- CMHC's expectations about rent increase differ, as it forecasts rent increases at 3.5% in 2009 and 4% in 2010, while this forecast suggests that rents may fall by 2.4% in 2009 and then recover partially in 2010 (by 1.1%).

Overall, CMHC's forecasts are similar to those developed here. However, CMHC's expectations of lesser increases in vacancies and continued rapid rent increases would imply more rapid growth of housing need compared to the scenarios that are developed in Part 5 of this report.

### ***A Different Economic Scenario***

The scenario developed above projects that the Vancouver area will experience a moderate recovery from the recession, with employment expanding more-or-less at the same rate as the population. This would result in an essentially flat employment-to-population ratio, at a level that is substantially lower than prior to the recession. Given the high level of uncertainty about the economic outlook, as well as the volatility in the recent data, this section briefly discusses an alternative scenario. In this scenario it is assumed that the employment-to-population ratio will rise gradually during 2010 to 2012 (in other words, employment will grow slightly more rapidly than the population). By the fourth quarter of 2012, the employment-to-population ratio would be 63.0%, which would be lower than during the second half of this decade (when the average was 63.6%), but higher than during the first half (when the average was 62.3%).

The slightly more rapid rate of employment growth in this scenario results in increased housing demand. In the short term - for the remainder of 2009 and much of 2010 - there is little difference between this scenario and the earlier one: housing activity will be dominated by the negative change in the job market that occurred earlier this year.

In this scenario, it is assumed that there will be a moderate rate of removals (500 units per year) from the rental sector.

The vacancy rate climbs, to 2.6% in 2009, in both scenarios. However, during 2010 to 2012:

- Resale activity and housing starts are incrementally stronger relative to the first scenario, which results in slightly more housing completions (and more movements out of rentals).
- But, the increased employment results in more household formation and movements into rentals.
- Consequently, the vacancy rate falls slightly more rapidly in this scenario than in the first scenario: to 2.1% in 2010 (versus 2.2% in the first scenario, 1.6% in 2011 (versus 1.8%) and 0.8% in 2012 (versus 1.3%). The lower vacancy rates cause rents to slightly more rapidly in this scenario (to an average of \$1,080 in October 2012, an increase of about 5% versus the actual figure of \$1,030 for October 2008. In the first scenario, the October 2012 rent is \$1,065 (about 3.5% higher than in 2008).

### ***Some Interim Rental Market Data***

CMHC conducts its main rental market survey in October each year, and the results are released in December. An update survey is completed each April (using a reduced sample). The April 2009 rental market survey shows that for Vancouver CMA, the vacancy rate increased to 1.9%, versus rates of 0.9% in April 2008 and 0.5% in October 2008. The increase compared to last fall could be partly a seasonal effect – in many communities, especially those with large student populations, vacancy rates are higher in April than in October. In Vancouver CMA, for both 2007 and 2008, the April rate was 0.9%, slightly higher than the 0.7% vacancy rates seen in the prior Octobers, suggesting that there is a modest seasonal effect in the Vancouver rental market. However, since the April survey has only been completed for three years it is premature to draw conclusions on the strength of a seasonal effect in Vancouver. That said, given that that the vacancy rate this April is roughly double the rate seen in the two prior Aprils, it seems reasonable to conclude that the developing economic recession has sharply reduced demand for rental accommodation in Vancouver CMA.

Based on this new data, it appears highly likely that the October 2009 vacancy rate will be much higher than in October 2008, and may exceed 2%.

CMHC also reported that the year-over-year rate of rent increase was 2.8% this April<sup>40</sup>, which is a rapid deceleration from the rate of 4.3% as of October 2008 and 5.2% in April 2008. This data implies that rents have increased little during the past half year.

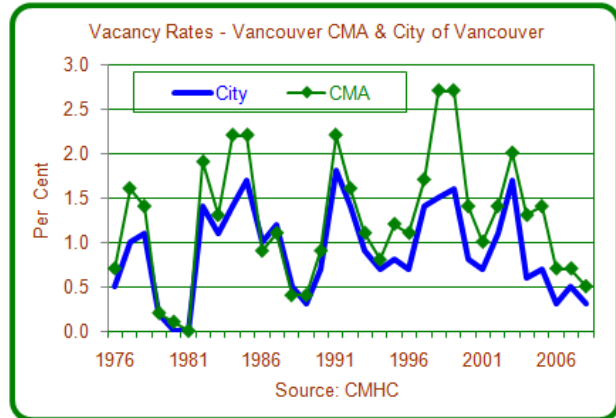
Unfortunately, CMHC publishes April rental market data for CMAs only, and therefore the current vacancy rate for the City of Vancouver is unknown. It is very likely that the City's rental market also has more vacancies than in 2008.

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<sup>40</sup> These rates of rent increase are based on subsets of the survey sample for which rent data are available at both ends of the 12-month period.

### **Rental Market - City of Vancouver**

The vacancy rate in the City of Vancouver is generally lower than the rate for the CMA. In 33 years (as is shown in the chart to the right), the vacancy rate was higher than the CMA rate in only three years, and in each of those three years the difference was just 0.1 percentage point. Over the 33 years, the vacancy rate averaged 0.9% in the City and 1.2% in the CMA.



Vacancy rates for the City of Vancouver portray a prolonged situation of critical shortages. The vacancy rate averaged just 0.9% during 1998 to 2008 and has been less than 1% in each of the past five years. The very low vacancy rates have contributed to rapid rent inflation:

- During 1998 to 2008, the average rate in the City rose by 32%. With total inflation over the period at about 22%, the average rent rose by 8.5% in inflation-adjusted terms.
- During the past three years, with the vacancy rate at 0.5% or lower in each year, rents increased by an average of 3.7% per year in actual dollars and 1.6% per year in inflation-adjusted dollars.

Later in this section there is more discussion of the City's rental market, including: detailed data on rental trends (vacancy rates and changes in rents by rent quintile), vacancy rates and rents by CMHC survey zone, and the distribution of rental housing by type.

### **Rental Market Forecast – City of Vancouver**

The forecasting system has been applied to data for the City of Vancouver. Since time series data on employment and resale activity are available only at the regional level, the forecasting system uses the values developed for the Vancouver CMA. However, data and forecasts for housing starts and completions and the rental market are explicit to the City.

#### Housing Starts and Completions Forecasts

Based on the regional-level forecasts for employment and the resale market, housing starts within the City are projected to be significantly lower during 2009 to 2012 than during the earlier years of this decade:

- Total housing starts are projected to average about 2,550 units per year during 2009 to 2012, 40% lower than the average of 4,248 seen during 2000 to 2008.
- Starts of single-detached and semi-detached units are projected to average 450 units per year, 43% lower than the prior average of 788 units per year.
- For the more significant component of apartment and row projects intended for home ownership, starts are projected to fall by 32%, to about 2,000 units per year, versus close to 3,000 units per year during 2000 to 2008.

- Analysis of rental starts (row and apartments combined) was unable to develop a reliable forecasting model (as was the situation for the Vancouver CMA). In the absence of a model, it is assumed that rental starts will be one-half the average of the past five years, or 115 units per year.

Based on the anticipated low levels of housing starts, volumes of housing completions will soon fall.

### Rental Market Forecast

While housing completions will slow, there will still be high volumes of housing completions, leading to continued movements out of rentals. At the same time, the weakened employment growth will result in reduced movements of new tenants into the rental sector. The result is likely to be an increase in vacancies for the City.

As was discussed for the Vancouver CMA, the combination of a weak employment and high volumes of housing completions will result in an increase in vacant housing, but there is uncertainty about how those vacancies will be distributed across the ownership and rental sectors.

A further factor and a cause of uncertainty (as for the Vancouver CMA) is the extent to which there will be removals from the rental inventory and the impact on vacancies. Based on past trends, this is likely to be a less significant factor for the City than for the entire CMA:

- During the entire analysis period covered by the forecasting model (1993 to 2008), estimated removals averaged about 775 units per year for the City, which is slightly less than one-half of the average for the CMA (about 1,700 units per year). Therefore, removals within the City have been roughly in proportion to the City's share of the CMA rental inventory.
- However, based on recent trends, the rate of removals for the City may average about 450 units per year during 2009 to 2012, versus about 1,200 units per year for the Vancouver CMA.
- In addition, based on the statistical analysis, each removal from the City's inventory has less of an impact than for the CMA: for the Vancouver CMA each removal of a rental unit is associated with a 0.5 unit reduction of rental vacancies; for the City the factor is less, as each removal is estimated to reduce vacancies by 0.3 units.
- Data from the City of Vancouver indicates that during the 16 years covered by the forecasting model demolition permits were issued for a total of 2,118 market housing units in multiple unit structures (structures with three or more units). The average over the period (132 units per year) equates to 17% of the estimated removals (775 units per year) during the same period<sup>41</sup>. By contrast, as was just noted, the modeling estimates that each removal from CMHC's rental market inventory reduced vacancies by 0.3 units. This combination of data suggests that most of this impact of removals is due to demolitions; other causes for removals (such as data cleaning by CMHC or conversions) may not cause much change for vacancies in the City.

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<sup>41</sup> The City demolition permits data also indicates that demolition of non-market multiples averaged 70 units per year during the analysis period of 1993 to 2008. These demolitions could potentially affect vacancies within the rental market, if the related reduction in supply in the assisted sector causes demand to shift to the market sector.

- While it seems clear that demolitions of rental housing directly reduce vacancies, if the land is used to develop new housing, the new housing would tend to result in increased vacancies. The modelling indicates that each completion of a new home ownership unit results in a 0.10 increase in vacancies. The overall impact of demolitions on vacancies is difficult to determine, and will depend on particular circumstances (including the ratio of the number of units removed to the number added, as well as the physical type and market positioning of the new housing and the extent to which that new housing results in a reduction of rental demand by encouraging movement to home ownership).

Combining the forecasts and assumptions for the various inputs (including the expectation that employment will be weak), the vacancy rate for the City of Vancouver is forecast to increase each year:

- 0.7% in October 2009 (versus 0.3% in 2008).
- 0.9% in 2010.
- 1.0% in 2011.
- 1.2% in 2012.

The projected increases for the City are in contrast to the forecast that vacancies will fall in the entire CMA. By 2012, the vacancy rate for the City (1.2%) would be essentially identical to the rate for the entire CMA (1.3%). The different patterns for the City versus the CMA are due to high volumes of housing completions within the City. In addition, the City's rental market seems to be less sensitive to changes in employment than is the entire CMA.

Analysis of past rent increases indicates that the balanced market vacancy rate for the City is 1.4% (lower than the 1.9% rate for the CMA). With the vacancy rate projections shown above, rents would increase by more than the overall inflation rate each year. In actual dollar terms, changes would be as follows: from the average of \$984 in 2008 to \$1,003 in 2009, \$1,022 in 2010, \$1,043 in 2011, and \$1,069 in 2012.

If it is assumed that the rate of removals is reduced by one-half, then the vacancy rate is forecast to increase slightly more rapidly, reaching 1.5% in 2012. Rent increases are also slightly less rapid, and the average rent reaches \$1,050 in 2012.

In the alternative economic scenario (in which employment in the Vancouver CMA grows slightly more rapidly, vacancy rates are slightly lower than in the first scenario. By 2012, the vacancy rate is 1.1% (versus 1.2% in the first scenario). In this alternative, rents increase slightly more rapidly, and by 2012 the average rent is \$1,072.

### ***Final Comment on the Rental Market Outlook***

As was noted earlier, while vacancies are expected to increase in the Vancouver housing market there is uncertainty about how these will be distributed across the rental and home ownership sectors. Initially, the rise in vacancies might be concentrated in the condominium apartment sector, with less impact on the traditional rental market. In that event, the apartment vacancy rates in the CMA and the City would be lower than forecast. While there is uncertainty about this mix, it does appear most likely that during the next three years vacancy rates will be higher than during the past three years.

Clearly, there is a high level of uncertainty about economic prospects in the Vancouver area and across much of the world.

There is also uncertainty about the extent to which rental inventories are being removed, the causes of the removals, the impacts on the market, and the future volumes of removals.

The message from the scenarios developed here and from the CMHC forecasts is that for the next few years, it is most likely that the Vancouver CMA rental housing market will be somewhat depressurized compared to the extremely tight conditions seen during the prior three years.

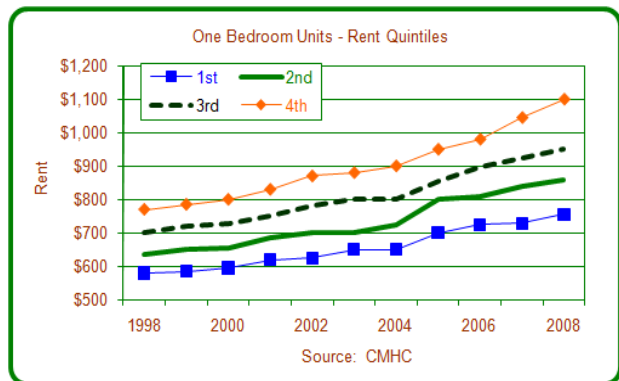
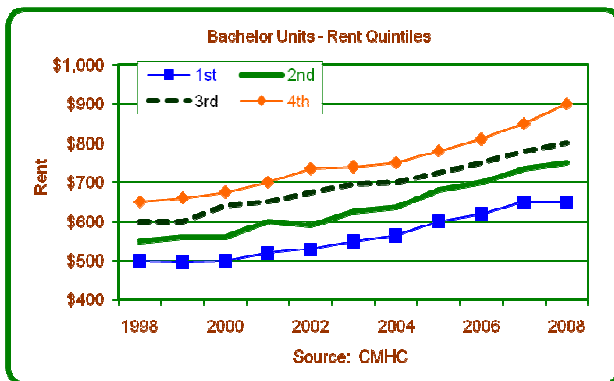
For the City of Vancouver, in which vacancy rates are among the lowest in the country and rents are the highest, the degree of depressurization is projected to be relatively modest. In the various scenarios, the City's vacancy rate remains close to 1%, which is sufficiently low that rents will likely rise by more than the overall inflation rate. The City's rental market is expected to remain very challenging for tenants.

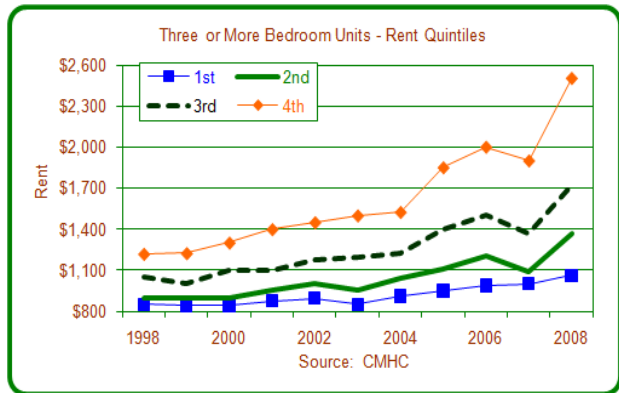
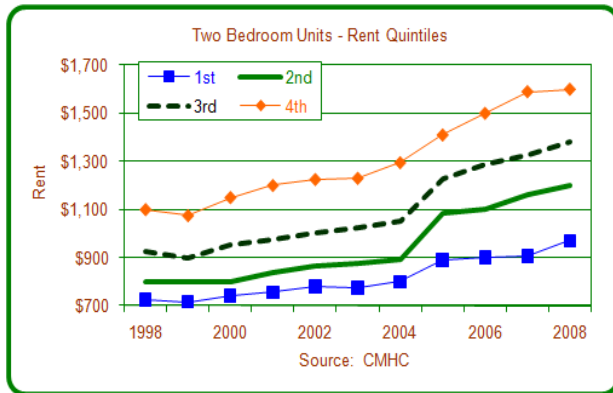
**Detailed Data on Rental Trends**

A key question in understanding the state of the rental market, and the implications for current and future housing need, is the extent to which there are different conditions in different segments of the market. For example, while the City's vacancy rate has recently been at extremely low levels and rents are increasing rapidly, changes in housing needs will be influenced by the extent to which the adverse conditions are found in the lower parts of the rental and income spectrum.

This section relies on data obtained via a custom tabulation of CMHC rental market data. It divides the City of Vancouver rental apartment market by rent quintile, showing vacancy rates and rates of rent increase by quintile.

The data provided by CMHC is summarized in a set of charts, followed by a table. The data shows that rent increases have been least rapid in the lowest fifth of the rental market (the first quintile). Even so, the rent increases for this segment have exceeded overall inflation. Inflation totalled 21.8% in the 10-year period, but rent increases for the lowest quintile were higher: 30.0% for bachelor units, 30.2% for one bedroom units, 33.8% for two bedroom units, and 24.7% for units with three or more bedrooms. Rent increases were even more rapid for the higher rent quintiles, as is shown in the table.





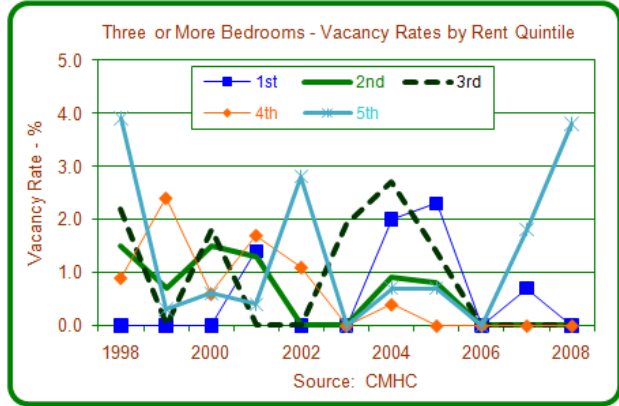
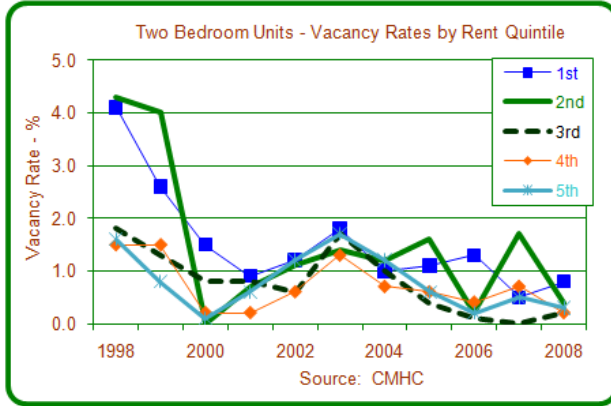
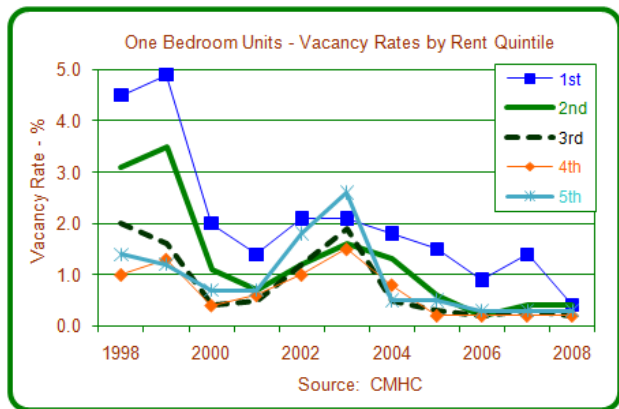
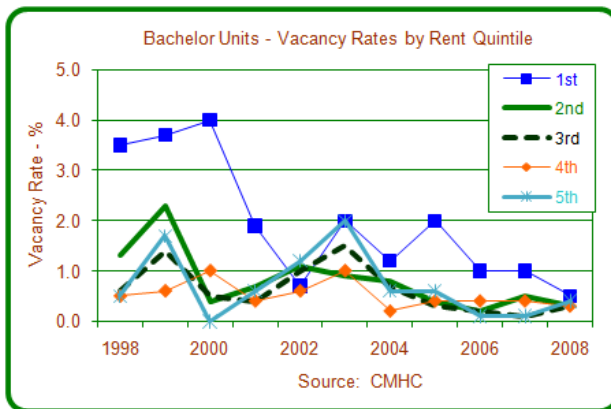
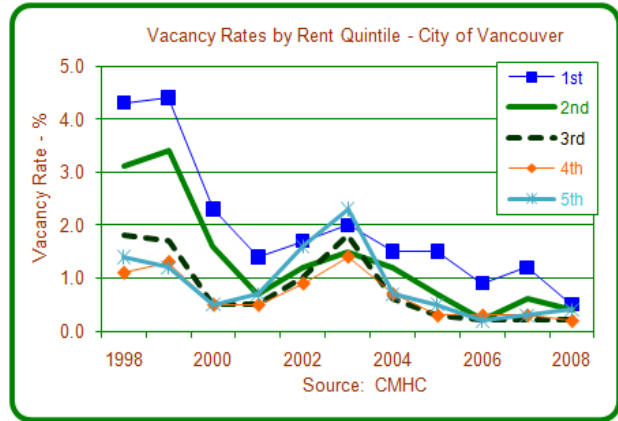
The charts and table illustrate that rent increases were more rapid during the second half of the 10-year period than during the first half. As vacancy rates fell to critically low levels, rent increases accelerated. The table shows increases in these quintile rent thresholds for the entire period and then for two five year periods, with similar breakdowns for overall inflation and average weekly wages. The data indicates that during the first half of the period, rent increases were in general not substantially different than the changes in wages and overall inflation, but during the second half, rent increases were far in excess of both inflation and wage growth.

**Table 3-3**  
**Rent Increases in the City of Vancouver,**  
**By Rent Quintile, 1998 to 2008**

Unit Type	Period for Calculation	1 <sup>st</sup> Quintile	2 <sup>nd</sup> Quintile	3 <sup>rd</sup> Quintile	4 <sup>th</sup> Quintile
Bachelor	1998-2008	30.0%	36.4%	33.5%	38.5%
	1998-2003	10.0%	13.6%	15.8%	13.8%
	2003-2008	18.2%	20.0%	15.3%	21.6%
1 Bedroom	1998-2008	30.2%	35.4%	35.7%	42.9%
	1998-2003	12.1%	10.2%	14.3%	14.3%
	2003-2008	16.2%	22.9%	18.8%	25.0%
2 Bedroom	1998-2008	33.8%	50.0%	49.2%	45.5%
	1998-2003	6.9%	9.4%	10.8%	11.8%
	2003-2008	25.2%	37.1%	34.6%	30.1%
3+ Bedroom	1998-2008	24.7%	52.2%	63.8%	104.9%
	1998-2003	0.0%	5.9%	13.3%	23.0%
	2003-2008	24.7%	43.7%	44.5%	66.7%
Inflation (CPI for Vancouver)	1998-2008	21.8%			
	1998-2003	9.8%			
	2003-2008	11.0%			
Average Weekly Wage in BC (Full-Time Employment)	1998-2008	25.3%			
	1998-2003	11.2%			
	2003-2008	12.6%			

Source: Canada Mortgage and Housing Corporation, Rental Market Survey custom tabulation

The data on vacancies by rent quintile shows that vacancy rates have been highest for the lowest rent quintile (which explains why this group has seen slower rent increases than the upper quintiles). The second lowest rent quintile has usually had vacancy rates lower than for the third, fourth, and fifth quintile. This pattern holds for all unit types combined (the chart to the right). For the individual unit types (illustrated in the four following charts) there are some variations, but there is a pattern of the lowest quintile have the highest vacancy rates most of the time.



**Variations Across the City of Vancouver**

The CMHC rental market survey divides the City of Vancouver into 10 survey zones. As is shown in the following table, during the past four years, vacancy rates have been lowest in zones 1 to 6: in each of these zones, vacancy rates have consistently been less than 0.5%, and the average vacancy rates over those periods have been less than 0.3%. To the contrary, in zones 7 to 10, vacancy rates have been higher, although volatile from year to year. In each of those four zones the vacancy rates have averaged 0.8% or higher. In aggregate, the vacancy rate in these zones has averaged about 1.0% during the past four years, versus about 0.2% in zones 1 to 6. In the most recent data, as of October 2008, it does appear that the vacancy rates

in zones 7 to 10 have fallen closer to the rates seen in zones 1 to 6. However, given the volatility of the vacancy rate data for zones 7 to 10, it may be premature to draw a conclusion that vacancy rates are converging. On the other hand, it does seem plausible that, given the very low vacancy rates (and high rents) in zones 1 to 6, rental demand may have shifted towards the eastern zones.

**Table 3-4**  
**Vacancy Rates in the City of Vancouver, by CMHC Survey Zone**

Zone	Description	Oct 2005	Oct 2006	Oct 2007	Oct 2008
1	West End/Stanley Park	0.2	0.2	0.1	0.1
2	English Bay	0.2	0.2	0.4	0.3
3	Downtown	0.4	0.1	0.2	0.2
4	South Granville/Oak	0.3	0.2	0.3	0.2
5	Kitsilano/Point Grey	0.3	0.0	0.1	0.1
6	Westside/Kerrisdale	0.2	0.1	0.4	0.3
7	Marpole	1.5	0.6	0.8	0.7
8	Mount Pleasant/Renfrew Heights	1.2	0.3	1.1	0.5
9	East Hastings	2.1	1.7	1.0	0.4
10	Southeast Vancouver	1.5	0.4	1.1	0.5
City of Vancouver		0.7	0.3	0.5	0.3

Source: Canada Mortgage and Housing Corporation, Rental Market Report, various issues

The next table shows that average rents<sup>42</sup> are considerably higher in CMHC survey zones 1 to 6 than in zones 7 to 10. Rates of rent increase (calculated as the average annual increase during 2005 to 2008) vary across the survey zones:

- Zones 1 to 3 (west end and downtown), have seen rapid rates of rent increase, which is consistent with the persistently low vacancy rates in these zones.
- Despite having similarly tight rental markets, zone 4 (South Granville/Oak) and zone 5 (Kitsilano/Point Grey) and zone 6 (Westside/Kerrisdale) have seen less robust rent increases.
- During 2005 to 2008 rent increases were most rapid in zone 9 (East Hastings). The vacancy rate in this zone has fallen considerably since mid-decade. It appears that demand may have shifted into the zone from the less affordable, low vacancy zones to the west and north, causing this rental market to tighten and rent increases to accelerate.
- The two lowest cost zones (zone 7 – Marpole – and zone 8 – Mount Pleasant/Renfrew Heights) saw moderate rent increases during 2005 to 2008. While their vacancy rates have tightened, they still have the highest vacancy rates in the City.
- Zone 10 (Southeast Vancouver) recorded the weakest rate of rent increase during 2005 to 2008, as it has the least opportunity to receive demand that shifts out of the higher cost zones to the west.
- Rates of rent increase have been essentially the same in the lower cost zones (7 to 10, an average of 3.5% per year) as in the higher cost zones (1 to 6, an average of 3.8%).

<sup>42</sup> As noted previously, the average rents reported here use fixed weights by bedroom type, to reduce the distortions that may be caused by changing compositions. In addition, the averages shown here for the survey zones omit units with three or more bedrooms, as that data is occasionally suppressed in the CMHC tables. Therefore, the average rents shown here differ from those reported by CMHC.

- During this period, rents have increased at about the same rate as growth in average weekly wages (which was 3.6% per year<sup>43</sup>). This implies that affordability might not have changed very much during this interval.

**Table 3-5**  
**Average Rents by CMHC Survey Zone, City of Vancouver**

	<i>Bach</i>	<i>1 BR</i>	<i>2 BR</i>	<i>3 BR</i>	<i>Average Rent (1)</i>	<i>% Change</i>
<b>Zone 1</b>	<i>West End/Stanley Park</i>					
2005	\$715	\$893	\$1,470	\$2,236	\$930	
2006	\$739	\$935	\$1,483	\$2,150	\$965	3.8%
2007	\$809	\$998	\$1,636	\$2,717	\$1,040	7.8%
2008	\$807	\$1,031	\$1,611	\$2,419	\$1,060	1.9%
Average Increase						4.4%
<b>Zone 2</b>	<i>English Bay</i>					
2005	\$747	\$912	\$1,266	\$1,419	\$924	
2006	\$756	\$903	\$1,359	\$1,732	\$928	0.4%
2007	\$804	\$957	\$1,461	\$2,374	\$986	6.3%
2008	\$855	\$1,023	\$1,507	\$2,081	\$1,048	6.3%
Average Increase						4.3%
<b>Zone 3</b>	<i>Downtown</i>					
2005	\$741	\$932	\$1,465	\$1,589	\$953	
2006	\$781	\$988	\$1,529	\$1,956	\$1,007	5.6%
2007	\$793	\$1,021	\$1,541	\$1,730	\$1,033	2.6%
2008	\$842	\$1,067	\$1,610	\$2,401	\$1,082	4.8%
Average Increase						4.3%
<b>Zone 4</b>	<i>South Granville/Oak</i>					
2005	\$710	\$858	\$1,192	\$1,507	\$889	
2006	\$722	\$881	\$1,254	\$1,598	\$917	3.1%
2007	\$732	\$912	\$1,334	\$1,765	\$953	3.9%
2008	\$753	\$952	\$1,364	\$1,538	\$988	3.7%
Average Increase						3.6%
<b>Zone 5</b>	<i>Kitsilano/Point Grey</i>					
2005	\$776	\$867	\$1,227		\$917	
2006	\$816	\$910	\$1,288		\$963	5.0%
2007	\$876	\$975	\$1,409	\$1,701	\$1,037	7.7%
2008	\$800	\$953	\$1,365	\$2,036	\$1,004	-3.1%
Average Increase						3.1%
<b>Zone 6</b>	<i>Westside/Kerrisdale</i>					
2005	\$707	\$946	\$1,486	\$2,093	\$1,109	
2006	\$729	\$974	\$1,488	\$1,992	\$1,128	1.7%
2007	\$736	\$997	\$1,551	\$2,056	\$1,163	3.1%
2008	\$763	\$1,037	\$1,562	\$2,148	\$1,193	2.5%
Average Increase						2.5%
<b>Zone 7</b>	<i>Marpole</i>					
2005	\$591	\$683	\$875	\$1,017	\$710	
2006	\$615	\$712	\$905	\$1,194	\$739	4.0%
2007	\$642	\$721	\$929	\$1,057	\$752	1.8%
2008	\$663	\$761	\$967	\$1,085	\$790	5.0%
Average Increase						3.6%
<b>Zone 8</b>	<i>Mount Pleasant/Renfrew Heights</i>					
2005	\$603	\$723	\$912	\$1,033	\$739	
2006	\$645	\$729	\$942	\$1,066	\$753	1.9%
2007	\$642	\$733	\$954	\$1,036	\$758	0.6%
2008	\$620	\$778	\$1,029		\$799	5.5%
Average Increase						2.7%

**Continued...**

<sup>43</sup> This calculation compares the average annual values for 2005 and 2008, for weekly wage for full-time employees in British Columbia.

<i>...Continued</i>						
<b>Table 3-5</b>						
	<i>Bach</i>	<i>1 BR</i>	<i>2 BR</i>	<i>3 BR</i>	<i>Average Rent (1)</i>	<i>% Change</i>
<i>Zone 9 East Hastings</i>						
2005	\$589	\$672	\$877	\$920	\$697	
2006	\$601	\$721	\$955	\$929	\$746	7.0%
2007	\$677	\$709	\$866	\$880	\$733	-1.7%
2008	\$713	\$770	\$1,043	\$991	\$812	10.7%
Average Increase						5.2%
<i>Zone 10 Southeast Vancouver</i>						
2005	\$688	\$771	\$1,059	\$1,015	\$863	
2006	\$704	\$794	\$1,099	\$1,151	\$892	3.3%
2007	\$722	\$829	\$1,117	\$1,054	\$920	3.1%
2008	\$681	\$821	\$1,120	\$1,141	\$913	-0.7%
Average Increase						1.9%
Source: Canada Mortgage and Housing Corporation, Rental Market Report, various issues						
Note: (1) calculation of weighted average rent excludes three bedroom units						

### **Rental Inventories in the City of Vancouver**

The City of Vancouver is a significant location for rental housing within the Vancouver CMA. As is shown in the following table, while the City has just over one-quarter of the population of the Vancouver CMA and less than one-third of its households, it has close to one-half of the occupied rental units.

<b>Table 3-6</b>						
<b>Rental Inventories in the City of Vancouver versus Reference Areas, 2006</b>						
	<i>City of Vancouver</i>	<i>Rest of CMA</i>	<i>Vancouver CMA</i>	<i>British Columbia</i>	<i>Canada</i>	<i>City as % of CMA</i>
Population	578,041	1,538,540	2,116,581	4,113,487	31,612,897	27.3%
Occupied Dwelling Units	253,380	563,850	817,230	1,643,150	12,437,465	31.0%
Occupied Rental Units	131,535	153,510	285,045	493,995	3,878,500	46.1%
% of Dwellings Occupied by Tenants	51.9%	27.2%	34.9%	30.1%	31.2%	
Source: Statistics Canada, 2006 Census Profiles						

Within the City, a high proportion (77.7%) of the occupied rental stock is within apartment buildings (in the Census data this combines two categories, apartments in buildings with five or more storeys and apartments in buildings with less than five storeys). In the rest of the Vancouver CMA, 57.1% of rentals are in apartment buildings; for all of Canada, 67.1% of occupied rentals are within apartments buildings.

In the Vancouver area, a high proportion of rentals are within duplex units (typically, these are dwellings that were originally constructed as single-detached homes and have been converted to two self-contained units). For all of Canada, 8.5% of occupied rentals are in duplexes, whereas in the City of Vancouver the proportion is 13.5% and for the rest of the CMA it is 16.5%.

In the City, a low proportion (8.7%) of rentals are within other structural types of dwellings (single-detached, semi-detached, row units, movable dwellings, and single-attached). Proportions are higher for the rest of the CMA (26.4%) and all of Canada (24.4%). In the City, just 3.1% of rentals are in row structures, well below the shares for the rest of the CMA (8.9%) and Canada (6.6%).

The initial impression from this data on dwelling types is that the City of Vancouver may have relatively few rental units that are suitable for families.

Statistics Canada data obtained by the City (from the 2006 Census) shows differences within the Vancouver CMA. The data (shown in the next table) indicates that within the City, just one-third (34.3%) of tenant-occupied units have two or more bedrooms; for the rest of the CMA the proportion is considerably higher, at 55.9%. The detailed data indicates that this is partly the result of the composition of the rental inventories by structural type: within the City more than three-quarters of the rental inventory is in apartment buildings, which tend to be focused on bachelor and one bedroom units. However, that is only a partial explanation: for each of the categories shown in the table below, there is a higher proportion of small units in the City than in the rest of the CMA. For example:

- For single-detached units<sup>44</sup>, in the City 85.3% of units have two or more bedrooms, lower than the 88.7% share for the rest of the CMA.
- For semi-detached, row, and duplex units, the shares are 67.0% in the City and 73.5% in the rest of the CMA.
- For apartment buildings, the shares are 24.9% for the City and 39.2% for the rest of the CMA.

**Table 3-7  
 Renter Households by Dwelling Type and Number of Bedrooms, 2006**

Structural Type	Bach.	1 BR	2 BR	3 BR	4+ BR	Total	Subtotals	
							Bach & 1 BR	2+ BR
<b>Number of Occupied Units</b>								
<i>Vancouver City</i>								
Single-Family Detached	155	695	1,650	1,600	1,730	5,840	850	4,980
Semi, Duplex & Row	1,710	5,895	8,485	5,085	1,865	23,040	7,605	15,435
Apartment Buildings	21,255	56,480	20,235	3,570	740	102,265	77,735	24,545
Other	55	155	125	30	25	390	210	180
<b>Total</b>	<b>23,175</b>	<b>63,225</b>	<b>30,495</b>	<b>10,285</b>	<b>4,360</b>	<b>131,535</b>	<b>86,400</b>	<b>45,140</b>
<i>Rest of CMA</i>								
Single-Family Detached	445	2,015	5,350	7,915	5,840	21,550	2,460	19,105
Semi, Duplex & Row	2,050	9,210	15,065	12,490	3,640	42,455	11,260	31,195
Apartment Buildings	11,600	41,240	27,610	5,620	880	86,960	52,840	34,110
Other	140	415	450	210	35	1,260	555	695
<b>Total</b>	<b>14,235</b>	<b>52,880</b>	<b>48,475</b>	<b>26,235</b>	<b>10,395</b>	<b>152,225</b>	<b>67,115</b>	<b>85,105</b>
<i>Vancouver CMA</i>								
Single-Family Detached	600	2,710	7,000	9,515	7,570	27,390	3,310	24,085
Semi, Duplex & Row	3,760	15,105	23,550	17,575	5,505	65,495	18,865	46,630
Apartment Buildings	32,855	97,720	47,845	9,190	1,620	189,225	130,575	58,655
Other	195	570	575	240	60	1,650	765	875
<b>Total</b>	<b>37,410</b>	<b>116,105</b>	<b>78,970</b>	<b>36,520</b>	<b>14,755</b>	<b>283,760</b>	<b>153,515</b>	<b>130,245</b>

*Continued ...*

<sup>44</sup> The existence of non-apartment dwellings with no bedrooms (bachelor units) is suggestive that there may be some data quality issues, in recording either structural types or numbers of bedrooms.

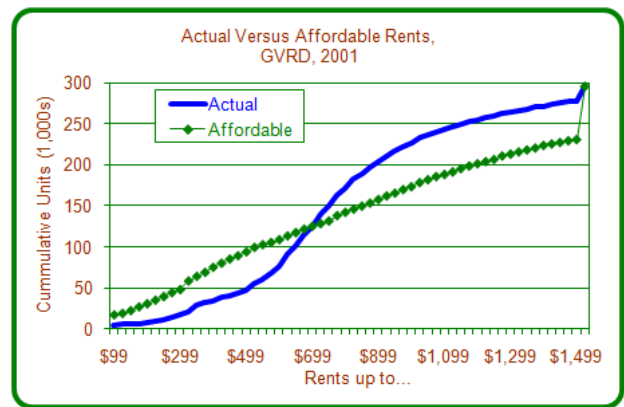
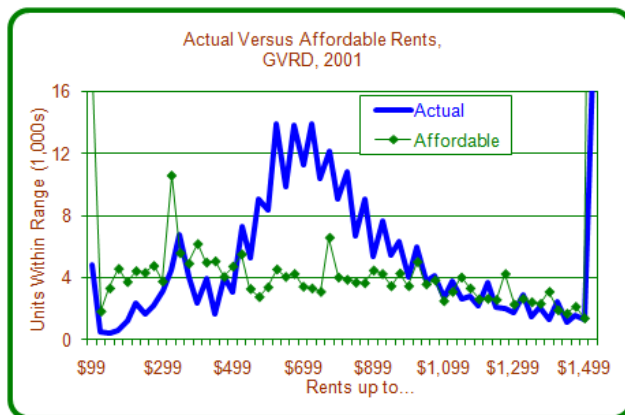
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Table 3-7**

Structural Type	Bach.	1 BR	2 BR	3 BR	4+ BR	Total	Subtotals	
							Bach & 1 BR	2+ BR
<b>% by Number of Bedrooms</b>								
<i>Vancouver City</i>								
Single-Family Detached	2.7%	11.9%	28.3%	27.4%	29.6%	100.0%	14.6%	85.3%
Semi, Duplex & Row	7.4%	25.6%	36.8%	22.1%	8.1%	100.0%	33.0%	67.0%
Apartment Buildings	20.8%	55.2%	19.8%	3.5%	0.7%	100.0%	76.0%	24.0%
Other	14.1%	39.7%	32.1%	7.7%	6.4%	100.0%	53.8%	46.2%
Total	17.6%	48.1%	23.2%	7.8%	3.3%	100.0%	65.7%	34.3%
<i>Rest of CMA</i>								
Single-Family Detached	2.1%	9.4%	24.8%	36.7%	27.1%	100.0%	11.4%	88.7%
Semi, Duplex & Row	4.8%	21.7%	35.5%	29.4%	8.6%	100.0%	26.5%	73.5%
Apartment Buildings	13.3%	47.4%	31.8%	6.5%	1.0%	100.0%	60.8%	39.2%
Other	11.1%	32.9%	35.7%	16.7%	2.8%	100.0%	44.0%	55.2%
Total	9.4%	34.7%	31.8%	17.2%	6.8%	100.0%	44.1%	55.9%
<i>Vancouver CMA</i>								
Single-Family Detached	2.2%	9.9%	25.6%	34.7%	27.6%	100.0%	12.1%	87.9%
Semi, Duplex & Row	5.7%	23.1%	36.0%	26.8%	8.4%	100.0%	28.8%	71.2%
Apartment Buildings	17.4%	51.6%	25.3%	4.9%	0.9%	100.0%	69.0%	31.0%
Other	11.8%	34.5%	34.8%	14.5%	3.6%	100.0%	46.4%	53.0%
Total	13.2%	40.9%	27.8%	12.9%	5.2%	100.0%	54.1%	45.9%

Source: Statistics Canada, 2006 Census, custom table 4, obtained by the City of Vancouver

**The Allocation of the Rental Housing Inventory**

In this section, the 2001 Census PUMF is used to contrast actual rents paid by tenants in the Vancouver CMA in 2001, versus the rents that they can afford (based on their incomes for year 2000 and a STIR threshold of 30%). The data has been collapsed into \$25 rent ranges, starting from less than \$100, to \$1,500 or more. In the charts below, the left-hand chart shows the distributions of actual rents and affordable rents (in \$25 ranges) and the right-hand chart shows the cumulative distributions. The left hand chart shows that actual rents are distributed in something like a bell-shaped, normal-distribution curve. On the other hand, the affordable rents have a flatter distribution, albeit with larger numbers required at low and mid rent than at high rents. This chart also illustrates that in the middle of the distribution, there are many more units than are required; at lower rent levels, there are fewer actual units than are required.



This analysis of rents within the housing stock is not the same as an analysis of the extent of affordability. It tells us that in total, within the Vancouver CMA, the inventory of low rent units (under \$500 per month in 2001 – about \$575 in today's dollars) is lower than the number required (based on an affordability threshold of a 30% STIR), by about 45,000 units overall. We might refer to this 45,000 figure as the “net deficit in affordable supply”.

However, the PUMF data for 2001 indicate that within the Vancouver CMA about 100,000 out of almost 300,000 renter households paid from 30% to 99.9% of their income for shelter. A further 30,000 renter households had either nil income or paid 100% or more of their income for shelter — those tenants would also have their own actual rents in excess of their affordable rents. In total, there are about 130,000 renter households in the Vancouver CMA for whom actual rents exceed affordable rents. On the other hand, about 170,000 renters have actual rental costs below their affordable amounts - their STIRs are less than 30%).

About 45,000 of the 130,000 figure is due to the shortfall in affordable rental supply; the balance (about 85,000 households) can be attributed to “allocation” – households that pay less than they can afford. In theory, if the rental housing stock could be re-allocated on the basis of ability to pay, the number of renters with STIRs of 30% or more could be reduced to about 45,000. But, in a housing system that is largely based on the free market, in which self-interested choices are made by landlords and tenants, this re-allocation could not possibly be forced to happen. This does point to two important conclusions:

- It provides an estimate of the size of the gap of affordable housing supply.
- There may be means by which the City of Vancouver could influence the allocation of the existing rental housing stock on the basis of ability to pay.

Further analysis of the data, by numbers of bedrooms in the occupied rental units, found the following supply deficits<sup>45</sup>:

- For bachelor units – below \$325 (about \$375 in today's dollars). The net deficit is about 8,000 units.
- For one bedroom units – below \$500 (about \$575 in today's dollars). The net deficit is about 24,000 units.
- For two bedroom units – below \$550 (about \$625 in today's dollars). The net deficit is about 12,000 units.
- For three bedroom units – below \$600 (about \$700 in today's dollars). The net deficit is about 5,000 units.
- For units with four or more bedrooms – below \$750 (about \$875 in today's dollars). The net deficit is about 1,000 units.

These estimates are based on the units actually occupied. It does not consider that households may be occupying units smaller than they might require, because there are shortages of larger units. If there were more large units, then the measured deficits would be reduced for the smaller unit types and increased for the larger unit types.

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<sup>45</sup> Analysis of allocation by household type found that for each of three major household types (husband-wife families, lone parent families, and non-family households) the thresholds for supply deficits are \$500.

## ***New Supplies of Rental Housing in the City of Vancouver***

Three sources of data are available on rental housing supply in the City of Vancouver.

- CMHC provides data on housing starts and completions (by dwelling type and tenure).
- Through its rental market survey, CMHC provides data on private and assisted rental units.
- The third source is the 2006 Census, which provides data on inventories of occupied dwelling units by structural type and tenure of the occupant.

Each of the data sources has strengths and limitations:

- The CMHC starts and completions data has the advantage of timeliness – the survey is conducted monthly and data is published promptly. The data on housing completions can be used to approximate growth in the housing inventory (in total and by dwelling type), although it does not account for changes that occur through demolitions and conversions between residential and non-residential uses or physical changes that alter numbers of units within existing buildings (or their physical types). Another disadvantage is that while the data indicates the intended market (tenure) as reported by the builder, the actual tenures of the occupants may differ. Thus, condominium units purchased by investors who intend to rent them will be counted as ownership units rather than their actual status as rentals. The survey indicates total supplies, including both occupied and unoccupied units.
- The CMHC rental market survey is a comprehensive inventory of rental apartments and town homes in privately-initiated and assisted rental projects with three or more units. It indicates both total units, as well as numbers of vacant and occupied units<sup>46</sup>. A limitation of the rental market survey is that it excludes significant portions of the rental inventory, including units in other structural types and rental units in buildings that are “intended” for ownership occupancy, such as condominium apartments and town homes<sup>47</sup>. In response to this information shortfall, CMHC publishes estimates of rental supplies within the condominium apartment inventory<sup>48</sup>. It has recently published estimates for other “secondary” rental inventories. The latter data is published for the Vancouver CMA only, and data for the City is not published.
- The Census collects various data on housing characteristics, although the detail varies from Census to Census. A substantial amount of detail has been released for the 2006 Census, with data at the Census Sub-Division level (i.e. including the City of Vancouver) including a matrix of dwelling types, tenure, and period of construction. The published data is for units occupied by usual residents; however, vacant inventory and units occupied by foreign or temporary residents are not counted in the published Census data. The City of Vancouver has obtained unpublished estimates from the 2006 Census which show that within apartment buildings there were 4,800 units occupied by foreign and temporary residents and 9,090 unoccupied units. These estimates include both ownership and rental units. In the table below, those figures have been converted to estimates for rental tenure only.

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<sup>46</sup> The definition of vacant is restrictive, requiring that units be physically vacant and available for immediate occupancy. Units that are physically unoccupied but are not available for immediate occupancy are counted as occupied. Therefore, the actual number of physically occupied units may be over-stated and the number of physically vacant units may be under-stated.

<sup>47</sup> The survey inventory may exclude some units in buildings with three or more units, particularly structures that have been converted from single family use to multiple-units. The survey also excludes units that are not self-contained, such as rooming houses or care facilities.

<sup>48</sup> It is suggested below that CMHC might be under-estimating the number.

- Another difference is that non-self-contained units (units without private kitchens or bathrooms) are included in the Census but excluded from the CMHC rental market survey inventory. Therefore, to compare the two datasets, non-self-contained units should be removed from the Census inventories. City staff estimate that there are about 9,000 non-self-contained rental units within the City.

Concerning the inventories in the CMHC surveys: the author has previously found (as a former CMHC analyst for the Toronto area) that it is difficult to capture reliable data on rented condominium units. As a preliminary test, the following table contrasts data from CMHC's inventories of rented apartments in the City with Census data. It shows that about 16% (more than 15,000 units) of the City's rental apartment inventory is not accounted for by CMHC surveys and estimates. The calculation involves several estimates and assumptions and cannot be seen as definitive, but it does hint that there may be significant numbers of rented condominium apartments or other rental apartments that are not included in CMHC's surveys.

<b>Table 3-8</b>	
<b>2006 Inventories of Rental Apartments in the City of Vancouver</b>	
	Inventories
CMHC Survey Universes	
Apartments	55,276
Rented Condominium Apartments	15,598
Public Universe	14,608
Combined CMHC Inventories	85,482
Census Data	
Units in Apartment Buildings Occupied by Usual Residents	102,265
Occupied by Foreign/Temporary Residents (1)	2,925
Unoccupied (1)	5,150
Less Non-Self-Contained Units (2)	-9,000
Adjusted Census Data to be Consistent With CMHC Data	101,340
Census (Adjusted) Surplus over CMHC	15,858
CMHC Rental Apartments % of Census (Adjusted) Rental Apartments	84%
Notes: (1) estimated by Will Dunning Inc, based on special Census tabulations obtained by the City of Vancouver.	
(2) estimated by the City of Vancouver.	
Source: Statistics Canada - 2006 Census. Catalogue Number 97-554-XCB2006034; CMHC Rental Market Report, Vancouver and Abbotsford CMAs, Fall 2006; custom tabulation of CMHC data; analysis by Will Dunning Inc.	

The table below uses Census data for the City of Vancouver to show, for each dwelling type and period of construction, the numbers of units that are occupied on a rental basis, and in the lower block, the percentages of total units that are rented within each sub-group. For both of the blocks within the table, subtotals are shown indicating rental shares for dwellings constructed during 1996 to 2006. This provides an indication of the extent to which future supplies of new housing might be made available as rentals.

- About 12% of single detached homes are occupied as rentals. Based on recent production levels, new construction of single detached homes may have added about 50 units per year to the rental supply. It can happen that new dwellings are constructed with secondary suites. In this case, and if CMHC is aware of the configuration, then the structure would be counted as two units of "apartment – other", rather than as single family detached. The two units would be counted as homeownership units, even though

one (or two) of the units might become occupied on a rental basis. In 2008, CMHC counted 98 such units (likely from 49 structures, which might indicate that 49 rental units were constructed). Therefore, at least for 2008, the expectation of about 50 rental units per year from this source seems to have been met.

- For semi-detached homes, the recent rental share 12.7%, plus production of about 100 units per year, implies a modest rental supply in the range of 15 units per year.
- For row homes, the recent rental share of 22.8% implies new rental supply of about 50 units per year.
- The category of apartment in a detached duplex is not captured separately in CMHC statistics. When new housing is started in this form, it is to be counted within the apartment category. However, few new homes are started in this form – in these times, duplex units are generally created through the conversion of single family homes. The available data suggests that as much as one-half of units that are started as single family homes eventually become occupied as duplexes. For those structures, the number of units is doubled, and then about 40% of the new units are occupied on a rental basis. This implies that the construction of each single detached home results (eventually) in about 0.8 rented duplex units. With production of single detached homes at about 500 units per year, the resulting supply of rented duplexes would be in the range of 400 units per year.

In combination, these low-rise housing forms result in quite small volumes of new rental supply – perhaps 500 rental units per year, a small increment in a relation to the existing inventory of about 130,000 occupied rental units.

In consequence, most new rental inventories will have to be in the form of apartments. The Census data shows that apartment buildings constructed during 1996 to the spring of 2006 contained about 34,000 occupied units. Of these, 54% (about 18,000) were owner-occupied and 46% (about 16,000) were tenant-occupied. This amounts to about 1,500 to 1,600 new rental units per year over the decade. Starts levels for apartments were sustained at high levels during 2006 to 2008, indicating that there will be similar volumes of new rental apartment supplies up to and including this year. However, if the sharp downturn in housing starts that has occurred since late 2008 is sustained, then there would be fewer deliveries of new rental units by late 2010 and into 2011.

It is also possible that over time some of the newer apartments may be converted from rental to ownership - when an original investor decides to sell an apartment it could be purchased by either another investor (and be retained as a rental) or an owner-occupant (converted to ownership). The data below hints at but does not prove this possibility:

- It shows that slightly older apartments (those constructed during 1990 to 2000) have lower rental proportions than the newest apartments, which could be due to attrition of investors, but could also mean that there was less investment buying in those times.
- It shows that the rental apartment inventory includes 15,605 units that were completed during 1996 to 2006. But, comparing data on total numbers of rented apartments as of 1996 and 2006, the inventory increased by a smaller amount (9,475). The difference between these figures implies that during the interval there were conversions of rental apartments to owner-occupancy.
- Conversions might have resulted from self-offs in purpose-built rental projects that have condominium registration or from attrition of investors in individual condominium units.

- It should be noted that there are weaknesses in this data<sup>49</sup>, and therefore actual conversions may be more or less than the data indicates. However, the magnitude of the difference is large enough for us to conclude that there has been some conversion from rental occupancy to ownership occupancy.

**Table 3-9**  
**Occupied Dwellings by Structural Type and Period of Construction, and Rental Shares,**  
**City of Vancouver, 2006**

	<i>Single Family</i>	<i>Single Attached</i>	<i>Apart. Duplex</i>	<i>Mobile</i>	<i>Semi-Detached</i>	<i>Row</i>	<i>Apt, 5 + Storeys</i>	<i>Apt, &lt; 5 Storeys</i>	<i>All Types</i>
<b>Occupied Rental Units</b>									
<= 1920	565	25	1,485	0	105	85	2,435	5,875	10,580
1921-1945	1,265	10	2,290	10	180	110	1,035	5,995	10,890
1946-1960	1,785	95	3,585	0	260	265	3,640	10,140	19,775
1961-1970	665	90	2,680	10	175	660	9,050	11,900	25,225
1971-1980	500	30	2,375	0	95	1,125	6,805	10,500	21,440
1981-1985	170	40	1,300	0	90	740	2,475	4,510	9,325
1986-1990	225	20	940	10	80	390	2,350	3,715	7,730
1991-1995	235	15	1,040	10	80	340	2,970	3,255	7,935
1996-2000	190	10	1,170	0	40	140	4,425	2,900	8,880
2001-06 (1)	235	25	930	0	75	195	5,455	2,825	9,740
<b>Total</b>	<b>5,835</b>	<b>350</b>	<b>17,795</b>	<b>35</b>	<b>1,185</b>	<b>4,060</b>	<b>40,650</b>	<b>61,615</b>	<b>131,535</b>
Subtotal 1996-2006	425	35	2,100	0	115	335	9,880	5,725	18,620
<b>Rentals as % of Total</b>									
<= 1920	12.7%	83.3%	32.7%	NA	46.7%	53.1%	89.9%	79.8%	54.3%
1921-1945	11.2%	33.3%	34.0%	NA	60.0%	56.4%	91.2%	89.4%	41.2%
1946-1960	18.0%	86.4%	44.2%	NA	75.4%	93.0%	85.7%	89.5%	57.5%
1961-1970	14.6%	90.0%	56.0%	50.0%	81.4%	83.5%	92.2%	92.0%	75.9%
1971-1980	14.3%	85.7%	48.2%	0.0%	31.1%	52.0%	80.7%	67.8%	61.5%
1981-1985	7.8%	66.7%	43.9%	0.0%	20.5%	50.3%	69.2%	64.0%	52.5%
1986-1990	6.8%	80.0%	36.5%	66.7%	12.4%	46.4%	61.7%	52.5%	42.3%
1991-1995	5.6%	75.0%	34.6%	100.0%	16.2%	37.2%	45.6%	43.0%	34.9%
1996-2000	7.2%	66.7%	42.4%	NA	8.1%	21.9%	44.2%	40.9%	37.5%
2001-06 (1)	9.9%	41.7%	39.5%	0.0%	18.3%	23.5%	49.7%	50.9%	43.2%
<b>Total</b>	<b>12.0%</b>	<b>70.0%</b>	<b>41.6%</b>	<b>25.9%</b>	<b>30.5%</b>	<b>48.9%</b>	<b>66.4%</b>	<b>69.9%</b>	<b>51.9%</b>
Subtotal 1996-2006	8.5%	46.7%	41.1%	0.0%	12.7%	22.8%	47.1%	45.3%	40.3%
Source: Statistics Canada - 2006 Census. Catalogue Number 97-554-XCB2006023.									
Note: (1) Includes data up to May 16, 2006.									

### **Does New Rental Supply Benefit Low Income Tenants?**

It might be argued that new rental supplies will have no impact on households in need, because they have high rents and are not affordable. It is correct that there are not direct positive impacts on households with low and moderate incomes. However, there are two processes by which there may be indirect benefits.

<sup>49</sup> Two issues are: there may be distortions due to changes in estimated periods of construction (the data is provided by the occupants and may not be accurate); secondly, there should be a small downward adjustment for units that were completed in the second half of 1996.

- The first is the notion of “vacancy chains”, by which movements within upper segments of the housing market (including movement to high end rentals as well as movements to home ownership) result in subsequent movements to fill available units. Some of these chains lead to availability in the lower segments of the rental market. Given the often very large gaps between housing costs at the high end versus the low end it is reasonable to be sceptical about this process – except that there is real evidence that it works. As was shown earlier, data on rent quintiles from CMHC’s rental market survey shows that during the past decade vacancy rates have moved in similar directions across the spectrum. In particular, during 2002 and 2003, a high volume of housing completions resulted in rising vacancies, and vacancy rates increased in all five quintiles – the benefits of increased housing supply have not been restricted to the upper end of the housing market.
- The second process is sometimes called “filtering”, but “depreciation” would be a better label. The argument is that as buildings age they become less attractive. Consequently, their rents fall relative to the rents for new buildings. Two CMHC-sponsored research reports from the early 1980s are very interesting on this point<sup>50</sup> (although the intentions of those reports were not to investigate filtering). Both studies used a dataset from Toronto; the analysis approaches were somewhat different.
  - The Fallis-Smith study found that each year of building age reduces rent by 0.6%; the Jazairi study estimated the impact at 0.5% to 0.8%.
  - The data is obviously very dated, and for a different city, and there is a risk that 25 years later the findings no longer apply. But, this author has found in various kinds of rental market studies in various locations that it is a useful result, and has often found that there are age-related rent differentials.
  - It is sometimes possible to illustrate this simply, using CMHC data on average rents by period of building construction, which usually shows that older buildings on average have lower rents than newer buildings. In the case of the City of Vancouver, however, that is not demonstrated by the data. In Table 1.2.2 on page 21 of CMHC’s October 2008 rental market report the data for the City shows that buildings constructed during 1975 to 1989 actually have lower average rents than do older buildings that were constructed earlier, during 1960 to 1974. However, the older buildings are often located in areas that can command higher rents, and therefore these rent differentials are showing the value of location more than they are showing the value of newness. Looking farther down that table, at suburban locations - where there are less substantial differentials for location - the data shows the expected pattern of higher rents for newer buildings.
  - More confirmation can be found by looking at the older buildings that now represent the most affordable segments of the private rental market. One can easily imagine that when they were new, they were the most attractive and expensive rental options in their neighbourhoods – they were the high end rental market at the time. Depreciation over prolonged periods has made them accessible to tenants with limited means.
  - The contribution of depreciation/filtering to housing affordability is a very slow process. Thus, the new rental supplies being created in this decade might begin to be of direct benefit to tenants with lower incomes a generation in the future.
  - Meanwhile, the process of vacancy chains does have the potential to provide more immediate benefits in the availability of affordable rental housing, if and when there are non-trivial numbers of vacancies in the market.

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<sup>50</sup> “Hedonic Rent Index for Rent-Controlled and Non-Rent-Controlled Apartments in Toronto”, by Nuri T. Jazairi, 1983, and “Rent Controls with Exemptions”, by George Fallis and Lawrence B. Smith, 1984.

## ***Part 4 - Demographic Projections of Potential Housing Demand***

Two major sections of this report use demographic projection models.

- In this section, the objective is to project requirements for new housing, by structural type and housing tenure.
- In the following section (Part 5), projections are developed of potential changes in housing need among renters in the City of Vancouver.

### ***Projections of Potential Demand for Housing***

The methodology in this section:

- Projects households by age group of the household maintainer, based on projections of population by age group<sup>51</sup> and applying household formation rates by age group.
- For each age group, dwelling type choice rates are applied, to project the number of occupied dwelling units by type.
- Households are allocated to home ownership and rental tenure, based initially on distributions as of 2006. In an alternative scenario, there is some shifting of tenure choices, to reflect recent trends. A third scenario adds a shift in dwelling choices, away from low-rise dwellings towards apartments.

### ***To Start – Some Musings***

The comments here apply partly to this section, but moreso to the next section (projections of housing need).

Demographic projection models – including the two models used here – typically, in effect, mimic choices that are made for several variables (or dimensions of choice). In the models, this mimicking is done in sequential processes (although not all of the dimensions are included in all models). The dimensions include:

- Where to live (for example, within the City of Vancouver, elsewhere in the Vancouver CMA, or somewhere outside of the CMA).
- Whether to be the head of a household.
- What the composition of the household will be.
- What housing type to choose.
- Which housing tenure.
- What level of housing costs.

In reality, people make these choices virtually simultaneously, rather than in sequence. The choices are made under multiple influences that determine what options are available, which are feasible, and which are chosen in the circumstances. The influences include:

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<sup>51</sup> Source: BC STATS, PEOPLE 33 projection, February 2009. Since the population projections include population located outside of the City, in the University Endowment Lands, the model was constructed to adjust household formation to be applicable just to the City.

- Family and other personal relationships.
- Culture and values.
- Lifestyle.
- Income and assets (past, current, and expected).
- Housing costs.
- Other costs of living.
- Housing availability.
- Past choices.

All of these influences evolve for individuals and within society as a whole. Therefore, over time there are shifts in patterns of choices.

Shifting of choices can be illustrated by comparing data for 1996 and 2006. Table 4-1 (several pages below) summarizes choices made by age group, but drilling down into just three of the dimensions of choice. For each age group, it shows:

- The percentages of the population that are heads of households, in total for the age group and by types of households.
- The percentages that are in ownership or rental tenure.
- For example:
  - The first datapoint in the table shows that in 1996, within the 15 to 24 age group, 2.9% of the population were heads of husband-wife families, 0.9% were heads of lone parent family households, etc;
  - The tenure choice data shows that 0.2% of the population in the age group were heads of husband-wife families and were homeowners, 2.7% were heads of husband-wife families and were renters, etc.

Other key decisions (dimensions) are not shown in this table, including:

- Decisions about whether to live within the City or elsewhere.
- Also, the table does not show dwelling type choices, because for the purpose of this demonstration that data is unusable: due to a change in definitions for two types of dwellings<sup>52</sup> a comparison of the dwelling type data over time will not lead to useful insights on changes in housing choices.
- More to the point, addition of more dimensions would multiply the number of data points that need to be applied within the analysis – if all of the dimensions of choice were applied simultaneously it would be extremely difficult for the analyst to interpret the data, let alone to project future changes in choices.

The table illustrates the choice rates for 1996 and 2006, and the shifting that has occurred. For both periods, the data illustrates changes that occur over a life-time, such as:

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<sup>52</sup> The changes were made in 2006 for duplexes and apartments in buildings with less than five storeys. The change caused a considerable amount of shifting into the duplex category (which increased from 26,650 units in 2001 to 42,765 units in 2006). Some of this change might have been due to increased conversions of single-family homes into duplexes, but it is likely that most of the increase was due to the change in definitions. In addition, there was a large drop in the number of occupied single detached units (from 65,390 in 2001 to 48,635 in 2006). Reasons for this are not apparent. Therefore, a comparison of dwelling type data for 1996 or 2001 to 2006 is not reliable.

- Low probabilities of household formation in the youngest age group, with rapid increases during the working ages.
- High percentages of households are non-family in the youngest and oldest age groups.
- In the mid parts of the age distribution, more households are families, either husband-wife (with or without children) or lone parent families.
- During the younger ages, households are most likely to be in rentals; in older age groups there is movement to home ownership, although in the oldest age group there is some shift to renting.

During 1996 to 2006, there was a great deal of change.

Starting at a high level:

- The total headship rate rose by almost one percentage point (as shown in the third last line of data in each of the three blocks of the table) from 49.4% in 1996 to 50.3% in 2006.
- However, the total headship rates rose for some age groups but fell for others.
- Analysis of this data finds that the rise for the total headship rate was due to a change in the age distribution of the population: during 1996 to 2006 there were relative reductions in the population for younger age groups (which have low household formation rates) and larger shares were in the older age groups (which have higher headship rates). If not for this effect, the overall headship rate in 2006 would have been virtually identical to the 1996 rate – if the overall average is calculated based on the 1996 age distribution, the total headship rate in 2006 would be, unchanged from 1996.

Looking at household type choices:

- There was a shift towards husband-wife families in five of the seven age groups and overall. Once again abstracting from the change in the age distribution, the weighted average headship rate for husband-wife families would be 21.2% in 2006 (based on the 1996 age distribution), a sharp rise from 19.9% in 1996.
- For lone parent families, headship rates fell in the age groups under 45 years and rose in the later ages. For all ages combined, and again weighting for changes in the age distribution, the lone parent family headship rate in 2006 (an adjusted 3.9%) is the same as in 1996.
- For multiple family households there was little change.
- For non-family households, there were reductions in headship rates for four of seven age brackets (two of which were very large), increases for two age brackets, and no change for the seventh. The overall non-family headship rate fell considerably, from 24.06% in 1996, to a weight-adjusted rate of 22.9% in 2006.

Adding the tenure dimension:

- For husband-wife families, the rise in the headship rate was mostly for home ownership tenure, although there were also some increases in rental tenure for the non-senior age brackets. For these households, rental demand increased (to varying degrees) for the non-senior age groups, and fell for seniors.
- For lone parent families, the fall in headship rates in the age groups under 45 was concentrated in the rental sector (there was a slight rise in home owning lone parent

families in the under-45 brackets). For the older age brackets there were large rises in the home ownership headship rates and smaller rises for rental.

- For multiple-family households, there are relatively few households, which makes it difficult to identify any substantive changes.
- For non-family households, there large drops in headship rates for rental tenure for most age groups. There were large increases in the ownership headship rates for non-senior age groups, but drops in the senior age brackets.

Some possible interpretations for these changes are:

- The shift towards husband-wife families, away from non-family households and from lone parent families under 45, can be given an economic interpretation – high housing costs reduced the numbers of households with just one adult. These costs may have caused some households to be formed outside of the City<sup>53</sup>.
- Reduced rental demand for non-family households in the younger working ages may mean that single people are staying in the parental home for longer, in response to high housing costs. For some, high rents and home ownership costs give incentive to divert funds that might have been spent for rent towards savings for a down-payment.
- The very strong reduction in headship rates for older non-family households may be the consequence of two processes:
  - High housing costs increase the number of widowed parents who live with their adult children. Corresponding to this process, there was a large rise in the headship rate for elderly lone parent families. The drop in the non-family formation rate was greater for rental tenure than for home ownership: high rents reduced rental demand among single seniors; for home owners there was less impact, as those without mortgages have experienced less increase in their housing costs.
  - Increased life expectancy for males means there are fewer widows living alone. This contributed to the rise in headship rates for senior husband-wife families.
- In addition, there were definitional changes in 2001 that caused some shifting of household types compared to 1996. Analysis by City staff indicates that during 1996 to 2001, 30% of the growth in the number of family households was due to the change in definitions. The change in definitions creates ambiguity as to the actual extent of household type shifting that occurred during 1996 to 2006. It does appear that the actual shifting away from non-family households was less than this data suggests, and likewise the shift towards husband-wife families was less than suggested.

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<sup>53</sup> In terms of the structure of a projection model, this last effect (out-migration) should show up in the projections of population, moreso than in household formation rates. Interdependence between geographically-integrated housing markets makes it difficult to incorporate the effect of changing housing costs on housing demand, especially for an area like the City of Vancouver. The economic impacts (housing costs and incomes) should be incorporated at all levels of the projections: population, household formation, and housing choices. Since the population projections were provided independently by the BC government, it is unknown to what extent economic considerations have been incorporated.

**Table 4-1**  
**Choice Rates for Household Formation, Household Type, and**  
**Housing Tenure, by Age Group, City of Vancouver, 1996 and 2006**

	15-24	25-34	35-44	45-54	55-64	65-74	75+	Total
<b>1996 Choice Rates - % of Population</b>								
H/W family	2.9%	15.5%	24.8%	29.8%	29.5%	25.7%	17.9%	19.9%
Owner	0.2%	4.1%	13.9%	22.3%	24.3%	20.8%	13.9%	12.2%
Renter	2.7%	11.3%	10.9%	7.5%	5.2%	4.9%	4.0%	7.7%
LPF	0.9%	2.7%	6.2%	6.8%	4.1%	3.4%	2.7%	3.9%
Owner	0.1%	0.2%	1.4%	3.4%	2.4%	2.4%	2.2%	1.4%
Renter	0.8%	2.4%	4.8%	3.4%	1.7%	1.0%	0.6%	2.5%
Multi-family	0.1%	1.1%	1.7%	1.8%	2.8%	2.5%	0.7%	1.4%
Owner	0.1%	0.7%	1.4%	1.5%	2.5%	2.2%	0.6%	1.2%
Renter	0.1%	0.4%	0.3%	0.3%	0.3%	0.4%	0.1%	0.3%
Non-family	12.7%	26.8%	24.5%	22.5%	21.3%	29.2%	39.7%	24.1%
Owner	0.9%	3.2%	5.2%	6.3%	6.8%	11.8%	18.9%	5.8%
Renter	11.7%	23.7%	19.3%	16.1%	14.6%	17.4%	20.8%	18.2%
Total	16.6%	46.1%	57.2%	60.9%	57.7%	60.8%	61.0%	49.4%
Owner	1.3%	8.3%	21.9%	33.6%	36.0%	37.2%	35.6%	20.7%
Renter	15.3%	37.8%	35.2%	27.4%	21.7%	23.6%	25.4%	28.7%
<b>2006 Choice Rates - % of Population</b>								
H/W family	3.5%	18.2%	27.2%	29.1%	28.3%	28.1%	18.9%	21.8%
Owner	0.5%	6.5%	15.3%	20.6%	23.0%	23.7%	15.4%	13.8%
Renter	3.1%	11.7%	11.9%	8.5%	5.3%	4.4%	3.5%	8.0%
LPF	0.5%	1.8%	5.2%	7.3%	5.3%	4.0%	5.8%	4.1%
Owner	0.1%	0.5%	1.7%	3.5%	3.4%	3.0%	4.7%	2.0%
Renter	0.4%	1.3%	3.6%	3.8%	1.9%	1.0%	1.1%	2.1%
Multi-family	0.1%	0.8%	1.7%	2.0%	2.1%	2.6%	1.3%	1.4%
Owner	0.0%	0.5%	1.5%	1.7%	1.7%	2.3%	1.2%	1.2%
Renter	0.0%	0.3%	0.2%	0.3%	0.4%	0.3%	0.1%	0.2%
Non-family	13.1%	26.9%	22.0%	21.4%	24.7%	24.2%	33.1%	22.9%
Owner	1.6%	5.4%	6.1%	7.2%	10.0%	11.1%	16.7%	7.1%
Renter	11.5%	21.5%	15.9%	14.2%	14.7%	13.1%	16.4%	15.8%
Total	17.2%	47.6%	56.2%	59.8%	60.4%	58.9%	59.1%	50.3%
Owner	2.2%	12.8%	24.6%	32.9%	38.1%	40.0%	38.0%	24.2%
Renter	14.9%	34.8%	31.6%	26.9%	22.3%	18.8%	21.1%	26.1%
<b>Change – in percentage points</b>								
H/W family	0.6%	2.7%	2.4%	-0.8%	-1.2%	2.5%	1.0%	1.9%
Owner	0.2%	2.3%	1.4%	-1.7%	-1.3%	2.9%	1.4%	1.6%
Renter	0.4%	0.4%	1.0%	1.0%	0.1%	-0.4%	-0.5%	0.3%
LPF	-0.4%	-0.9%	-1.0%	0.5%	1.2%	0.6%	3.0%	0.2%
Owner	0.0%	0.2%	0.3%	0.0%	1.0%	0.6%	2.5%	0.6%
Renter	-0.4%	-1.1%	-1.2%	0.4%	0.2%	0.0%	0.5%	-0.4%
Multi-family	-0.1%	-0.3%	0.0%	0.2%	-0.8%	0.1%	0.7%	0.0%
Owner	0.0%	-0.2%	0.1%	0.2%	-0.8%	0.1%	0.7%	0.0%
Renter	-0.1%	-0.1%	-0.1%	0.0%	0.1%	0.0%	0.0%	0.0%
Non-family	0.5%	0.0%	-2.5%	-1.0%	3.4%	-5.1%	-6.6%	-1.2%
Owner	0.7%	2.2%	0.9%	0.9%	3.2%	-0.7%	-2.2%	1.3%
Renter	-0.3%	-2.2%	-3.4%	-1.9%	0.2%	-4.3%	-4.4%	-2.5%
Total	0.6%	1.5%	-1.0%	-1.1%	2.7%	-1.9%	-1.9%	0.9%
Owner	0.9%	4.5%	2.7%	-0.6%	2.1%	2.9%	2.4%	3.5%
Renter	-0.4%	-3.1%	-3.7%	-0.5%	0.6%	-4.8%	-4.3%	-2.6%

Source: Statistics Canada - GO 0238 Table 1: Non-Farm Non-Reserve Private Households by Household Type (7) by Age of Primary Household Maintainer (8) by Household Income (18) by Tenure/Condo Tenure (5) Showing Count & Average Household  
 Statistics Canada - 2006 Census. Catalogue Number 97-554-XCB2006035.  
 1996 and 2006 Census Profiles  
 Analysis by Will Dunning Inc.

To conclude, it is possible to explain some choices and changes in choices after the fact. But, this is not the same as being able to predict future choices. Based on what we see for 1996 to 2006, it may be possible to predict some directions of change. The magnitudes of changes are even less predictable, and the overall outcomes are highly uncertain.

That said, the projections provided here start by assuming that choice rates will be stable at 2006 rates. Additional scenarios suggest some future directions of change for key choice rates. While there is clearly uncertainty about future household formation and housing demands, and it is equally clear that outcomes will probably be quite different than the projections, the projections have some use in identifying future challenges.

### **Population Projections**

As is indicated in the table below, the City’s population is projected to increase by 18.6% during 2006 to 2021, for an average annual growth rate of 1.15%. This would be the virtually the same as the City’s growth rate (1.16% per year) during 2001 to 2006.

Growth rates would vary by age group:

- Population growth would be most rapid for the Baby Boomer age groups – during 2006 to 2021, the average annual growth rate would 3.74% for the 65 to 74 bracket and 2.93% for the 55 to 64 bracket.
- Growth would be moderate for the younger age groups, at less than 1% per year for the 25 to 54 brackets.
- The population in the 75 and over age bracket would expand by slightly more than the average rate.
- There would be a drop in the number of young adults (aged 15 to 24).
- The projections suggest that the population of children (under the age of 15) would expand by about 1.5% per year.
- The population of adults (15 years and over) would expand by 17.8% during the 15 year period, for an average growth rate of 1.10% per year.

<b>Table 4-2</b>									
<b>Population Projections for the City of Vancouver (1)</b>									
<b>By Age Group, 2006 to 2021</b>									
Year	0-14	15-24	25-34	35-44	45-54	55-64	65-74	75 +	Total
2006	76,455	81,175	117,144	108,520	89,304	62,929	39,244	37,861	612,632
2011	81,776	77,381	130,670	105,212	99,472	77,524	41,553	42,447	656,035
2016	88,227	74,419	132,812	108,947	103,091	87,080	53,280	44,012	691,868
2021	95,363	73,603	126,200	121,935	98,702	96,999	68,032	45,945	726,779
% Change 2006-2021	24.7%	-9.3%	7.7%	12.4%	10.5%	54.1%	73.4%	21.4%	18.6%
Annual Rate	1.48%	-0.65%	0.50%	0.78%	0.67%	2.93%	3.74%	1.30%	1.15%
Source: BC STATS (PEOPLE 33)									
Note: (1) includes University Endowment Lands									

## **A First Scenario**

### Projected Occupied Dwelling Units

Based on 2006 Census data on numbers of occupied units by age group of the occupants, and applying the 2006 household formation rates, it is projected that the number of occupied dwellings within the City of Vancouver would rise by about 57,000 (22%), during the 15 years, from about 253,400 in 2006 to close to 310,000 in 2021. This would amount to about 3,800 new units per year. This initial projection assumes that dwelling type choice rates (by sub-group) are stable at 2006 levels.

Reflecting the pattern of population growth, the most rapid rates of household growth would be for the 55 to 74 age groups. These two age groups would increase their shares of total households (from a combined 23.7% in 2006 to 31.3% in 2021). All other age groups would see reduced shares, with the largest drops for the 15 to 24 and 25 to 34 groups.

In terms of types of dwellings:

- With a shift of the population into older age groups, single homes<sup>54</sup> this component of the inventory would grow by 990 units per year (30.2% in total) over the 15 year period, more rapidly than the overall growth rate of 22.4%. Therefore, this category would see a gradual rise in its share of the total inventory, from 19.4% in 2006 to 20.6% in 2021.
- Growth rates would be slightly above average for semi-detached and row dwellings. However, these two types represent small shares of the housing inventory and of projected future requirements. With demand levels of 67 units per year for semi-detached and 127 units per year for row homes, their shares would increase slightly.
- Just over one-half of the growth (1,952 units per year, or 52%) would be for units in apartment buildings. However, the growth rate (percentage change) for apartments (19.6% over the 15 years) would be slower than the growth rate for total housing demand

#### **Uncertainty about Growth of Population and Households**

*These projections of housing demand (and the projections of housing need in Part 5) are based on projections that suggest growth in the City's population will be stronger during 2006 to 2011 (7.1% in total over the five years) than it was during 2001 to 2006 (5.9%).*

*However, based on housing completions data, it seems that household formation within the City has slowed: during the three years since the 2006 Census, completions within the City averaged 3,962 units per year, slightly less than the average of 4,055 units per year during the 2001 to 2006 Census period. On this basis, one might expect that the rate of population growth has also slowed, contrary to the expectation of increased growth.*

*With housing starts having slowed during the past year, there will be further deceleration of housing completions, and further slowing in household growth.*

*Actual growth in households during 2001 to 2006 averaged 3,770 per year. The population projections result in an increase to 4,394 during 2006 to 2011. Again, based on the data on housing completions (slower activity in this Census period), it seems more likely that household growth will slow.*

*Over the entire 2006 to 2021 period, household formation is projected to be similar to the actual rate seen during 2001 to 2006. This would be counter to a nation-wide trend for household growth to slow.*

<sup>54</sup> In the analysis, singles includes three categories from the Census data: single-detached, movable, and other single-attached.

(22.4%), with the consequence that the share of the total for units in apartment buildings would fall from 59.0% in 2006 to 57.6% in 2021.

- Growth of the duplex inventory (at 650 units per year, or 22.8%) would be slightly more than the average rate, and the share for duplex units would be unchanged at 16.9%.

<i>Structural Type</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>	<i>Total</i>
<b>Single-detached, movable, single-attached</b>								
2006	540	3,385	8,550	12,015	10,065	7,235	7,280	49,070
2011	515	3,776	8,289	13,383	12,399	7,661	8,162	54,185
2016	495	3,838	8,584	13,870	13,928	9,823	8,463	59,000
2021	490	3,647	9,607	13,279	15,514	12,542	8,834	63,914
<b>Semi-detached</b>								
2006	65	380	935	1,095	795	365	240	3,875
2011	62	424	906	1,220	979	386	269	4,247
2016	60	431	939	1,264	1,100	496	279	4,568
2021	59	409	1,051	1,210	1,225	633	291	4,879
<b>Row</b>								
2006	165	995	2,340	2,295	1,410	615	475	8,295
2011	157	1,110	2,269	2,556	1,737	651	533	9,013
2016	151	1,128	2,349	2,649	1,951	835	552	9,616
2021	150	1,072	2,629	2,537	2,173	1,066	576	10,203
<b>Apartment building</b>								
2006	10,110	37,855	34,215	26,710	18,730	10,525	11,225	149,370
2011	9,637	42,226	33,172	29,751	23,074	11,144	12,585	161,590
2016	9,269	42,918	34,350	30,834	25,918	14,289	13,049	170,626
2021	9,167	40,781	38,445	29,521	28,870	18,246	13,622	178,652
<b>Duplex</b>								
2006	1,820	6,730	10,995	10,045	6,310	4,035	2,825	42,760
2011	1,735	7,507	10,660	11,189	7,773	4,272	3,167	46,304
2016	1,669	7,630	11,038	11,596	8,732	5,478	3,284	49,426
2021	1,650	7,250	12,354	11,102	9,726	6,995	3,428	52,506
<b>Total</b>								
2006	12,700	49,345	57,035	52,160	37,310	22,775	22,045	253,370
2011	12,106	55,043	55,296	58,099	45,963	24,115	24,715	275,338
2016	11,643	55,945	57,259	60,213	51,629	30,921	25,626	293,236
2021	11,515	53,160	64,086	57,649	57,510	39,482	26,752	310,153
% Change 2006-2021	-9.3%	7.7%	12.4%	10.5%	54.1%	73.4%	21.4%	22.4%
Total Change 2006-2021	-1,185	3,815	7,051	5,489	20,200	16,707	4,707	56,783
Average Per Year	-79	254	470	366	1,347	1,114	314	3,786
Source: Projections by Will Dunning using data from Statistics Canada and BC STATS (PEOPLE 33)								

### Growth by Housing Tenure

The 2006 Census provides data on the distributions between rental and home ownership tenure for each of the sub-groups (structural type by age group). Applying that data to the projections (above) results in estimated requirements by dwelling type and tenure.

These projections suggest that demand for home owner units would rise by 2,275 units per year (28.0% in total) over the 15 year period, more rapid than the projected growth of rental demand (just over 1,500 units per year, or 17.2% in total).

This would cause the rental share of the inventory to fall from 51.9% in 2006 to 49.7% in 2021. In this scenario, the shift from rental to home ownership would be the consequence of the shift of the population into older age groups, which are more likely to be home owners than are younger groups. This first scenario is based on fixed proportions within each group of the population and so does not consider the possibility of a continued shift in consumer preferences towards home ownership.

The table below shows the projections of the housing requirements for rentals. It indicates that a large majority of the rental demand would be for apartment buildings (about 1,200 per year of the total requirement of about 1,500 per year). The next largest category of rental demand would be duplex units (about 175 units per year). Smaller requirements are projected for singles (71 units per year), semis (15 units per year), and row homes (54 units per year).

<i>Structural Type</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>	<i>Total</i>
<b>Single-detached, movable, single-attached</b>								
2006	315	1,285	1,790	1,690	765	195	200	6,240
2011	300	1,433	1,735	1,882	942	206	224	6,725
2016	289	1,457	1,797	1,951	1,059	265	232	7,049
2021	286	1,384	2,011	1,868	1,179	338	243	7,309
<b>Semi-detached</b>								
2006	55	245	305	340	155	60	20	1,180
2011	52	273	296	379	191	64	22	1,277
2016	50	278	306	392	214	81	23	1,346
2021	50	264	343	376	239	104	24	1,399
<b>Row</b>								
2006	100	535	1,270	1,220	535	220	180	4,060
2011	95	597	1,231	1,359	659	233	202	4,376
2016	92	607	1,275	1,408	740	299	209	4,630
2021	91	576	1,427	1,348	825	381	218	4,867
<b>Apartment building</b>								
2006	9,005	29,175	23,450	16,605	10,775	6,235	7,015	102,260
2011	8,584	32,544	22,735	18,496	13,274	6,602	7,865	110,099
2016	8,256	33,077	23,542	19,169	14,910	8,465	8,155	115,573
2021	8,165	31,430	26,349	18,352	16,609	10,809	8,513	120,227
<b>Duplex</b>								
2006	1,575	4,805	5,230	3,610	1,525	585	455	17,785
2011	1,501	5,360	5,071	4,021	1,879	619	510	18,961
2016	1,444	5,448	5,251	4,167	2,110	794	529	19,743
2021	1,428	5,176	5,877	3,990	2,351	1,014	552	20,388
<b>Total</b>								
2006	11,050	36,045	32,045	23,465	13,755	7,295	7,870	131,525
2011	10,534	40,207	31,068	26,137	16,945	7,724	8,823	141,438
2016	10,130	40,866	32,171	27,088	19,034	9,904	9,149	148,342
2021	10,019	38,832	36,006	25,934	21,202	12,646	9,550	154,190
% Change 2006-2026	-9.3%	7.7%	12.4%	10.5%	54.1%	73.4%	21.4%	17.2%
Total Change 2006-2021	-1,031	2,787	3,961	2,469	7,447	5,351	1,680	22,665
Average Per Year	-69	186	264	165	496	357	112	1,511
Source: Projections by Will Dunning using data from Statistics Canada and BC STATS (PEOPLE 33)								

### **An Alternative Scenario – Tenure Shifting**

A significant complicating reality is that during the past decade most of the growth in the City's housing stock has been for home ownership tenure:

- During 1996 to 2006, the City's occupied housing inventory grew by 35,560 units. For rental units, the growth was 4,965, just 14% of the total.
- Most of the growth was in the form of apartment buildings.
  - For apartment buildings with five or more storeys (which grew by 19,730 units) 36.6% of the growth was for rental tenure; the majority (63.4%) of the growth was for ownership tenure.
  - For apartment buildings with less than storeys (which grew by 13,005 units) 17.3% of the growth was for rental tenure.
- During the second half of this period, the number of occupied rental dwellings in the City was essentially unchanged (increasing by 115 units), but the ownership inventory increased by more than 18,000 units.

The following table shows the shares of dwellings that were tenant-occupied in 1996 and 2006, segmenting the data by dwelling structural types and ages of household maintainers. The data indicates that rental shares fell for almost all of the subgroups, and by substantial amounts. It is possible that changes in definitions of structural types and the shifting of the data that resulted may have caused some distortions in the detailed comparisons. However, since there were large downward shifts in rental shares for all of the age groups, any such distortions do not materially alter the conclusion that there has been significant tenure shifting within the City.

<b>Table 4-5</b>								
<b>Occupied Housing in the City of Vancouver, % Rented by Structural Type and Age Group of Household Maintainers, 1996 and 2006</b>								
	15-24	25-34	35-44	45-54	55-64	65-74	75+	Total
<b>1996</b>								
Single-family	77.4%	58.4%	28.5%	13.2%	6.3%	4.4%	2.9%	18.4%
Semi, duplex, row	93.3%	80.5%	62.6%	45.1%	36.1%	38.7%	27.8%	60.8%
Apt, < 5 storeys	95.5%	86.1%	77.1%	72.3%	70.7%	71.7%	69.9%	79.0%
Apt, 5 or more storeys	92.7%	88.1%	82.2%	76.5%	74.7%	70.2%	72.8%	80.5%
Total	92.5%	82.0%	61.5%	44.9%	37.6%	38.8%	41.6%	58.1%
<b>2006</b>								
Single-family	58.3%	38.0%	20.9%	14.1%	7.6%	2.7%	2.7%	12.7%
Semi, duplex, row	84.4%	68.9%	47.7%	38.5%	26.0%	17.2%	18.5%	41.9%
Apt, < 5 storeys	91.2%	80.3%	70.7%	62.2%	57.5%	58.9%	63.9%	69.9%
Apt, 5 or more storeys	86.5%	72.6%	64.9%	62.2%	57.6%	59.6%	60.9%	66.4%
Total	87.0%	73.0%	56.2%	45.0%	36.9%	32.0%	35.7%	51.9%
<b>Change (in percentage points)</b>								
Single-family	-19.0%	-20.4%	-7.6%	0.9%	1.3%	-1.7%	-0.2%	-5.7%
Semi, duplex, row	-8.9%	-11.6%	-14.9%	-6.6%	-10.1%	-21.4%	-9.3%	-18.9%
Apt, < 5 storeys	-4.2%	-5.8%	-6.4%	-10.1%	-13.2%	-12.8%	-6.0%	-9.1%
Apt, 5 or more storeys	-6.2%	-15.5%	-17.2%	-14.4%	-17.1%	-10.6%	-11.9%	-14.1%
Total	-5.5%	-8.9%	-5.4%	0.1%	-0.8%	-6.7%	-5.9%	-6.2%
Source: Statistics Canada - GO 0238 Table 4: Persons in Non-Farm Non-Reserve Private Households & Non-Farm Non-Reserve Private Households by Age of Primary Household Maintainer (9) by Number of Bedrooms (6) by Tenure (3) by Dwelling Type/Period of Construction (9) Showing Person's Age & Labour Force Status/Presence of Children in Household (11) for Vancouver CMA, CSD, 1996 Census - 20% sample data Statistics Canada - 2006 Census. Catalogue Number 97-554-XCB2006034. Analysis by Will Dunning Inc.								

Interpreting this data and then applying it to future projections is complicated by several factors, including:

- The low vacancies during the period.
- The changing definitions, which make it inadvisable to rely on the detailed dwelling type data.
- Ambiguity about the production of rental housing (while starts of purpose-built rentals were limited, investor-owned condominium units provided some new rental supplies).

With the apartment vacancy rate averaging just 1.1% over the decade, and at just 0.3% in 2006, growth in the number of renter households was constrained by a lack of opportunity. If more rental housing had been available, the number of rental households would undoubtedly have grown by more and renters would have represented a larger share of households in 2006.

However, elsewhere in the country there has been pronounced shifting from rental tenure to home ownership - we should conclude that much of the tenure shifting in the City has been “voluntary”.

The challenging question for the projections is how much additional tenure shifting might occur. Clearly, shifting has continued to date: since the 2006 Census, just 4% of housing completions have been purpose-built rentals<sup>55</sup>, implying that rental shares have continued to fall (even though some of new supply that is counted as homeownership will also be occupied as rentals).

To incorporate this shifting, an alternative set of projections has been developed, in which:

- For apartment buildings, as of 2011, rental shares (by age groups of household maintainers) are further reduced, by one-third of the reduction that occurred during 1996 to 2006<sup>56</sup>. Shares are held constant thereafter.
- To address the problem of shifting of the data for single-detached and duplex housing, all of the low-rise types are combined into one category, which is labelled non-apartment.
- In addition, for the 75 and over age group, there was less shifting in the tenure shares than for the younger age groups. It should be expected that over time, the mechanical shifting of the population into older ages will cause the rental share to fall further for the 75 and over age group. For this reason, it is assumed that in 2016 and later, the tenure split for the 75 and over group will be the same as for the 65 to 74 age group.

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<sup>55</sup> Based on housing completions in the City during June 2006 to March 2009.

<sup>56</sup> Since this projection is for a 5-year period, taking one-third of the change that occurred over a 10-year period implies that in this projection interval the rate of change will be two-thirds of the prior rate. Given the evolving economic conditions, there is quite likely to be some slowing in the rate of shifting going forward.

**Table 4-6**  
**Assumed Rental Shares for Low-Rise Dwellings and Apartments,**  
**By Age Group of Household Maintainers**  
**City of Vancouver, 2006 to 2021**

	15-24	25-34	35-44	45-54	55-64	65-74	75 +
<b>Non-Apartment</b>							
2006	79.0%	59.8%	37.7%	27.0%	16.0%	8.7%	7.9%
2011	76.1%	55.8%	35.9%	28.3%	17.1%	7.7%	7.9%
2016	76.1%	55.8%	35.9%	28.3%	17.1%	7.7%	7.7%
2021	76.1%	55.8%	35.9%	28.3%	17.1%	7.7%	7.7%
<b>Apartments</b>							
2006	89.1%	77.1%	68.5%	62.2%	57.5%	59.2%	62.5%
2011	87.3%	73.9%	65.2%	58.3%	52.6%	55.3%	59.6%
2016	87.3%	73.9%	65.2%	58.3%	52.6%	55.3%	55.3%
2021	87.3%	73.9%	65.2%	58.3%	52.6%	55.3%	55.3%

Source: Will Dunning Inc.

In this scenario, the inventory of occupied rental units expands by about 15,000 units during 2006 to 2021 (versus 22,665 in the original scenario). Growth averages about 1,000 units per year during the 15 years about one third lower than the 1,511 average in the original scenario.

By 2021, rentals comprise 47.3% of the City's occupied housing inventory (down from 51.9% in 2006). In the original scenario, the rental share in 2021 is projected at 49.7%.

**Table 4-7**  
**Second Scenario - Shifts in Tenure Choices**  
**Projected Occupied Rental Dwellings, by Structural Type of Dwelling**  
**and Age Group of the Household Maintainer, City of Vancouver, 2006 to 2021**

Structural Type	15-24	25-34	35-44	45-54	55-64	65-74	75 +	Total
<b>Non-Apartment</b>								
2006	2,045	6,870	8,595	6,860	2,980	1,060	855	29,265
2011	1,878	7,148	7,948	8,021	3,919	1,003	959	30,875
2016	1,806	7,266	8,230	8,313	4,402	1,286	972	32,275
2021	1,786	6,904	9,211	7,959	4,903	1,642	1,015	33,420
<b>Apartment building</b>								
2006	9,005	29,175	23,450	16,605	10,775	6,235	7,015	102,260
2011	8,411	31,189	21,613	17,338	12,133	6,163	7,500	104,347
2016	8,089	31,700	22,380	17,969	13,629	7,903	7,217	108,886
2021	8,000	30,122	25,048	17,204	15,181	10,091	7,534	113,180
<b>Total</b>								
2006	11,050	36,045	32,045	23,465	13,755	7,295	7,870	131,525
2011	10,289	38,337	29,561	25,359	16,052	7,166	8,458	135,222
2016	9,895	38,966	30,610	26,281	18,030	9,189	8,189	141,160
2021	9,787	37,026	34,260	25,162	20,084	11,733	8,549	146,600
% Change 2006-2021	-11.4%	2.7%	6.9%	7.2%	46.0%	60.8%	8.6%	11.5%
Total Change 2006-2021	-1,263	981	2,215	1,697	6,329	4,438	679	15,075
Average Per Year	-84	65	148	113	422	296	45	1,005

Source: Projections by Will Dunning using data from Statistics Canada and BC STATS (PEOPLE 33)

Looking at the projections by structural type (the detailed data is not shown in any tables here):

- The total inventory of occupied housing (owned and rented combined) would increase by about 56,800 units during 2006 to 2021 (3,786 per year).
- Of this, 48% would be for non-apartment dwellings (1,833 per year) and 52% would be for apartments (1,952 per year).
- These shares would be very different from the actual experience of 1996 to 2006, when the inventory of non-apartment dwellings (according to Census data) increased by an average of 189 units per year (just one-tenth of the growth rate that is projected for the next 15 years) and the apartment inventory increased by 3,289 units per year (68% more than the growth rate projected for 2006 to 2021).

During the three years since the Census, starts of non-apartment housing types in the City have amounted to 23% of total starts, far below the projected 48% share of demand. Furthermore, some of the starts will have involved demolition of existing dwellings, which means that the growth of occupied non-apartment dwellings will be even less than is indicated by the starts data: during the 1996 to 2006 Census period, CMHC recorded 9,161 completions of non-apartment dwellings, but the Census recorded growth of 1,890 occupied non-apartment dwellings, implying that there was a substantial amount of demolition or other removals from the non-apartment housing inventory. Apartment completions totalled 32,642 units during the Census period, very similar to the growth of the occupied inventory (32,790 units).

The data on actual changes during 1996 to 2006, and the more recent data on housing starts, suggests very strongly that very limited growth in the supply of non-apartment housing options has caused households who might prefer non-apartment options to live in apartments. For some households, the lack of preferred housing options will mean other changes, including not forming new households that might have been formed, or forming them elsewhere. In either event, the consequence is that total household formation (and growth of the housing inventory) within the City would be less than projected. And, in the event that households are formed elsewhere, the consequence would be that population growth within the City is less than projected.

### ***Third Scenario - Shifts by Dwelling Type***

A third scenario considers that during the past decade, a large share of the actual growth in the City's housing stock has been apartments, as production has been constrained for low-rise forms. The next table shows, for each age group, the shares of households that lived in low-rise and apartment dwellings in 1996 and 2006, and the shifts that occurred (in percentage points). This data shows that for five of the seven age groups, there were substantial reductions in the shares that lived in low-rise dwellings; for the sixth, the share was essentially unchanged, and for the seventh, the share increased.

	15-24	25-34	35-44	45-54	55-64	65-74	75+	Total
<b>Low-rise share</b>								
1996	28.9%	31.8%	47.9%	56.9%	58.3%	54.2%	45.5%	46.4%
2006	20.4%	23.3%	40.0%	48.8%	49.8%	53.8%	49.0%	41.0%
Change (in percentage points)	-8.5%	-8.5%	-7.9%	-8.1%	-8.5%	-0.3%	3.5%	-5.4%
<b>Apartment Share</b>								
1996	71.1%	68.2%	52.1%	43.1%	41.7%	45.8%	54.5%	53.6%
2006	79.6%	76.7%	60.0%	51.2%	50.2%	46.2%	51.0%	59.0%
Change (in percentage points)	8.5%	8.5%	7.9%	8.1%	8.5%	0.3%	-3.5%	5.4%
Source: Statistics Canada - GO 0238 Table 4: Persons in Non-Farm Non-Reserve Private Households & Non-Farm Non-Reserve Private Households by Age of Primary Household Maintainer (9) by Number of Bedrooms (6) by Tenure (3) by Dwelling Type/Period of Construction (9) Showing Person's Age & Labour Force Status/Presence of Children in Household (11) for Vancouver CMA, CSD, 1996 Census - 20% sample data Statistics Canada - 2006 Census. Catalogue Number 97-554-XCB2006034. Analysis by Will Dunning Inc.								

These shifts provide factors that are used to project shares by dwelling as of 2021. The shifts are applied mechanically for the six age brackets spanning 15 to 74<sup>57</sup>. For the oldest bracket, it is assumed that the share will be unchanged at the 2006 rate. The next step is to apply tenure choice rates (by dwelling type), which are assumed to be the same as in the second scenario. Results are summarized in the next table. Highlights of this scenario are:

- There would be no change in the total growth of the housing inventory compared to the prior scenarios about 56,800 over the 15 years, or an average of about 3,800 per year).
- There would be a large shift towards apartments, which would account for more than 80% of the growth of the total housing stock (about 3,050 units per year, versus 1,950 per year in the prior scenarios).
- By 2021, apartments (rental and ownership units combined) would account for 63% of the total inventory of occupied housing, up from 59% in 2006.
- Correspondingly, low-rise dwellings would account for just 19% of the growth (725 units per year, versus about 1,825 per year in the prior scenarios).
- The rental sector would expand to about 151,250 units in 2021 (1,315 units per year), a 15% increase from 2006 (when there were about 131,500 rented units). Rentals would account for 48.8% of the occupied housing inventory in 2021, down from 51.9% in 2006.
- Within the rental sector, the inventory of occupied apartments would increase by 1,421 units per year; the number of occupied low-rise units would fall by an average of 106 units per year, as some rented low-rise units would be converted to owner-occupancy.
- The ownership sector would expand by 30%, to about 159,000 occupied units, from 121,845 units in 2006. The increase of 2,471 units per year would include 838 low-rise units per year and 1,633 apartment units per year.

<sup>57</sup> In prior scenarios, shifts are calculated based on changes in percentage points. This scenario uses an exponential shift, and assumes that the change over the 15 years will be the same as the change that occurred during 1996 to 2006. In other words, the projected rate of change is 2/3rds the prior rate.

**Table 4-9**  
**Third Scenario – Shifts in Dwelling Type Choices**  
**City of Vancouver, Projected Occupied Dwellings,**  
**by Tenure, Structural Type of Dwelling**  
**and Age Group of the Household Maintainer, 2006 to 2021**

<i>Structural Type</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>	<i>Total</i>
<b>Rental Tenure</b>								
<i>Low-Rise</i>								
2006	2,045	6,870	8,595	6,860	2,980	1,060	855	29,265
2021	1,260	5,051	7,696	6,829	4,190	1,631	1,015	27,673
<i>Apartment Building</i>								
2006	9,005	29,175	23,450	16,605	10,775	6,235	7,015	102,260
2021	8,604	32,576	27,796	19,531	17,371	10,166	7,534	123,577
<i>Total Rental Tenure</i>								
2006	11,050	36,045	32,045	23,465	13,755	7,295	7,870	131,525
2021	9,864	37,627	35,492	26,359	21,561	11,797	8,549	151,250
<b>Ownership Tenure</b>								
<i>Low-Rise</i>								
2006	545	4,620	14,225	18,590	15,600	11,190	9,965	74,735
2021	396	4,005	13,727	17,306	20,284	19,469	12,115	87,303
<i>Apartment Building</i>								
2006	1,105	8,680	10,765	10,105	7,955	4,290	4,210	47,110
2021	1,255	11,528	14,866	13,983	15,664	8,216	6,088	71,600
<i>Total Ownership Tenure</i>								
2006	1,650	13,300	24,990	28,695	23,555	15,480	14,175	121,845
2021	1,651	15,533	28,593	31,290	35,949	27,685	18,203	158,903
<b>Both Tenures</b>								
<i>Low-Rise</i>								
2006	2,590	11,490	22,820	25,450	18,580	12,250	10,820	104,000
2021	1,656	9,056	21,423	24,135	24,475	21,100	13,130	114,976
<i>Apartment Building</i>								
2006	10,110	37,855	34,215	26,710	18,730	10,525	11,225	149,370
2021	9,859	44,104	42,662	33,514	33,035	18,382	13,622	195,177
<i>Total Both Tenures</i>								
2006	12,700	49,345	57,035	52,160	37,310	22,775	22,045	253,370
2021	11,515	53,160	64,086	57,649	57,510	39,482	26,752	310,153

Source: Projections by Will Dunning using data from Statistics Canada and BC STATS (PEOPLE 33)

## Conclusion

The table below summarizes the three scenarios. Contrasting these scenarios:

- The first two scenarios indicate the outcomes that might result if households pursue the preferences that currently exist.
- The third scenario indicates an outcome that might occur if choices are constrained, by lack of capacity for low-rise housing and/or if rising housing costs encourage consumers to change their decisions about types of dwellings. We might think of the third scenario as an outcome of “economic rationing”.

**Table 4-10**  
**Comparing Three Scenarios for Rental Housing Requirements in the City of Vancouver**

	<i>Scenario 1 Demographic Change Only</i>	<i>Scenario 2 Shifting Tenure Choices</i>	<i>Scenario 3 Shifts in Dwelling Types and Tenure Choices</i>
# of renter households in 2021 (versus 131,525 in 2006)	154,190	146,600	151,250
% Change versus 2006	17.2%	11.5%	15.0%
Growth per Year During 2006-2021			
Low-rise	313	277	-106
Apartments	1,198	728	1,421
Total	1,511	1,005	1,315
% of Housing Tenant-Occupied in 2021 (versus 51.9% in 2006)	49.7%	47.3%	48.8%
Source: Will Dunning Inc.			

## ***Part 5 - Projections of Core Housing Need for Renters***

The data on core housing need (which was discussed in Part 2 of this report) shows need by type of household and by age group<sup>58</sup>. To generate projections, in this section, a multi-stage projection model is employed. The approach is similar to that used in Part 4, with one major difference of approach:

- In Part 4, the projections look at future housing requirements by type of dwelling (and then by housing tenure).
- In this section, the projections are for growth in the numbers of households, by type of household. Then, the households are allocated to home ownership and rental tenure.
- An additional difference is that these projections indicate numbers of households that would be included in the core need analysis (Part 4 projected total numbers of households).
- Incidences of core need are applied to these projections of households, by type, age group, and housing tenure, to project numbers of households that will be in core need<sup>59</sup>.
- Affordability gaps are applied to each sub-group, to project the total affordability gap.

Four scenarios are developed. The first scenario uses status quo assumptions (current household formation rates, tenure choices, and incidences of core housing need). Subsequent scenarios layer-on alternative assumptions.

### ***First Scenario***

#### ***Projected Household Growth***

Based on household formation rates as of 2006, the first scenario projects that the number of households within the City that would be included in the core need analysis would rise by about 54,000 (23%), during the 15 years, from about 231,000 in 2006 to close to 285,000 in 2021. This would amount to more than 3,500 households per year.

Reflecting the pattern of population growth, the most rapid rates of household growth would be for the 65 to 74 and 55 to 64 age groups. These two age groups would increase their shares of total households (from a combined 24.4% in 2006 to 32.0% in 2021). All other age groups would see reduced shares, with the largest drops for the 15 to 24 and 25 to 34 groups: in combination their share would fall from 22.9% in 2006 to 19.5% in 2021.

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<sup>58</sup> In the analysis and projections shown below, some figures vary slightly compared to the data provided by CMHC. This occurs because of rounding within the original data.

<sup>59</sup> The available data presented some challenges, including:

- Population projections include population located outside of the City, in the University Endowment Lands.
- It appears that household type definitions (and therefore the household counts) employed within the core need data are different than those used in other Census data.

To generate projections consistent with the core need data the model was constructed in such a way that it projects the numbers of households that will be included in the core need analysis (remembering that some households are excluded) and then projects the numbers of households that in future might be estimated to be in core need. Therefore, the projections of households in this section of the analysis are not of the total numbers of households. Part 4 does project total numbers of households (by structural type and tenure).

In terms of types of households:

- There would be a slight shift towards couples without children (from 21.0% in 2006 to 21.6% in 2021) and towards multiple family households (from 3.0% to 3.2%).
- The share of lone parent families would be stable at 8.2%.
- Shares would be reduced for non-family households (from 43.7% to 43.2%) and the share for couples with children would fall fractionally (from 24.0% to 23.9%).

**Table 5-1**  
**City of Vancouver, Projected Households for Core Need Analysis,**  
**by Type of Household,**  
**by Age Group of the Household Maintainer, 2006 to 2021**

Household Type	15-24	25-34	35-44	45-54	55-64	65-74	75 +	Total
<b>Couples Without Children</b>								
2006	1,900	12,525	8,210	6,290	7,270	7,025	5,405	48,625
2011	1,811	13,971	7,960	7,006	8,956	7,438	6,060	53,202
2016	1,742	14,200	8,242	7,261	10,060	9,538	6,283	57,326
2021	1,723	13,493	9,225	6,952	11,206	12,178	6,559	61,336
<b>Couples With Children</b>								
2006	325	5,215	17,820	17,830	9,240	3,555	1,530	55,515
2011	310	5,817	17,277	19,860	11,383	3,764	1,715	60,126
2016	298	5,913	17,890	20,583	12,786	4,826	1,779	64,074
2021	295	5,618	20,023	19,706	14,243	6,163	1,857	67,904
<b>Lone Parent Family</b>								
2006	285	1,650	4,515	5,785	3,040	1,500	2,105	18,880
2011	272	1,841	4,377	6,444	3,745	1,588	2,360	20,627
2016	261	1,871	4,533	6,678	4,207	2,036	2,447	22,033
2021	258	1,778	5,073	6,394	4,686	2,600	2,554	23,344
<b>Multiple Family</b>								
2006	40	790	1,720	1,705	1,270	1,015	495	7,035
2011	38	881	1,668	1,899	1,565	1,075	555	7,680
2016	37	896	1,727	1,968	1,757	1,378	575	8,338
2021	36	851	1,933	1,884	1,958	1,760	601	9,022
<b>Non-Family</b>								
2006	6,135	23,980	20,070	16,560	13,445	8,950	11,895	101,035
2011	5,848	26,749	19,458	18,445	16,563	9,477	13,336	109,876
2016	5,624	27,187	20,149	19,117	18,605	12,151	13,827	116,661
2021	5,563	25,834	22,551	18,303	20,724	15,515	14,435	122,925
<b>Total</b>								
2006	8,685	44,160	52,335	48,170	34,265	22,045	21,430	231,090
2011	8,279	49,259	50,740	53,655	42,212	23,342	24,026	251,512
2016	7,962	50,066	52,541	55,607	47,415	29,930	24,912	268,433
2021	7,875	47,574	58,805	53,239	52,816	38,216	26,006	284,531
% Change 2006-2021	-9.3%	7.7%	12.4%	10.5%	54.1%	73.4%	21.4%	23.1%
Total Change 2006-2021	-810	3,414	6,470	5,069	18,551	16,171	4,576	53,441
Average Per Year	-54	228	431	338	1,237	1,078	305	3,563
Source: Projections by Will Dunning using data from Canada Mortgage and Housing Corporation, Statistics Canada, and BC STATS (PEOPLE 33)								

### Projected Growth of Renter Households

In the first scenario it is assumed that for each sub-group (household type by age group), the tenure shares for owner and renting stay at 2006 rates. The projection is that the number of

renter household that would be included in the core need analysis would rise by 18%, from about 116,500 in 2006 to about 137,500 in 2021.

The growth for rental tenure would be less than the growth rate for home ownership (which would rise by 28%). In this analysis, there would be a slight shift away from renting to home ownership within the City: in 2006, the rental share was 50.4% of the households included in the core need analysis; by 2021 the share would be 48.3%. This shifting occurs because of the shift of population into older age brackets, in which home ownership is more likely.

More than one-half (62%) of the growth in the number of renter households would be for non-family households (with a concentration in the older age groups). Couples without children would account for 16% of the growth, with lower shares for couples with children (12%), lone parent families (8%), and multiple family households (1%).

<i>Household Type</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>	<i>Total</i>
<b>Couples Without Children</b>								
2006	1,650	8,510	4,205	2,475	1,690	1,285	1,070	20,885
2011	1,573	9,493	4,077	2,757	2,082	1,361	1,200	22,541
2016	1,513	9,648	4,222	2,857	2,339	1,745	1,244	23,567
2021	1,496	9,168	4,725	2,735	2,605	2,228	1,298	24,255
<b>Couples With Children</b>								
2006	235	2,815	7,080	4,475	1,325	320	210	16,460
2011	224	3,140	6,864	4,985	1,632	339	235	17,419
2016	215	3,192	7,108	5,166	1,834	434	244	18,193
2021	213	3,033	7,955	4,946	2,042	555	255	18,999
<b>Lone Parent Family</b>								
2006	225	1,240	3,155	3,035	1,080	380	375	9,490
2011	214	1,383	3,059	3,381	1,330	402	420	10,190
2016	206	1,406	3,167	3,504	1,494	516	436	10,729
2021	204	1,336	3,545	3,354	1,665	659	455	11,218
<b>Multiple Family</b>								
2006	20	255	210	295	235	135	35	1,185
2011	19	284	204	329	290	143	39	1,307
2016	18	289	211	341	325	183	41	1,408
2021	18	275	236	326	362	234	42	1,494
<b>Non-Family</b>								
2006	5,470	19,025	14,470	10,910	7,950	4,845	5,820	68,490
2011	5,214	21,222	14,029	12,152	9,794	5,130	6,525	74,066
2016	5,015	21,570	14,527	12,594	11,001	6,578	6,766	78,050
2021	4,960	20,496	16,259	12,058	12,254	8,399	7,063	81,488
<b>Total</b>								
2006	7,600	31,845	29,120	21,190	12,280	6,965	7,510	116,510
2011	7,245	35,522	28,232	23,603	15,128	7,375	8,420	125,524
2016	6,967	36,104	29,235	24,461	16,993	9,456	8,730	131,947
2021	6,891	34,307	32,720	23,420	18,928	12,074	9,114	137,454
% Change 2006-2021	-9.3%	7.7%	12.4%	10.5%	54.1%	73.4%	21.4%	18.0%
Total Change 2006-2021	-709	2,462	3,600	2,230	6,648	5,109	1,604	20,944
Average Per Year	-47	164	240	149	443	341	107	1,396
Source: Projections by Will Dunning using data from Canada Mortgage and Housing Corporation, Statistics Canada, and BC STATS (PEOPLE 33)								

*Projected Growth of Core Housing Need for Renter Households*

Assuming that (for each sub-group within the rental sector) the incidences of core housing need remain at 2006 rates, the number of tenant households in core need would rise from just over 35,000 in 2006 to more than 42,400 in 2021. This increase of 20.8% would exceed the growth rate for the number of renter households (18.0%), and cause the total incidence of need among renters to rise to 30.9% in 2021 from 30.2% in 2006. This increased incidence occurs because of the shift towards non-family households (especially in older age groups) which have above-average incidences of need – non-family households account for 70% of the growth in core need among renters.

By household type, shares of core need would shift as follows:

- Couples without children – slightly reduced from 11.0% in 2006 to 10.8% in 2021.
- Couples with children – reduced from 12.7% in 2006 to 12.1% in 2021.
- Lone parent families - slightly reduced from 13.0% in 2006 to 12.6% in 2021.
- Multiple family households – unchanged at 0.4%.
- Non-family households – increased from 62.9% in 2006 to 64.1% in 2021.

By age groups, the shifts in shares would be:

- 15 to 24 – reduced from 5.9% in 2006 to 4.5% in 2021.
- 25 to 34 – reduced from 20.0% in 2006 to 17.9% in 2021.
- 35 to 44 – reduced from 24.3% in 2006 to 22.6% in 2021.
- 45 to 54 – reduced from 19.8% in 2006 to 18.2% in 2021.
- 55 to 64 – increased from 12.3% in 2006 to 15.6% in 2021.
- 65 to 74 – increased from 8.2% in 2006 to 11.8% in 2021.
- 75 and over – increased slightly from 9.4% in 2006 to 9.5% in 2021.

**Table 5-3**  
**Projected Core Need Among Renter Households,**  
**by Type of Household and Age Group**  
**of the Household Maintainer, 2006 to 2021**

<i>Household Type</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>	<i>Total</i>
<b>Couples Without Children</b>								
2006	535	1,185	570	375	330	445	410	3,850
2011	510	1,322	553	418	407	471	460	4,140
2016	490	1,343	572	433	457	604	477	4,377
2021	485	1,277	640	414	509	771	498	4,594
<b>Couples With Children</b>								
2006	105	775	2,010	1,125	315	60	80	4,470
2011	100	864	1,949	1,253	388	64	90	4,708
2016	96	879	2,018	1,299	436	81	93	4,902
2021	95	835	2,258	1,243	486	104	97	5,119
<b>Lone Parent Family</b>								
2006	120	715	1,675	1,355	375	185	160	4,585
2011	114	798	1,624	1,509	462	196	179	4,882
2016	110	811	1,682	1,564	519	251	186	5,123
2021	109	770	1,882	1,498	578	321	194	5,352
<b>Multiple Family</b>								
2006	0	20	30	55	30	0	10	145
2011	0	22	29	61	37	0	11	161
2016	0	23	30	63	42	0	12	169
2021	0	22	34	61	46	0	12	174
<b>Non-Family</b>								
2006	1,325	4,345	4,240	4,065	3,255	2,205	2,655	22,090
2011	1,263	4,847	4,111	4,528	4,010	2,335	2,977	24,070
2016	1,215	4,926	4,257	4,693	4,504	2,994	3,086	25,674
2021	1,201	4,681	4,764	4,493	5,017	3,823	3,222	27,201
<b>Total</b>								
2006	2,085	7,040	8,525	6,975	4,305	2,895	3,315	35,140
2011	1,988	7,853	8,265	7,769	5,303	3,065	3,717	37,960
2016	1,911	7,982	8,559	8,052	5,957	3,930	3,854	40,245
2021	1,891	7,584	9,579	7,709	6,636	5,019	4,023	42,440
% Change 2006-2026	-9.3%	7.7%	12.4%	10.5%	54.1%	73.4%	21.4%	20.8%
Total Change 2006-2021	-194	544	1,054	734	2,331	2,124	708	7,300
Average Per Year	-13	36	70	49	155	142	47	487
Source: Projections by Will Dunning using data from Canada Mortgage and Housing Corporation, Statistics Canada, and BC STATS (PEOPLE 33)								

*Projected Housing Affordability Gaps for Renter Households*

This analysis applied the affordability gaps (by sub-group) as of 2006 to the projected numbers of renter households in core need. The result is a set of estimates of the total affordability gaps at the future projection dates.

These projections suggest that the total affordability gap for renters in the City of Vancouver could rise by almost \$30 million (about 21%) during 2006 to 2021. The projections are in 2006 dollars. Actual amounts of increase would depend upon the rate of inflation.

Non-family households, which accounted for 60.9% of the gap in 2006, would have a 24.4% rise in total gaps, bringing their share of the total to 62.5% in 2021. Other household types would see lower rates of increase.

By age groups, the growth rate would be greatest for the 65 to 74 group (73%) and 55 to 64 group (54%). The growth rate for the 75 and over group would be close to the average rate. Groups aged under 55 years would have growth rates below the overall average.

<i>Household Type</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>	<i>Total</i>
<b>Couples Without Children</b>								
2006	\$1.6	\$3.6	\$2.0	\$1.3	\$1.3	\$1.5	\$1.1	\$12.4
2011	\$1.5	\$4.1	\$2.0	\$1.5	\$1.6	\$1.5	\$1.2	\$13.3
2016	\$1.4	\$4.1	\$2.0	\$1.5	\$1.8	\$2.0	\$1.3	\$14.1
2021	\$1.4	\$3.9	\$2.3	\$1.5	\$2.0	\$2.5	\$1.3	\$14.9
<b>Couples With Children</b>								
2006	\$0.2	\$2.9	\$8.4	\$4.8	\$1.1	\$0.2	\$0.3	\$17.9
2011	\$0.2	\$3.2	\$8.1	\$5.3	\$1.3	\$0.2	\$0.3	\$18.8
2016	\$0.2	\$3.3	\$8.4	\$5.5	\$1.5	\$0.3	\$0.3	\$19.5
2021	\$0.2	\$3.1	\$9.4	\$5.3	\$1.7	\$0.4	\$0.3	\$20.4
<b>Lone Parent Family</b>								
2006	\$0.9	\$4.2	\$9.2	\$6.6	\$1.8	\$0.9	\$0.8	\$24.2
2011	\$0.8	\$4.7	\$8.9	\$7.3	\$2.2	\$0.9	\$0.9	\$25.7
2016	\$0.8	\$4.8	\$9.2	\$7.6	\$2.4	\$1.2	\$0.9	\$26.9
2021	\$0.8	\$4.5	\$10.3	\$7.2	\$2.7	\$1.5	\$0.9	\$28.1
<b>Multiple Family</b>								
2006	\$0.0	\$0.1	\$0.1	\$0.2	\$0.1	\$0.0	\$0.0	\$0.5
2011	\$0.0	\$0.1	\$0.1	\$0.2	\$0.2	\$0.0	\$0.0	\$0.6
2016	\$0.0	\$0.1	\$0.1	\$0.2	\$0.2	\$0.0	\$0.0	\$0.6
2021	\$0.0	\$0.1	\$0.1	\$0.2	\$0.2	\$0.0	\$0.0	\$0.7
<b>Non-Family</b>								
2006	\$4.2	\$14.1	\$17.0	\$17.9	\$15.4	\$8.1	\$9.1	\$85.8
2011	\$4.0	\$15.7	\$16.5	\$19.9	\$18.9	\$8.6	\$10.2	\$93.9
2016	\$3.8	\$16.0	\$17.0	\$20.6	\$21.3	\$11.0	\$10.6	\$100.4
2021	\$3.8	\$15.2	\$19.1	\$19.7	\$23.7	\$14.1	\$11.1	\$106.7
<b>Total</b>								
2006	\$6.8	\$24.9	\$36.7	\$30.7	\$19.6	\$10.7	\$11.3	\$140.8
2011	\$6.5	\$27.8	\$35.6	\$34.2	\$24.2	\$11.3	\$12.7	\$152.3
2016	\$6.3	\$28.2	\$36.8	\$35.5	\$27.2	\$14.5	\$13.1	\$161.6
2021	\$6.2	\$26.8	\$41.2	\$34.0	\$30.3	\$18.5	\$13.7	\$170.7
% Change 2006-2021	-9.3%	7.7%	12.4%	10.5%	54.1%	73.4%	21.4%	21.3%
Total Change 2006-2021	-\$0.6	\$1.9	\$4.5	\$3.2	\$10.6	\$7.8	\$2.4	\$29.9
Average Per Year	\$0.0	\$0.1	\$0.3	\$0.2	\$0.7	\$0.5	\$0.2	\$2.0
Source: Projections by Will Dunning using data from Canada Mortgage and Housing Corporation, Statistics Canada, and BC STATS (PEOPLE 33)								

### **Second Scenario – Tenure Shifting**

As was discussed in Part 4 (on future demand for rentals by dwelling type), there was a significant shift towards home ownership during the past decade, and based on construction data since the 2006 Census that shifting has continued. Similarly, the scenario that follows here develops and incorporates assumptions on tenure shifting.

The following table shows the shares of dwellings that were tenant-occupied in 1996 and 2006, segmenting the data by types of households and ages of household maintainers. The data indicates that rental shares fell for most of the subgroups, and by substantial amounts. For example, for husband wife families with household maintainers aged 75 and older, 22.2% were renters in 1996 but the share fell to 18.7% in 2006.

There were some cases in which the renter shares increased:

- For the 45-54 age groups, there were substantial rises in renter shares for husband-wife households (which includes couples with and without children), and a very small increase for multiple families. As households age there is shifting towards home ownership. The data suggests that among households that had been 35 to 44 in 1996 there was not much tenure shifting as they became 45 to 54 in 2006 (compared to the amounts of shifting for prior periods). The deterioration of housing affordability that happened during the period is an obvious explanation for the reduced shifting.
- For the 55-64 age group there was a small rise in the renter share for husband-wife families.

	15-24	25-34	35-44	45-54	55-64	65-74	75+	Total
<b>1996</b>								
Husband/Wife Hhlds	91.5%	73.2%	43.8%	25.3%	17.5%	18.9%	22.2%	38.7%
Lone Parent Hhlds	93.0%	90.8%	77.4%	49.9%	41.1%	28.7%	19.6%	63.3%
Multiple-Family Hhlds	52.5%	34.8%	14.7%	17.1%	10.8%	13.2%	14.3%	19.3%
Non Family Hhlds	92.7%	88.2%	78.9%	71.8%	68.3%	59.6%	52.4%	75.8%
Total Hhlds	92.1%	82.0%	61.6%	44.9%	37.6%	38.8%	41.7%	58.1%
<b>2006</b>								
Husband/Wife Hhlds	86.6%	64.4%	43.7%	29.3%	18.6%	15.8%	18.7%	36.6%
Lone Parent Hhlds	78.1%	74.4%	68.4%	52.5%	35.8%	24.8%	18.5%	50.8%
Multiple-Family Hhlds	44.4%	34.2%	12.1%	17.1%	18.4%	13.3%	7.1%	16.8%
Non Family Hhlds	87.6%	79.9%	72.3%	66.4%	59.6%	54.1%	49.5%	68.9%
Total Hhlds	86.9%	73.1%	56.2%	45.0%	36.9%	32.0%	35.7%	51.9%
<b>Change (in percentage points)</b>								
Husband/Wife Hhlds	-4.9%	-8.7%	-0.1%	4.0%	1.1%	-3.1%	-3.5%	-2.1%
Lone Parent Hhlds	-14.9%	-16.4%	-9.0%	2.6%	-5.4%	-3.9%	-1.2%	-12.5%
Multiple-Family Hhlds	-8.1%	-0.7%	-2.6%	0.1%	7.6%	0.1%	-7.2%	-2.5%
Non Family Hhlds	-5.1%	-8.3%	-6.6%	-5.4%	-8.7%	-5.5%	-2.8%	-6.9%
Total Hhlds	-5.1%	-8.9%	-5.5%	0.1%	-0.7%	-6.8%	-5.9%	-6.2%
Source: Statistics Canada - GO 0238 Table 1: Non-Farm Non-Reserve Private Households by Household Type (7) by Age of Primary Household Maintainer (8) by Household Income (18) by Tenure/Condo Tenure (5) Showing Count & Average Household Statistics Canada - 2006 Census. Catalogue Number 97-554-XCB2006035. Analysis by Will Dunning Inc.								

As was done in Part 4, to incorporate the continuation of shifting that has occurred since 2006, the second scenario assumes:

- For each household type/age group, as of 2011, rental shares by age group are adjusted by one-third of the change occurred during 1996 to 2006<sup>60</sup>.
- For the groups for which renter shares fell during 1996 to 2006, there are further reductions in 2011; similarly, for those for which the shares increased, there are further increases.
- Shares are held constant thereafter.
- It is possible that the mechanical shifting of the population into older ages will cause the rental share to fall further for the 75 and over age group, but no further adjustment was added for this.

	15-24	25-34	35-44	45-54	55-64	65-74	75 +
<b>Couples Without Children</b>							
2006	86.84%	67.94%	51.22%	39.35%	23.25%	18.29%	19.80%
2011	85.20%	65.03%	51.19%	40.68%	23.61%	17.25%	18.63%
<b>Couples With Children</b>							
2006	72.31%	53.98%	39.73%	25.10%	14.34%	9.00%	13.73%
2011	70.67%	51.07%	39.71%	26.43%	14.71%	7.96%	12.56%
<b>Lone Parent Family</b>							
2006	78.95%	75.15%	69.88%	52.46%	35.53%	25.33%	17.81%
2011	73.97%	69.68%	66.86%	53.33%	33.74%	24.02%	17.42%
<b>Multiple Family</b>							
2006	50.00%	32.28%	12.21%	17.30%	18.50%	13.30%	7.07%
2011	47.31%	32.06%	11.34%	17.33%	21.03%	13.35%	4.67%
<b>Non-Family</b>							
2006	89.16%	79.34%	72.10%	65.88%	59.13%	54.13%	48.93%
2011	87.45%	76.58%	69.89%	64.08%	56.24%	52.30%	47.99%
Source: Will Dunning Inc.							

In this scenario, the number of rental units included in the CMHC core need analysis expands by 17,535 units during 2006 to 2021 (versus 20,944 in the original scenario). Growth averages 1,169 units per year during the 15 years, less than the 1,396 average in the original scenario.

By 2021, rentals comprise 47.1% of the City's included inventory (down from 50.4% in 2006). In the original scenario, the rental share in 2021 is projected at 48.3%. The slowdown of growth in the rental sector is greatest for the 25 to 34 age group, followed by the 35 to 44 bracket, and the shifting towards home ownership is greatest for non-family households, rather than for families.

<sup>60</sup> Since this projection is for a 5-year period, taking one-third of the change that occurred over a 10-year period implies that in this projection interval the rate of change will be two-thirds of the prior rate. Given the evolving economic conditions, there is quite likely to be some slowing in the rate of shifting going forward.

<i>Household Type</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>	<i>Total</i>
<b>Couples Without Children</b>								
2006	1,650	8,510	4,205	2,475	1,690	1,285	1,070	20,885
2011	1,543	9,086	4,075	2,850	2,115	1,283	1,129	22,081
2016	1,484	9,234	4,220	2,954	2,376	1,645	1,171	23,084
2021	1,468	8,775	4,723	2,828	2,646	2,101	1,222	23,762
<b>Couples With Children</b>								
2006	235	2,815	7,080	4,475	1,325	320	210	16,460
2011	219	2,971	6,860	5,249	1,674	300	215	17,488
2016	211	3,019	7,103	5,440	1,881	384	223	18,262
2021	208	2,869	7,950	5,209	2,095	491	233	19,055
<b>Lone Parent Family</b>								
2006	225	1,240	3,155	3,035	1,080	380	375	9,490
2011	201	1,282	2,927	3,437	1,263	382	411	9,903
2016	193	1,303	3,031	3,562	1,419	489	426	10,424
2021	191	1,239	3,392	3,410	1,581	625	445	10,882
<b>Multiple Family</b>								
2006	20	255	210	295	235	135	35	1,185
2011	18	282	189	329	329	143	26	1,317
2016	17	287	196	341	370	184	27	1,422
2021	17	273	219	327	412	235	28	1,510
<b>Non-Family</b>								
2006	5,470	19,025	14,470	10,910	7,950	4,845	5,820	68,490
2011	5,114	20,485	13,600	11,820	9,316	4,956	6,399	71,690
2016	4,918	20,821	14,082	12,250	10,464	6,355	6,635	75,525
2021	4,864	19,784	15,761	11,728	11,656	8,114	6,927	78,835
<b>Total</b>								
2006	7,600	31,845	29,120	21,190	12,280	6,965	7,510	116,510
2011	7,095	34,106	27,650	23,685	14,697	7,064	8,181	122,479
2016	6,824	34,665	28,632	24,547	16,509	9,058	8,482	128,717
2021	6,749	32,939	32,045	23,502	18,390	11,566	8,855	134,045
% Change 2006-2026	-11.2%	3.4%	10.0%	10.9%	49.8%	66.1%	17.9%	15.1%
Total Change 2006-2021	-851	1,094	2,925	2,312	6,110	4,601	1,345	17,535
Average Per Year	-57	73	195	154	407	307	90	1,169
Source: Projections by Will Dunning using data from Canada Mortgage and Housing Corporation, Statistics Canada, and BC STATS (PEOPLE 33)								

In this scenario, for each sub-group within the rental sector, the incidences of core housing need are expected to change in 2011, for two reasons.

- Firstly, analysis completed in Part 2 of this report concluded that changes for employment, incomes, and rents would cause the share of renters in need to rise by 0.2 percentage point, which is a relatively small adjustment.
- The second adjustment is due to tenure shifting. Virtually all of tenants who move to home ownership will not have been in core need. Since there would be a smaller number of renter households in each subset of households (the denominators in the calculations of incidence), there would be rises in the incidences.

Incidences are held at 2011 levels for 2016 and 2021. Projections of core need combine reduced growth in numbers of renter households with increased incidence of households in need. In this scenario, the outcome is that growth in the numbers of households in core need is almost the same as in the first scenario. By 2021, there would be 42,278 renter households in core need in this scenario, versus 42,400 in the first scenario. Growth in the number of renters in core need would be 7,138 households during the 15 years (476 per year) in this scenario versus 7,300 (487 per year) in the first scenario. The incidence of core need among renters would be 31.5% in 2001, up from 30.2% in 2006. In the first scenario, the incidence in 2021 would be 30.9%. As previously, the need would shift into the 55 to 74 age brackets, and towards non-family households.

<i>Household Type</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>	<i>Total</i>
<b>Couples Without Children</b>								
2006	535	1,185	570	375	330	445	410	3,850
2011	512	1,321	561	432	416	452	440	4,133
2016	492	1,343	581	448	467	579	456	4,365
2021	487	1,276	650	429	520	739	476	4,577
<b>Couples With Children</b>								
2006	105	775	2,010	1,125	315	60	80	4,470
2011	100	848	1,962	1,313	400	57	83	4,763
2016	96	862	2,031	1,361	449	74	87	4,960
2021	95	819	2,274	1,303	500	94	90	5,175
<b>Lone Parent Family</b>								
2006	120	715	1,675	1,355	375	185	160	4,585
2011	113	785	1,608	1,528	449	189	177	4,849
2016	109	798	1,665	1,584	505	242	183	5,086
2021	108	758	1,864	1,516	562	309	192	5,308
<b>Multiple Family</b>								
2006	0	20	30	55	30	0	10	145
2011	0	23	28	62	42	0	8	162
2016	0	23	29	64	47	0	8	171
2021	0	22	32	62	52	0	8	176
<b>Non-Family</b>								
2006	1,325	4,345	4,240	4,065	3,255	2,205	2,655	22,090
2011	1,271	4,852	4,102	4,508	3,946	2,308	2,960	23,947
2016	1,222	4,931	4,248	4,672	4,433	2,959	3,069	25,534
2021	1,209	4,686	4,754	4,474	4,938	3,778	3,204	27,042
<b>Total</b>								
2006	2,085	7,040	8,525	6,975	4,305	2,895	3,315	35,140
2011	1,996	7,829	8,260	7,843	5,253	3,006	3,668	37,854
2016	1,919	7,957	8,553	8,128	5,900	3,854	3,803	40,116
2021	1,898	7,561	9,573	7,782	6,572	4,921	3,970	42,278
% Change 2006-2021	-9.0%	7.4%	12.3%	11.6%	52.7%	70.0%	19.8%	20.3%
Total Change 2006-2021	-187	521	1,048	807	2,267	2,026	655	7,138
Average Per Year	-12	35	70	54	151	135	44	476
Source: Projections by Will Dunning using data from Canada Mortgage and Housing Corporation, Statistics Canada, and BC STATS (PEOPLE 33)								

In this scenario, the total affordability gap (in 2006 dollars) for renters in the City of Vancouver rises by about \$29 million (about 21%) during 2006 to 2021. The growth in the gap during 2006 to 2021 is just slightly less than in the original scenario (\$30 million).

<i>Household Type</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>	<i>Total</i>
<b>Couples Without Children</b>								
2006	\$1.6	\$3.6	\$2.0	\$1.3	\$1.3	\$1.5	\$1.1	\$12.4
2011	\$1.5	\$4.0	\$2.0	\$1.5	\$1.6	\$1.5	\$1.2	\$13.3
2016	\$1.4	\$4.1	\$2.1	\$1.6	\$1.8	\$1.9	\$1.2	\$14.1
2021	\$1.4	\$3.9	\$2.3	\$1.5	\$2.0	\$2.4	\$1.3	\$14.9
<b>Couples With Children</b>								
2006	\$0.2	\$2.9	\$8.4	\$4.8	\$1.1	\$0.2	\$0.3	\$17.9
2011	\$0.2	\$3.2	\$8.2	\$5.6	\$1.4	\$0.2	\$0.3	\$19.0
2016	\$0.2	\$3.2	\$8.5	\$5.8	\$1.6	\$0.3	\$0.3	\$19.8
2021	\$0.2	\$3.1	\$9.5	\$5.5	\$1.7	\$0.3	\$0.3	\$20.7
<b>Lone Parent Family</b>								
2006	\$0.9	\$4.2	\$9.2	\$6.6	\$1.8	\$0.9	\$0.8	\$24.2
2011	\$0.8	\$4.6	\$8.8	\$7.4	\$2.1	\$0.9	\$0.9	\$25.5
2016	\$0.8	\$4.7	\$9.1	\$7.7	\$2.4	\$1.2	\$0.9	\$26.7
2021	\$0.8	\$4.5	\$10.2	\$7.3	\$2.6	\$1.5	\$0.9	\$27.8
<b>Multiple Family</b>								
2006	\$0.0	\$0.1	\$0.1	\$0.2	\$0.1	\$0.0	\$0.0	\$0.5
2011	\$0.0	\$0.1	\$0.1	\$0.2	\$0.2	\$0.0	\$0.0	\$0.6
2016	\$0.0	\$0.1	\$0.1	\$0.2	\$0.2	\$0.0	\$0.0	\$0.7
2021	\$0.0	\$0.1	\$0.1	\$0.2	\$0.2	\$0.0	\$0.0	\$0.7
<b>Non-Family</b>								
2006	\$4.2	\$14.1	\$17.0	\$17.9	\$15.4	\$8.1	\$9.1	\$85.8
2011	\$4.0	\$15.8	\$16.4	\$19.8	\$18.6	\$8.5	\$10.2	\$93.3
2016	\$3.9	\$16.0	\$17.0	\$20.5	\$20.9	\$10.9	\$10.6	\$99.8
2021	\$3.8	\$15.2	\$19.0	\$19.7	\$23.3	\$13.9	\$11.0	\$106.0
<b>Total</b>								
2006	\$6.8	\$24.9	\$36.7	\$30.7	\$19.6	\$10.7	\$11.3	\$140.8
2011	\$6.5	\$27.7	\$35.5	\$34.5	\$23.9	\$11.1	\$12.5	\$151.8
2016	\$6.3	\$28.1	\$36.8	\$35.8	\$26.9	\$14.2	\$13.0	\$161.1
2021	\$6.2	\$26.7	\$41.2	\$34.3	\$29.9	\$18.2	\$13.5	\$170.0
% Change 2006-2021	-9.1%	7.3%	12.2%	11.5%	52.5%	70.0%	20.0%	20.8%
Total Change 2006-2021	-\$0.6	\$1.8	\$4.5	\$3.5	\$10.3	\$7.5	\$2.3	\$29.3
Average Per Year	\$0.0	\$0.1	\$0.3	\$0.2	\$0.7	\$0.5	\$0.2	\$2.0
Source: Projections by Will Dunning using data from Canada Mortgage and Housing Corporation, Statistics Canada, and BC STATS (PEOPLE 33)								

### ***A Third Scenario – Changing Male:Female Ratios***

Life expectancy in the developed world has increased almost continuously for many decades. Population projection models easily incorporate future rises in life expectancy. With the resultant boost to population growth (and especially for the older age groups), once household formation rates are applied, housing demand projections also incorporate increased life expectancy.

However, there is a potential effect of increased life expectancy that has seemingly not been incorporated within housing demand models.

- Due to historic differences in survival rates for males and females, there is a significant imbalance in male:female ratios in older age groups, which results in a relatively high prevalence of single females within elderly age groups. This is well understood.
- However, with improvements in male survival rates and expectations of future improvement, male:female ratios can be expected to shift over time, moving closer to parity. This is often reflected in population projections. For example, as is shown in the following table, provincial government projections of population by age and sex for the City of Vancouver<sup>61</sup> show significant shifting of the male:female ratio for older age groups. This is the result of improving male longevity.
- The rebalancing of the male:female ratio in future has considerable potential to alter the mix of household types. This includes the obvious reduction in the number of one-person (mostly female) elderly households, and possibly in the number of single elderly people who live in collective dwellings (such as retirement homes and care facilities). Less obvious possibilities include increased remarriage of divorced and widowed people. Even among younger age groups, increased male survival is projected to alter the male-female balances. In general, male-female ratios are expected to move closer to parity. (However, as can be seen in the table below, there are some idiosyncrasies within the existing population that are projected to result in some moves away from parity as the existing populations age.) Movement of the ratios towards parity may result in increased marriage rates for younger adults. There is a related possibility that total household formation rates will be affected – with fewer people in one adult households and more in couple arrangements, overall headship rates might fall<sup>62</sup>.

**Table 5-10**  
**Projections of Male:Female Ratios**  
**In the City of Vancouver (1), By Age Group**

Year	15-24	25-34	35-44	45-54	55-64	65-74	75 +
2006	99.24%	99.46%	106.74%	97.24%	97.91%	92.59%	65.90%
2011	103.55%	97.88%	104.20%	101.42%	95.95%	92.28%	73.64%
2016	103.63%	97.65%	101.00%	105.11%	94.30%	95.24%	75.64%
2021	103.99%	98.97%	98.63%	103.51%	97.48%	93.36%	78.66%
2026	104.08%	98.64%	97.58%	101.66%	100.59%	91.48%	82.12%
2031	103.06%	98.74%	97.51%	100.10%	99.25%	94.57%	82.38%
2036	102.69%	98.69%	96.00%	99.69%	98.55%	97.11%	82.04%
Change 2006-2031 (2)	3.45%	-0.77%	-10.75%	2.44%	0.64%	4.52%	16.15%

Source: BC STATS (PEOPLE 33), analysis by Will Dunning Inc.

Note: (1) plus the University Endowment Lands; (2) change in percentage points

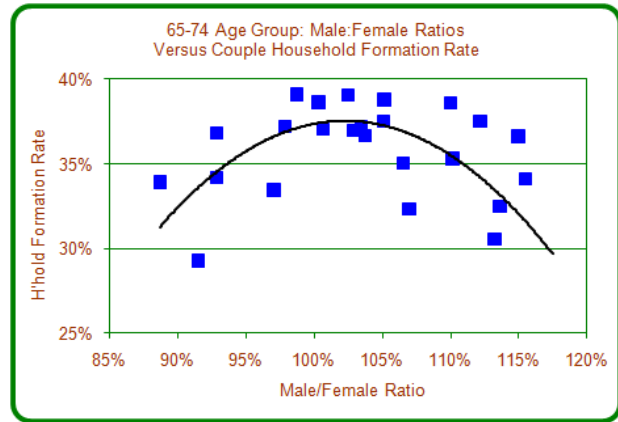
A brief search was unable to locate any literature concerning this potential effect on household formation. Therefore, a methodology was developed to explore the issue, and then to simulate

<sup>61</sup> The data and projections include the University Endowment lands.

<sup>62</sup> On the other hand, in some cases survival of the spouse will prevent a move to a collective dwelling (and therefore prevent the dissolution of a household). In these cases, increased survival would mean increased household formation.

the impact on household formation that may result from the male:female shifts projected by the BC STATS.

- A cross-sectional analysis was conducted, using 2006 Census data for Census Divisions within British Columbia. Out of 28 Census Divisions in the province, three were excluded (Central Coast, Northern Rockies, and Stikine) as their total populations are under 10,000, which makes the detailed data volatile and difficult to interpret.
  - For each of the Census Divisions, the male:female ratio was calculated for each age group (in 10-year age brackets covering less than 25 years to 75 years and over).
  - Household headship rates were calculated (again by Census Division, by age bracket). Total rates were calculated as well as rates for six household types (couples with or without children, couples without children, couples with children, lone parent families, multi-family households, and non-family households).
  - The cross-section analysis was conducted by regression analysis, to assess relationships between male:female ratios (the “independent variable”) and headship rates (the “dependent variables”). This was done using two variants: a “simple” model used just the total headship rate for each age group, in relation to the male:female ratios for the age group; a “complex” model analyzed each of the household types separately, relative to the male:female ratios. The two approaches were applied to each age group separately.
  - In addition, it is expected that male:female ratios will not fully explain differences in headship rates across the 25 Census Divisions, since local factors will also be important. The chart to the right illustrates the relationships for one of the age groups. It can be seen (once the trend line is added) that there is a relationship, and that the headship rate does peak when the male:female ratio is close to 100%. However, the wide dispersion of the data indicates that male:female ratios alone do a very poor job in explaining variations in headship rates: if the ratios did explain the variations in headship rates, the data points would more-or-less line up in a curve. Therefore, two economic variables were added: the average income per capita and the average home value in each Census Division. With the addition of these two variables, the model became much better at explaining variations in headship rates across the province.



Prior to completing the analysis, it was expected that certain results might be found.

- In general, headship rates should peak (or trough, depending on the household type) at a male:female ratio of 1.0<sup>63</sup>:

<sup>63</sup> To allow the regressions to generate a cup-shaped result (as for the trend line in the chart above) a quadratic specification is used (the actual values and the squares of the male:female ratios are included in the regression).

- For couple families (including couples with children and couples without children), headship rates should peak (be at a maximum) at 1.00, because with equal numbers of males and females there is the highest probability of finding a mate. The farther the ratio is from 1.0 (either above or below) the lower the headship rate should be. We might say that the relationship is in an upside-down cup shape.
- The opposite should occur for lone parent families and non-family households. Headship rates should be lowest if the ratio is 1.0. The relationship between the ratio and headship rates is expected to be in a right-side-up cup shape.
- Total headship rates (for all household types combined) do not provide a clear prior expectation. For example, for those who do not form a couple, available options include being in a one-person (non-family) household, a lone parent household, a multi-person non-family household, living in the parental home, or being in a multiple-family household. Thus, there cannot be a clear prior expectation about the relationship between the male:female ratio and overall headship rates, which might be in an upside-down or a right-side-up cup shape), or just randomly distributed.
- It was also expected that higher per capita incomes should result in higher headship rates and higher house values should result in lower headship rates.

The analysis generally loosely confirmed the hypotheses. The table below summarizes the results of the regressions.

- For each of the household types, for each age group, the table shows the impact of the male:female ratio on the household formation rate. Results that are consistent with the prior expectations and are statistically-significant<sup>64</sup> are highlighted with a green marker. Results that differ from the prior expectation and are statistically-significant are highlighted with a bold font. As shown, from the complex model:
- The “wrong” outcomes are for couple households with or without children, in younger age groups. For age groups of 45 and older, the results are consistent with the expectation: as the male/female ratio approaches 1.00, there is increased formation of husband-wife families (however, the results are statistically-significant for just two out of the four cases).
- Conversely, the expectation is generally met for lone parent families: as the male/female ratio approaches 1.00, there are fewer lone parent families. These results are generally significant.
- For non-family households, results are consistent with the expectation for two out of seven age groups, but the results are weaker statistically for five of seven.
- For multiple family households, there was not a prior expectation, and the results are mixed and statistically weak.

In this type of analysis it is disappointing but not unusual to have some “out-rider” results. The wrong results and weak positive results do not invalidate the theory or the approach; they do, however, require that some care be exercised in using the results.

For the simple regressions (shown in the lower half of the table below), the various age groups produce mixed estimates of the relationship between male:female ratios versus headship rates.

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<sup>64</sup> Significance is determined by an F-test (which tests whether the regression overall is significant). F-test results of 95% or more are considered to be statistically-significant.

Since there was no prior expectation, this is not surprising. However, the economic variables<sup>65</sup> do provide some interesting results.

- Higher incomes results in higher household formation rates, for five of the seven age groups. For the two exceptions, one of the estimates (35 to 44 age group) is extremely low and the other (45 to 54) is relatively low with weak statistical significance significant (“t-test” values that exceed +/- 2.0 are accepted as reliable). The impact of income on household formation is strongest for the youngest age group and the two oldest groups.
- Higher house prices reduce household formation for five of the seven ages groups. For the two outriders (45 to 54 and 55 to 64) the estimated impacts are weak. The estimates also indicate that the effect of house prices is strongest for the two youngest and two oldest age groups, and less important for those in the middle of the age distribution.

	<25	25-34	35-44	45-54	55-64	65-74	75 +
<i>As Male/Female Ratio approaches 1.0, probability of...</i>							
<b>Results from Complex Model (Separate Household Types)</b>							
being in a couple <u>with or without</u> children	<b>falls</b>	increases	<b>falls</b>	<b>increases</b>	increases	<b>increases</b>	increases
f-test	99.9%	83.9%	97.1%	99.3%	93.9%	99.9%	79.1%
being a lone parent	falls	<b>falls</b>	<b>falls</b>	<b>falls</b>	neutral	<b>falls</b>	fall
f-test	75.8%	100.0%	97.8%	99.7%	84.0%	98.4%	36.1%
being in a multi-family household	falls	increases	increases	neutral	falls	falls	increases
f-test	93.4%	34.7%	91.5%	63.4%	92.9%	99.9%	77.3%
being in a non-family household	<b>falls</b>	neutral	neutral	<b>falls</b>	neutral	neutral	falls
f-test	99.9%	97.9%	91.6%	97.9%	68.1%	58.4%	49.2%
<b>Results from Simple Model (Total Households)</b>							
being a household head	falls	neutral	neutral	neutral	neutral	increases	increases
f-test	99.8%	71.4%	71.7%	79.8%	98.8%	99.9%	86.3%
In Total Headship Rate Models, Co-efficient for							
Income	5.7E-06	1.73E-06	-3.8E-08	-1.00E-06	1.40E-06	4.38E-06	2.15E-06
t-test	3.47	0.62	-1.02	-0.79	0.91	2.56	0.94
House Price	-7.2E-08	-1.4E-07	-1.7E-08	3.82E-08	2.71E-09	-1.50E-07	-1.10E-07
t-test	-1.79	-2.30	-0.48	1.03	-0.06	-2.75	-1.99
Source: Will Dunning Inc.							

The next steps in this analysis combines the results from the complex regressions with the population projections for the City of Vancouver (using the projected male:female ratios), to project future headship rates, by age group and household type. An earlier table (5-10) shows the projected male:female population ratios by age group. (While the table shows the projections up to 2036, only the data up to 2021 is used.) These projections suggest that, contrary to expectations that ratios will tend to move towards 1.00, for four of the seven age groups the ratios may move away from parity during 2006 to 2021. Overall, the male:female ratio is projected to move slightly closer to parity during 2006 to 2011.

<sup>65</sup> The table shows the results for the economic variables for just the simple models. These variables were included in the complex regressions, the results are not shown here due to space considerations. Results are broadly consistent with the expectations that higher income increases household formation and higher house prices discourages it.

The next table shows the projected household formation rates<sup>66</sup>. Given the erratic projections of male:female ratios, the projected household rates are also volatile. Overall, household formation rates will fall slightly, as the consequence of the slight increase in the male:female ratio.

The most significant change is that for the two oldest age groups, for which the male:female ratios are expected to increase, there would be increased formation rates for couples without children and reduced formation of lone parent families, as well as a reduction for non-family households in the 75 and over age bracket. For the 75 and over age group, there is an unexpected result, as the increase for couples exceeds the drop for non-family households, which produces a rise in the overall formation rate. A potential explanation for this is that with more seniors able to live longer as couples, there will be fewer singles moving-in with younger family members or into institutional settings. Household formation rates would be roughly unchanged for the 25 to 34, 55 to 64, and 65 to 74 age groups; they would rise for the 45 to 54 and 75 and over age groups; and fall for the 15 to 24 and 35 to 44 age groups.

**Table 5-12**  
**Third Scenario, Projected Household Formation Rates,**  
**City of Vancouver, By Age Group and Household Type**

	15-24	25-34	35-44	45-54	55-64	65-74	75 +
<b>Couples Without Children</b>							
2006	2.34%	10.69%	7.57%	7.04%	11.55%	17.90%	14.28%
2011	1.97%	10.69%	7.41%	6.99%	11.66%	17.68%	17.60%
2016	1.96%	10.69%	7.24%	6.78%	11.74%	19.43%	18.18%
2021	1.95%	10.69%	7.14%	6.89%	11.58%	18.40%	18.84%
<b>Couples With Children</b>							
2006	0.40%	4.45%	16.42%	19.97%	14.68%	9.06%	4.04%
2011	0.32%	4.45%	15.30%	19.83%	14.50%	9.09%	3.35%
2016	0.32%	4.45%	14.35%	19.33%	14.33%	8.78%	3.22%
2021	0.33%	4.45%	13.98%	19.59%	14.64%	8.98%	3.05%
<b>Lone Parent Family</b>							
2006	0.35%	1.41%	4.16%	6.48%	4.83%	3.82%	5.56%
2011	0.22%	1.61%	4.72%	6.43%	4.75%	3.85%	4.90%
2016	0.21%	1.64%	5.35%	6.50%	4.68%	3.63%	4.80%
2021	0.20%	1.47%	5.75%	6.45%	4.81%	3.76%	4.72%
<b>Multiple Family</b>							
2006	0.05%	0.67%	1.58%	1.91%	2.02%	2.59%	1.31%
2011	0.05%	0.66%	1.96%	2.08%	2.04%	2.64%	1.49%
2016	0.05%	0.66%	2.22%	2.26%	2.09%	2.22%	1.63%
2021	0.05%	0.67%	2.25%	2.18%	2.02%	2.46%	1.91%
<b>Non-Family</b>							
2006	7.56%	20.47%	18.49%	18.54%	21.37%	22.81%	31.42%
2011	5.68%	20.25%	17.96%	19.03%	21.21%	22.78%	31.08%
2016	5.66%	20.22%	17.27%	20.18%	21.09%	23.01%	30.83%
2021	5.55%	20.40%	16.75%	19.60%	21.33%	22.87%	30.34%
<b>Combined</b>							
2006	10.70%	37.70%	48.23%	53.94%	54.45%	56.17%	56.60%
2011	8.23%	37.66%	47.34%	54.36%	54.16%	56.05%	58.42%
2016	8.21%	37.65%	46.42%	55.05%	53.92%	57.08%	58.67%
2021	8.08%	37.69%	45.87%	54.71%	54.39%	56.46%	58.86%

Source: Projections by Will Dunning using data from Statistics Canada and BC STATS

<sup>66</sup> One adjustment was made to the mechanically-generated headship rates. For one subset – multiple family households in the 15 to 24 age group - the projections are for the rate to fall slightly, from miniscule to less than zero. These factors are held constant at the 2006 rate.

Next, the projected headship rates are applied to the projections of population by age group, to project the future numbers of households by household type and age group. The results are shown in the next table.

Due to the reduced overall household formation rate, there is less household growth in this scenario: the average annual growth rate is 3,370 households, versus 3,653 in the first two scenarios. In this scenario compared to the prior scenarios, household formation is increased for the 65 and older age groups, and 45 to 54. It is reduced for the 15 to 24 and 35 to 44 age groups, and is roughly unchanged for the 25 to 34 and 55 to 64 brackets. By type of household there is less growth for non-family households but an increase for couples without children; there is increased growth for lone parent families but less growth for couples with children. This set of results is the consequence of an idiosyncratic set of shifts of the projected male:female ratios.

	15-24	25-34	35-44	45-54	55-64	65-74	75 +	Total
<b>Couples Without Children</b>								
2006	1,900	12,525	8,210	6,290	7,270	7,025	5,405	48,625
2011	1,521	13,965	7,792	6,951	9,038	7,348	7,473	54,088
2016	1,460	14,196	7,885	6,988	10,219	10,355	8,003	59,105
2021	1,433	13,489	8,701	6,799	11,230	12,519	8,657	62,827
<b>Couples With Children</b>								
2006	325	5,215	17,820	17,830	9,240	3,555	1,530	55,515
2011	247	5,814	16,093	19,727	11,240	3,779	1,423	58,322
2016	239	5,906	15,631	19,929	12,476	4,680	1,417	60,278
2021	242	5,620	17,052	19,338	14,205	6,107	1,403	63,968
<b>Lone Parent Family</b>								
2006	285	1,650	4,515	5,785	3,040	1,500	2,105	18,880
2011	167	2,103	4,971	6,393	3,683	1,601	2,079	20,997
2016	159	2,177	5,827	6,700	4,072	1,934	2,114	22,983
2021	150	1,854	7,007	6,370	4,670	2,555	2,168	24,774
<b>Multiple Family</b>								
2006	40	790	1,720	1,705	1,270	1,015	495	7,035
2011	39	867	2,062	2,073	1,585	1,098	633	8,357
2016	37	876	2,415	2,334	1,819	1,181	717	9,379
2021	37	851	2,745	2,154	1,961	1,673	876	10,296
<b>Non-Family</b>								
2006	6,135	23,980	20,070	16,560	13,445	8,950	11,895	101,035
2011	4,398	26,461	18,893	18,931	16,441	9,466	13,192	107,782
2016	4,211	26,855	18,812	20,799	18,365	12,262	13,570	114,874
2021	4,084	25,745	20,421	19,341	20,689	15,556	13,939	119,776
<b>Combined</b>								
2006	8,685	44,160	52,335	48,170	34,265	22,045	21,430	231,090
2011	6,372	49,210	49,811	54,075	41,987	23,292	24,799	249,546
2016	6,106	50,010	50,570	56,749	46,950	30,412	25,821	266,619
2021	5,945	47,559	55,926	54,003	52,755	38,410	27,043	281,642
% Change 2006-21	-31.5%	7.7%	6.9%	12.1%	54.0%	74.2%	26.2%	21.9%
Total Change 2006-21	-2,740	3,399	3,591	5,833	18,490	16,365	5,613	50,552
Average Per Year	-183	227	239	389	1,233	1,091	374	3,370

Source: Projections by Will Dunning Inc. using data from Canada Mortgage and Housing Corporation, Statistics Canada and BC STATS

Next, the households are allocated to rental and homeownership tenure, based on the shares developed in the second scenario. The table below shows the projected numbers of tenant

households. In total, the number of renter households included in the core need analysis would rise by just under 15,000 in the 15 years, for an average of 995 renter households per year. This would be less than the prior projections of:

- 1,369 renter households per year in the first scenario (in which all propensities are held constant) and
- 1,169 per year in the second scenario (in which there is continued shifting to ownership tenure during 2006 to 2011 but the ownership rates are held constant after 2011).

	15-24	25-34	35-44	45-54	55-64	65-74	75 +	Total
<b>Couples Without Children</b>								
2006	1,650	8,510	4,205	2,475	1,690	1,285	1,070	20,885
2011	1,296	9,082	3,989	2,828	2,134	1,268	1,392	21,989
2016	1,244	9,232	4,037	2,843	2,413	1,786	1,491	23,045
2021	1,221	8,772	4,455	2,766	2,652	2,160	1,613	23,637
<b>Couples With Children</b>								
2006	235	2,815	7,080	4,475	1,325	320	210	16,460
2011	175	2,969	6,390	5,214	1,653	301	179	16,880
2016	169	3,016	6,206	5,267	1,835	373	178	17,044
2021	171	2,870	6,771	5,111	2,089	486	176	17,675
<b>Lone Parent Family</b>								
2006	225	1,240	3,155	3,035	1,080	380	375	9,490
2011	124	1,465	3,323	3,410	1,243	385	362	10,312
2016	118	1,517	3,896	3,573	1,374	465	368	11,311
2021	111	1,292	4,685	3,398	1,575	614	378	12,052
<b>Multiple Family</b>								
2006	20	255	210	295	235	135	35	1,185
2011	18	278	234	359	333	147	30	1,399
2016	18	281	274	404	382	158	33	1,551
2021	17	273	311	373	412	223	41	1,651
<b>Non-Family</b>								
2006	5,470	19,025	14,470	10,910	7,950	4,845	5,820	68,490
2011	3,846	20,265	13,205	12,131	9,247	4,951	6,330	69,974
2016	3,682	20,566	13,148	13,328	10,329	6,413	6,512	73,978
2021	3,571	19,716	14,272	12,394	11,637	8,136	6,689	76,415
<b>Combined</b>								
2006	7,600	31,845	29,120	21,190	12,280	6,965	7,510	116,510
2011	5,458	34,059	27,141	23,942	14,611	7,050	8,293	120,553
2016	5,230	34,612	27,561	25,416	16,333	9,194	8,582	126,929
2021	5,091	32,923	30,494	24,042	18,365	11,619	8,896	131,431
% Change 2006-21	-33.0%	3.4%	4.7%	13.5%	49.6%	66.8%	18.5%	12.8%
Total Change 2006-21	-2,509	1,078	1,374	2,852	6,085	4,654	1,386	14,921
Average Per Year	-167	72	92	190	406	310	92	995

Source: Projections by Will Dunning Inc. using data from Canada Mortgage and Housing Corporation, Statistics Canada and BC STATS

Next, incidence rates for core housing need (by housing tenure, age group, and household type, as developed in the second scenario) are applied to project numbers of households in core need. The projections of renter households in core need are shown in the next table. In this scenario, the growth in renters in core need is slightly less than in the second scenario, at an average of 455 per year, versus 476 per year in the second scenario. The total number of

renter households in core need would be just under 42,000 in 2021, up from just over 35,000 in 2006. The incidence of core need among renters would be 31.9% in 2021, versus 30.2% in 2006. Based on this small change in the extent of core need, the total affordability gap for renters would be very similar to the second scenario. In 2021, the gap would total \$170 million (in 2006 dollars) versus \$140.8 million in 2006.

**Table 5-15**  
**Third Scenario, Projected Numbers of Tenant Households in Core Housing Need,**  
**by Household Type and Age Group of the Household Maintainer, 2006 to 2021**

	15-24	25-34	35-44	45-54	55-64	65-74	75 +	Total
<b>Couples Without Children</b>								
2006	535	1,185	570	375	330	445	410	3,850
2011	430	1,321	549	428	419	446	543	4,136
2016	412	1,343	555	431	474	629	581	4,425
2021	405	1,276	613	419	521	760	629	4,622
<b>Couples With Children</b>								
2006	105	775	2,010	1,125	315	60	80	4,470
2011	80	848	1,827	1,304	395	58	69	4,581
2016	77	861	1,775	1,317	438	71	69	4,609
2021	78	820	1,936	1,278	499	93	68	4,773
<b>Lone Parent Family</b>								
2006	120	715	1,675	1,355	375	185	160	4,585
2011	70	897	1,826	1,516	442	190	156	5,097
2016	66	928	2,140	1,589	488	230	158	5,601
2021	62	791	2,574	1,511	560	304	163	5,964
<b>Multiple Family</b>								
2006	0	20	30	55	30	0	10	145
2011	0	22	34	68	42	0	9	175
2016	0	23	40	76	48	0	10	197
2021	0	22	45	70	52	0	12	203
<b>Non-Family</b>								
2006	1,325	4,345	4,240	4,065	3,255	2,205	2,655	22,090
2011	955	4,800	3,983	4,627	3,917	2,305	2,928	23,515
2016	915	4,871	3,966	5,084	4,375	2,986	3,012	25,209
2021	887	4,670	4,305	4,727	4,929	3,788	3,094	26,401
<b>Combined</b>								
2006	2,085	7,040	8,525	6,975	4,305	2,895	3,315	35,140
2011	1,535	7,887	8,219	7,943	5,215	3,000	3,704	37,504
2016	1,471	8,026	8,476	8,497	5,825	3,916	3,830	40,041
2021	1,433	7,578	9,474	8,006	6,562	4,946	3,965	41,963
% Change 2006-21	-31.3%	7.6%	11.1%	14.8%	52.4%	70.8%	19.6%	19.4%
Total Change 2006-21	-652	538	949	1,031	2,257	2,051	650	6,823
Average Per Year	-43	36	63	69	150	137	43	455
<b>% in Core Need</b>								
2006	27.4%	22.1%	29.3%	32.9%	35.1%	41.6%	44.1%	30.2%
2011	28.1%	23.2%	30.3%	33.2%	35.7%	42.5%	44.7%	31.1%
2016	28.1%	23.2%	30.8%	33.4%	35.7%	42.6%	44.6%	31.5%
2021	28.1%	23.0%	31.1%	33.3%	35.7%	42.6%	44.6%	31.9%
<b>Share of Core Need</b>								
2006	5.9%	20.0%	24.3%	19.8%	12.3%	8.2%	9.4%	100.0%
2011	4.1%	21.0%	21.9%	21.2%	13.9%	8.0%	9.9%	100.0%
2016	3.7%	20.0%	21.2%	21.2%	14.5%	9.8%	9.6%	100.0%
2021	3.4%	18.1%	22.6%	19.1%	15.6%	11.8%	9.4%	100.0%

Source: Projections by Will Dunning Inc. using data from Canada Mortgage and Housing Corporation, Statistics Canada and BC STATS

### ***A Fourth Scenario – Impacts of Increasing Educational Attainment***

Over time, Canadians have attained increasing levels of education, with the consequence that younger Canadians are considerably more likely to have completed university degrees than are older generations. Given that increased education leads to higher incomes, there are implications for future changes in income levels and thus for housing affordability problems.

The following table provides data from the 2001 PUMF for adults living within the Vancouver CMA (using a datafile for individuals, rather than the households file that has been used earlier). The table shows levels of educational attainment by age group (focusing on those aged 25 or older). The data illustrates the progress that has been made: older adults are much more likely than younger adults to have less than a high school education: for those aged 75 or older, 54% did not complete high school, versus 10% for those aged 25 to 29. Conversely, younger adults are much more likely to have completed college or university (63% of those aged 25 to 29 have a college or university certificate or degree, versus 24% for those aged 75 and over).

The implication is that with the passage of time, as younger adults graduate into older age groups, levels of educational attainment will rise in the middle part of the age distribution and for the older age groups. Data shown later highlights some differences that strongly imply that this will lead to higher incomes and may potential reduce housing need for renters.

**Table 5-16**  
***Highest Level of Schooling, by Age Group, Vancouver CMA, 2001***

<i>Level Completed</i>	<i>25-29</i>	<i>30-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>
Less than Grade 5	0.3%	0.7%	0.8%	1.4%	3.7%	8.0%	8.6%
Grades 5 to 8	0.5%	1.1%	1.6%	3.2%	6.8%	12.0%	16.7%
Grades 9 to 13	9.7%	10.3%	12.8%	12.9%	18.0%	24.2%	28.3%
Secondary - high school graduation certificate	9.4%	8.8%	11.9%	13.4%	13.5%	11.3%	10.7%
Trades certificate or diploma	1.6%	1.5%	2.0%	3.0%	3.7%	4.1%	3.6%
College: Without trades or college certificate or diploma	8.3%	7.9%	7.1%	5.5%	5.0%	4.4%	5.5%
College: With trades certificate or diploma	7.1%	7.4%	8.2%	6.9%	7.6%	6.6%	4.6%
College: With college certificate or diploma	14.3%	15.2%	15.1%	14.9%	12.4%	9.3%	6.6%
University: Without certificate, diploma or degree	7.1%	5.7%	4.4%	5.3%	3.7%	3.2%	2.5%
University: With university or college certificate or diploma	9.3%	9.8%	9.2%	8.8%	7.5%	5.6%	3.6%
University: With bachelor or first professional degree	25.6%	22.6%	18.0%	15.5%	10.5%	7.1%	5.7%
University: With certificate or diploma above bachelor level	3.5%	3.2%	2.4%	2.8%	2.7%	1.4%	1.6%
University: With master's degree[s]	3.2%	5.0%	5.3%	5.4%	3.9%	1.9%	1.5%
University: With earned doctorate	0.3%	0.9%	1.2%	1.0%	1.1%	0.8%	0.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Analysis by Will Dunning Inc. using the 2001 Census Public Use Microfile (Individuals file)

The next table summarizes data that was generated from the 2001 PUMF (individuals file) for Vancouver CMA, on average incomes (as of 2000) per person, by level of education, by age group. This includes income from all sources, whether or not they are employed. This data

shows, unsurprisingly, that incomes are higher for those with the most education<sup>67</sup>. The differences persist across all ages groups, apart from the youngest age group – in the 25 to 29 age group, there will be some individuals whose earnings are reduced by still being in school, or who haven't yet established careers.

**Table 5-17**  
**Average Incomes by Highest Level of Schooling, by Age Group, Vancouver CMA, 2000**

<i>Level Completed</i>	<i>25-29</i>	<i>30-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75 +</i>
Less than Grade 5	\$28,591	\$13,879	\$15,171	\$14,540	\$11,486	\$14,547	\$17,176
Grades 5 to 8	\$16,198	\$14,394	\$17,452	\$17,989	\$17,260	\$19,170	\$18,158
Grades 9 to 13	\$19,903	\$23,315	\$26,617	\$27,900	\$25,200	\$22,484	\$21,953
Secondary - high school graduation certificate	\$22,521	\$24,794	\$28,708	\$30,853	\$27,900	\$23,706	\$24,682
Trades certificate or diploma	\$23,930	\$27,660	\$33,182	\$36,780	\$36,170	\$32,545	\$27,748
College: Without trades or college certificate or diploma	\$22,471	\$26,615	\$31,090	\$32,330	\$27,471	\$25,120	\$26,219
College: With trades certificate or diploma	\$26,341	\$33,380	\$36,135	\$37,593	\$35,008	\$28,951	\$28,378
College: With college certificate or diploma	\$25,869	\$29,656	\$36,686	\$37,937	\$36,897	\$29,293	\$26,202
University: Without certificate, diploma or degree	\$21,039	\$30,946	\$33,836	\$41,174	\$38,362	\$29,601	\$32,009
University: With university or college certificate or diploma	\$23,892	\$31,152	\$35,986	\$39,341	\$34,750	\$28,436	\$30,007
University: With bachelor or first professional degree	\$26,758	\$39,852	\$42,077	\$49,398	\$47,973	\$42,004	\$41,681
University: With certificate or diploma above bachelor level	\$23,970	\$34,642	\$40,116	\$50,429	\$45,383	\$39,495	\$46,533
University: With master's degree[s]	\$24,703	\$34,389	\$42,111	\$55,051	\$59,908	\$45,774	\$45,423
University: With earned doctorate	\$24,986	\$40,799	\$55,842	\$60,352	\$86,839	\$56,805	\$68,077
Total	\$24,254	\$31,332	\$34,824	\$37,930	\$33,414	\$26,090	\$24,898

Source: Analysis by Will Dunning Inc. using the 2001 Census Public Use Microfile (Individuals file)

The data in the two tables above has been combined to create a simulation of how the aging of the population might alter incomes by age group. It progresses the educational achievement rates into subsequent ages, and then applies the average incomes for each level of education. This suggests that average incomes will rise considerably in the older age brackets, as younger people age into those brackets. The impacts would be greatest for the retirement age brackets. There is no impact on the two youngest brackets, since in this simulation it is assumed that there is no further progress in educational attainment by the young: to the extent that there are changes for the younger age groups, future incomes would be affected positively or negatively.

The estimated changes for 2005 to 2020 will be used shortly in a simulation of impacts on housing affordability for renters, which will suggest that the progression of education into older ages will tend to reduce housing need among renters, especially in the older age brackets.

<sup>67</sup> This data also suggests that the advantages of higher education are relatively stable across the age range, which may give comfort to those who fear that the value of education might be falling.

**Table 5-18**  
**Simulation of Changes in Average Incomes by Age,**  
**Based on Progression of Education, Vancouver CMA**

Year	25-29	30-34	35-44	45-54	55-64	65-74	75 +
<b>Average Income Per Person (in 2005 Dollars)</b>							
2000	\$24,254	\$31,332	\$34,824	\$37,930	\$33,414	\$26,090	\$24,898
2010	\$24,254	\$31,332	\$35,601	\$38,653	\$36,119	\$28,478	\$26,013
2020	\$24,254	\$31,332	\$35,601	\$39,795	\$36,838	\$30,342	\$28,469
2030	\$24,254	\$31,332	\$35,601	\$39,795	\$37,864	\$30,879	\$30,341
<b>% Change from 2000 to ...</b>							
2010	0%	0%	2%	2%	8%	9%	4%
2020	0%	0%	2%	5%	10%	16%	14%
2030	0%	0%	2%	5%	13%	18%	22%
Interpolated Change 2005 to 2020	0%	0%	1%	4%	6%	11%	12%

Source: Analysis by Will Dunning Inc. using the 2001 Census Public Use Microfile (Individuals file)

In the next table, the PUMF data is used to calculate the percentages of individuals who live in rental dwellings, by level of education and age group<sup>68</sup>. This data is less clearcut, as the variations across the groups make the data difficult to read. Therefore, in the last line of data a subtotal has been added, showing renter shares for those with a degree or certificate from college or university. This shows that the rental shares are close to the averages for the age groups under 45. But, in the older age groups the rental shares are slightly below average. A tentative conclusion to be drawn from this data is that the progression of education into older age might not have much impact on future tenure choices.

**Table 5-19**  
**Percent of Individuals Living in Rentals by**  
**Highest Level of Schooling, by Age Group, Vancouver CMA, 2000**

Level Completed	25-29	30-34	35-44	45-54	55-64	65-74	75 +
Less than Grade 5	50%	25%	50%	36%	25%	22%	24%
Grades 5 to 8	79%	46%	50%	34%	25%	18%	30%
Grades 9 to 13	58%	51%	39%	31%	23%	22%	24%
Secondary - high school graduation certificate	49%	42%	31%	22%	16%	17%	22%
Trades certificate or diploma	54%	43%	33%	26%	19%	21%	19%
College: Without trades or college certificate or diploma	52%	48%	33%	25%	23%	23%	21%
College: With trades certificate or diploma	52%	45%	34%	31%	17%	17%	13%
College: With college certificate or diploma	45%	42%	34%	24%	18%	19%	22%
University: Without certificate, diploma or degree	57%	50%	41%	29%	21%	19%	26%
University: With university or college certificate or diploma	51%	49%	38%	28%	20%	19%	21%
University: With bachelor or first professional degree	52%	52%	36%	23%	15%	18%	17%
University: With certificate or diploma above bachelor level	52%	50%	40%	21%	14%	17%	9%
University: With master's degree[s]	53%	60%	39%	22%	17%	11%	33%
University: With earned doctorate	78%	73%	43%	32%	18%	10%	19%
Total	51.7%	49.4%	36.0%	25.2%	18.1%	18.5%	21.5%
Subtotal: University or college degree or certificate	50.9%	49.9%	36.1%	24.8%	17.0%	17.3%	19.1%

Source: Analysis by Will Dunning Inc. using the 2001 Census Public Use Microfile (Individuals file)

<sup>68</sup> Since this data is for individuals rather than households, the owner/renter shares may differ from the shares used elsewhere, for households.

The next stage is to simulate the impact of higher incomes on STIRs by age group and household type<sup>69</sup>. This generates a set of factors for shifting of the incidence of core need over a 15 year period. A further shift factor was developed in the second scenario (to account for the impact of migrations out of the rental sector by higher income tenants). These two shifts factors are combined and applied to the 2006 incidences, to simulate incidences in 2021. The following table shows the 2006 incidences, the shift factors, and the incidences that are assumed for 2021.

	15-24	25-34	35-44	45-54	55-64	65-74	75 +
<b>Couples Without Children</b>							
2006	32.4%	13.9%	13.6%	15.2%	19.5%	34.6%	38.3%
Shift	0.7%	0.6%	-0.3%	-2.4%	-2.9%	-4.9%	-7.8%
2021	33.2%	14.5%	13.2%	12.7%	16.6%	29.7%	30.5%
<b>Couples With Children</b>							
2006	44.7%	27.5%	28.4%	25.1%	23.8%	18.8%	38.1%
Shift	0.9%	1.0%	-0.3%	-2.6%	-2.9%	-5.1%	-7.8%
2021	45.6%	28.6%	28.1%	22.6%	20.8%	13.7%	30.3%
<b>Lone Parent Family</b>							
2006	53.3%	57.7%	53.1%	44.6%	34.7%	48.7%	42.7%
Shift	3.0%	3.5%	1.3%	-2.6%	-2.2%	-4.6%	-8.1%
2021	56.3%	61.2%	54.4%	42.0%	32.5%	44.1%	34.6%
<b>Multiple Family</b>							
2006	0.0%	7.8%	14.3%	18.6%	12.8%	0.0%	28.6%
Shift	0.2%	0.2%	-0.2%	-2.2%	-3.2%	-5.3%	-7.6%
2021	0.2%	8.1%	14.1%	16.4%	9.6%	-5.3%	21.0%
<b>Non-Family</b>							
2006	24.2%	22.8%	29.3%	37.3%	40.9%	45.5%	45.6%
Shift	0.6%	0.8%	0.1%	-1.1%	-2.5%	-12.5%	-9.6%
2021	24.8%	23.7%	29.4%	36.2%	38.4%	33.0%	36.0%
Source: Projections by Will Dunning using data from Canada Mortgage and Housing Corporation and Statistics Canada							

The adjusted incidences are applied to the projections of renter households that were developed in the third scenario (which was based on continued shifting to home ownership up to 2011, but stable tenure shares thereafter, as well as shifts in types of households). While it is possible that the growth in incomes that will result in this scenario could cause further shifting to home ownership after 2011, and could alter household type patterns, no further changes are assumed in this scenario.

This analysis results in projections of core housing need for renters as of 2021, which are shown in the next table.

<sup>69</sup> This analysis uses the 2001 PUMF household file. It applies the estimated changes in average incomes by age group for a 15 year period (shown in the last line of Table 5-18, above). The changes in income are in constant dollars (inflation-adjusted, not actual dollars). In the simulations it is assumed that for over the 15 year period rents will be unchanged in constant dollars (i.e. that rents will increase at the same rate as overall inflation). Due to limitations within the PUMF dataset, two household types are used: family and non-family.

In this scenario, the growth in renters in core need is less severe than in the prior scenarios: over the 15 year period the number of renter households in core need rises by about 3,300, or 218 per year, versus 476 per year in the second scenario. The total number of renter households in core need would be about 38,400 in 2021, up from just over 35,000 in 2006. The incidence of core need among renters would be 29.2% in 2021, versus 30.2% in 2006. Based on this small change in the extent of core need, the total affordability gap for renters would be \$156 million in 2021 (in 2006 dollars) versus \$140.8 million in 2006.

**Table 5-21**  
**Fourth Scenario, Projected Numbers of Tenant Households in Core Housing Need,**  
**by Household Type and Age Group of the Household Maintainer, 2006 to 2021**

	15-24	25-34	35-44	45-54	55-64	65-74	75 +	Total
<b>Couples Without Children</b>								
2006	535	1,185	570	375	330	445	410	3,850
2021	405	1,276	589	352	440	642	492	4,196
<b>Couples With Children</b>								
2006	105	775	2,010	1,125	315	60	80	4,470
2021	78	820	1,899	1,154	435	67	53	4,506
<b>Lone Parent Family</b>								
2006	120	715	1,675	1,355	375	185	160	4,585
2021	62	791	2,549	1,428	512	271	131	5,743
<b>Multiple Family</b>								
2006	0	20	30	55	30	0	10	145
2021	0	22	44	61	40	-12	9	164
<b>Non-Family</b>								
2006	1,325	4,345	4,240	4,065	3,255	2,205	2,655	22,090
2021	887	4,670	4,199	4,486	4,468	2,684	2,407	23,802
<b>Combined</b>								
2006	2,085	7,040	8,525	6,975	4,305	2,895	3,315	35,140
2021	1,433	7,578	9,280	7,481	5,896	3,652	3,091	38,410
% Change 2006-21	-31.3%	7.6%	8.9%	7.2%	36.9%	26.1%	-6.7%	9.3%
Total Change 2006-21	-652	538	755	506	1,591	757	-224	3,270
Average Per Year	-43	36	50	34	106	50	-15	218
<b>% in Core Need</b>								
2006	27.4%	22.1%	29.3%	32.9%	35.1%	41.6%	44.1%	30.2%
2021	28.1%	23.0%	30.4%	31.1%	32.1%	31.4%	34.7%	29.2%
<b>Share of Core Need</b>								
2006	5.9%	20.0%	24.3%	19.8%	12.3%	8.2%	9.4%	100.0%
2021	3.7%	19.7%	24.2%	19.5%	15.3%	9.5%	8.0%	100.0%

Source: Projections by Will Dunning Inc. using data from Canada Mortgage and Housing Corporation, Statistics Canada, and BC STATS

### ***The Key Role for Immigration***

It was shown earlier that immigrants, especially those who have arrived in Canada most recently, have higher incidence of housing needs than do non-immigrants. Since immigrants represent a significant share of the population in the City of Vancouver, the evolution of the immigrant population has the potential to influence the evolution of core housing need.

The following table shows population by periods of immigration at three Census dates, for the reference areas and the City. It also shows, for each category, the City's shares of Canada and the Vancouver CMA.

The data shows that immigration is a rising share of the population: for Canada, the share rose from 17.2% in 1996, to 18.2% in 2001, and 19.6% in 2006. For the City, the immigrant share has been considerably higher, at 44.4% in 1996 and 45.4% in 2001. In 2006, the share within the City fell marginally, to 45.1%.

The two right hand columns show the City's shares of population by category, as percentages of Canada and the CMA. Starting in the third line of data, the City of Vancouver had 4.6% of the Canada's total population of immigrants in 1996, and 36.0% of the CMA's immigrant population. For both of those comparisons, the City's share of immigrants was larger than its share of total population (which is shown in the first line of data).

In both 2001 and 2006, the City's shares of immigrants fell relative to the Vancouver CMA (and relative to Canada). In 1996, the city had 36.0% of the CMA's immigrants; by 2006 it had 31.4%. The data suggests that there are two processes in play.

- Firstly, the City has been receiving a diminishing share of the CMA's new immigrants – as is shown in the last row for each of the blocks of data, in 1996, the City had received 35.9% of immigrants who had arrived in the most recent period. In 2001 the share was 31.2% and in 2006 it was 28.7%.
- Secondly, the data suggests that for prolonged periods after arrival some immigrants move from the City to other areas of the CMA:
  - In 1996, the City had 35.9% of immigrants who arrived in the CMA during 1991 to 1996. By 2001, the City's share for this period of arrival<sup>70</sup> was 34.4% and in 2006 it had been further reduced to 31.2%.
  - In 2001, the City had 31.2% of immigrants who arrived during 1996 to 2001. By the City's share for this group was reduced to 28.6%.
  - Similar changes can be seen for other periods of arrival.

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<sup>70</sup> There are slight adjustments in the coverage periods: for the most recent arrival periods, the data includes a few more months, up to the Census date. However, this set of adjustments should not materially affect the conclusions being drawn here.

**Table 5-22**  
**Population by Periods of Immigration, 1996 to 2006**

	Canada	British Columbia	Vancouver CMA	City of Vancouver	Rest of CMA	Vancouver City as % of Canada	Vancouver City as % of CMA
<b>1996</b>							
Population	28,846,761	3,724,500	1,831,665	514,008	1,317,657	1.8%	28.1%
Non-Immigrant	23,875,691	2,821,305	1,197,920	285,778	912,142	1.2%	23.9%
Immigrants	4,971,070	903,195	633,745	228,230	405,515	4.6%	36.0%
Before 1961	1,054,935	186,035	86,415	25,370	61,045	2.4%	29.4%
1961-1970	788,580	130,685	78,635	27,150	51,485	3.4%	34.5%
1971-1980	996,165	184,000	129,830	48,010	81,820	4.8%	37.0%
1981-1990	1,092,405	185,860	149,200	59,550	89,650	5.5%	39.9%
1991-1996	1,038,995	216,615	189,655	68,145	121,510	6.6%	35.9%
<b>2001</b>							
Population	30,007,094	3,907,738	1,986,965	545,671	1,441,294	1.8%	27.5%
Non-Immigrant	24,558,609	2,897,923	1,248,410	298,036	950,374	1.2%	23.9%
Immigrants	5,448,485	1,009,815	738,555	247,635	490,920	4.5%	33.5%
Before 1961	894,465	160,475	73,555	20,935	52,620	2.3%	28.5%
1961-1970	745,560	125,830	73,200	24,155	49,045	3.2%	33.0%
1971-1980	936,275	174,950	124,400	44,345	80,055	4.7%	35.6%
1981-1990	1,041,500	177,950	142,580	51,960	90,620	5.0%	36.4%
1991-1995	867,355	179,190	155,195	53,385	101,810	6.2%	34.4%
1996-2001	963,325	191,425	169,620	52,860	116,760	5.5%	31.2%
<b>2006</b>							
Population	31,612,897	4,113,487	2,116,581	578,041	1,538,540	1.8%	27.3%
Non-Immigrant	25,425,947	2,994,272	1,285,316	317,281	968,035	1.2%	24.7%
Immigrants	6,186,950	1,119,215	831,265	260,760	570,505	4.2%	31.4%
Before 1961	791,225	143,480	63,660	18,130	45,530	2.3%	28.5%
1961 to 1970	710,285	123,035	69,385	22,145	47,240	3.1%	31.9%
1971 to 1980	903,705	169,740	119,670	42,410	77,260	4.7%	35.4%
1981 to 1990	1,003,205	169,420	136,025	47,605	88,420	4.7%	35.0%
1991 to 1995	823,925	165,225	142,130	44,415	97,715	5.4%	31.2%
1996 to 2000	844,625	170,460	148,695	42,580	106,115	5.0%	28.6%
2001 to 2006	1,109,980	177,840	151,695	43,470	108,225	3.9%	28.7%

Source: Statistics Canada, Census Profiles, 1996, 2001, 2006; compiled by Will Dunning Inc.

Note: (1) at each of the Census dates, the most recent arrival period includes part of the Census year. Therefore the calculated changes for 1991 to 1995 are not accurate.

While these patterns may be constraining the City's rate of population growth, it may also be limiting growth of core housing need: if the City was receiving the same share of new immigrants as previously, and if these additional immigrants had high rates of core housing need, then the consequence would be larger number of immigrants in core need within the City and an overall higher incidence.

Another consideration is that within the City of Vancouver, households headed by recent immigrants (those arriving during 2001 to 2006) have a high likelihood of living in rentals (69.6%, according to the CMHC core need estimates, versus 50.5% for the rest of the Vancouver CMA), and a higher likelihood of being in core need: in the City, 28.5% of households headed by a recent immigrants are renters in core need (versus 23.2% for the rest

of the CMA). However, these differences between the City and the rest of the CMA are not unique to recent immigrants. As is illustrated in the next table, similar discrepancies are obvious for all periods of arrival and for non-immigrants.

**Table 5-23**  
**Immigrant Households by Period of Arrival:**  
**% in Rentals and % in Core Need as Renters**

Period of Arrival	% Living in Rentals		% Renting and in Core Need	
	City of Vancouver	Rest of CMA	City of Vancouver	Rest of CMA
Non-Immigrants	58.8%	27.2%	15.8%	7.9%
Prior to 1981	29.1%	16.6%	10.0%	5.4%
1981 to 1990	38.7%	22.2%	13.7%	7.4%
1991 to 1995	42.0%	22.7%	16.0%	7.9%
1996 to 2000	52.9%	29.6%	16.4%	10.1%
2001 to 2006	69.6%	50.5%	28.5%	23.2%
Total	50.4%	26.2%	15.2%	8.4%

Source: CMHC (Census-based housing indicators and data)

A potentially important factor for the future of core need is the composition of growth of population and of households, including:

- To what extent will the City receive new immigrants?
- How rapidly will immigrants achieve improvements in their incomes and housing affordability?
- As their circumstances change, to what extent will they leave the City for elsewhere in the CMA?

The projections of future household growth and housing need have been based upon relatively rapid rates of population growth. It appears that achievement of those growth rates will require continued high rates of arrivals by new immigrants as well as high retention rates. The data in the table above suggests that these households will have high incidences of core need. However, their incidences will improve as they become more settled.

To test the implications, “back-of-the-envelope” were made for several scenarios<sup>71</sup>. These employed varying rates of new arrivals and retention, as well as varying rates of growth for the non-immigrant population (the scenarios are subject to a constraint that they that generate the projected growth in households). These scenarios assume that after arrival immigrants will achieve improvements in their circumstances at the same rates as previous groups did (in terms of tenure choices and housing need). Therefore, while recent immigrants add to core need, there are also some withdrawals from need as earlier immigrants become more settled. The scenarios indicate that the incidence of core housing need within the City of Vancouver will not be changed as a result of immigration. Therefore, while past levels of immigration have contributed to the high incidence of core need, immigration appears to be a neutral factor for the future.

It should be noted that in these results there is an implicit assumption that housing opportunities will expand sufficiently to accommodate the growing population without increasing housing

<sup>71</sup> The scenarios were constructed so that the overall population projections are satisfied.

costs. If, on the other hand, rapid population growth results in rising housing costs, then indirectly immigration could contribute to rising housing need.

An alternative calculation assumes that immigration into the City will be further constrained and there would be continued departures of immigrants as they become settled. This could occur due to high costs and lack of appropriate housing opportunities. The consequence would be that growth of population and households would be less than expected. In this scenario, reduced arrivals and retention of immigrants would have a direct effect of slight reducing the overall incidence of need (about one-half of a percentage point during 2006 to 2016). However, since this scenario assumes rising housing costs that would tend to raise the overall incidence of need.

In the end, the growth of the City's immigrant population and the impact on core need will depend upon housing costs and housing opportunities.

### **Conclusion**

Four sets of projections have been developed for future changes in core need within the City of Vancouver rental sector. Sequentially, the scenarios have:

- Been based solely on shifts in the age structure of the population, and assuming that for each age group there are no changes in choices or economic circumstances.
- The second scenario incorporated two sets of changes, due to shifting to home ownership and, secondly, changes in incomes and rents. These changes are extrapolated only until 2011, and then it is assumed that there are no further shifts in tenure choices or economic circumstances.
- Thirdly, anticipated shifts in the male:female ratios in the City's population are used to project shifts in household formation, which is then combined with the characteristics developed in the second scenario.
- Fourthly, the impacts of increasing educated have been simulated. In this scenario, incomes will be higher in older age groups, reducing the incidence of need.

All four scenarios suggest that there will be rises in the numbers of renters in core housing need. The incidence of need is higher in three of the scenarios but lower in the fourth.

One suggestion from the scenarios is that there are forces (particularly movement to home ownership) that will reduce the rate of growth of demand for rentals. But, while growth of demand may slow, there will be continued need to expand the rental inventory. If rental supply does not expand in line with the potential demand, there would be further pressure on rents, causing further growth in affordability problems.

The keys to reducing future housing need in the City will be expanding supplies of affordable housing and/or reducing the rate of growth of rents within the City. The best means of reducing rent growth would be to increase vacancy rates from the crisis levels that have often prevailed within the City. While vacancy rates could open as the result of an economic crisis, the more likely mechanism would be expansion of housing supply, in the private and or public sectors, and in the rental and/or home ownership sectors.

The table below summarizes the four scenarios

<b>Table 5-24</b>				
<b>Comparing Four Scenarios for Core Housing Need Among Renter Households in the City of Vancouver</b>				
	<i>Scenario 1 Demographic Change Only</i>	<i>Scenario 2 Shifting Tenure Choices and Economic Circumstances</i>	<i>Scenario 3 Layering on Shifts in Male:Female Ratios</i>	<i>Scenario 4 Adding Impact of Increased Education on Incomes</i>
<b>Growth in Renter Households</b>				
# in core need analysis in 2021 (vs 116,510 in 2006)	137,454	134,045	131,431	131,431
Change per Year versus 2006	1,396	1,169	995	995
% Change versus 2006	18.0%	15.1%	12.8%	12.8%
<b>Core Need Among Renters in 2021</b>				
# in Core Need (vs.35,140 in 2006)	42,440	42,278	41,963	38,410
Incidence (vs. 30.2% in 2006)	30.9%	31.5%	31.9%	29.2%
Total Affordability Gap (in 2006 dollars, vs \$141 million in 2006)	\$171 million	\$170 million	\$170 million	\$156 million
Source: Will Dunning Inc.				

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