

# FOUNDATIONAL RESEARCH BULLETIN

**SUSTAINABILITY BY DESIGN**  
*A Design Vision for a Sustainable  
Region of 4 Million*

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## **Demographic and Housing Projections for a Region of 4 Million**

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### **I. Introduction**

Greater Vancouver's population is aging. Indicators of this phenomenon are the rising median age of population and the changing profile by age groups, showing faster growth rates in senior populations. Demographic studies such as BC Stats PEOPLE 27 and Urban Futures' Population Projections suggest this aging trend will continue in the future, with elder populations consequently becoming a larger share of the population. This demographic shift will affect future housing needs in terms of dwelling type and average household size.

In the context of a region with a population of 4 million in a 50 year timeframe - as suggested in Technical Bulletin No.2- this paper's intent is to explore the housing mix required in order to accommodate a growing – and aging - population, taking into account the existing housing supply.

### **II. Demographic Trends: An Aging Population**

In 2001 the median age of Greater Vancouver's population arrived at an unprecedented high of 37.4, increasing by 2.2 years from 1996 [35.5 years]<sup>1</sup>. This means the share of older population is overcoming the share of younger one, to the point where the region is presently older than ever before. At the same time, the change in Population by Age Groups in the region for the 1996-2001 period, with a growth rate in senior populations twice as that of the younger ones, shows demographic change is taking place faster than population growth. This trend, also going on in the rest of the country, reflects the uneven replacement of the post-WWII baby boom generation by the following generation consequent to a considerably lower birth rate in this cohort.

On the other hand, this aging trend takes place at a different pace throughout the region. Change in Median Age of Population by municipalities for the 1996-2001 period shows suburban municipalities are aging at a higher rate than core ones. In this sense, Vancouver aged the least in the GVRD, rising by 1.4 years in age, while Langley and Delta aged the most, by 2.5 years. This may be explained by the tendency of younger people who move to larger metropolitan regions to settle initially in core municipalities, and the increasing phenomenon of 'empty nesters' in suburban areas<sup>2</sup>.

The difference in growth rates by age groups in Greater Vancouver's population is expected to continue. BC Stats PEOPLE 27 forecasts the senior population [sixty-five

years and over] will double in the next twenty- five years, while the younger population [under twenty] will only grow by 10%. According to Urban Futures, taking into account natural increase [birth rates, aging, and mortality], trended rates, and migration, the senior population in the next forty years is expected to grow by 200%, while the younger is expected to do so by less than 40% in this same period [2005-2045]<sup>3</sup>.

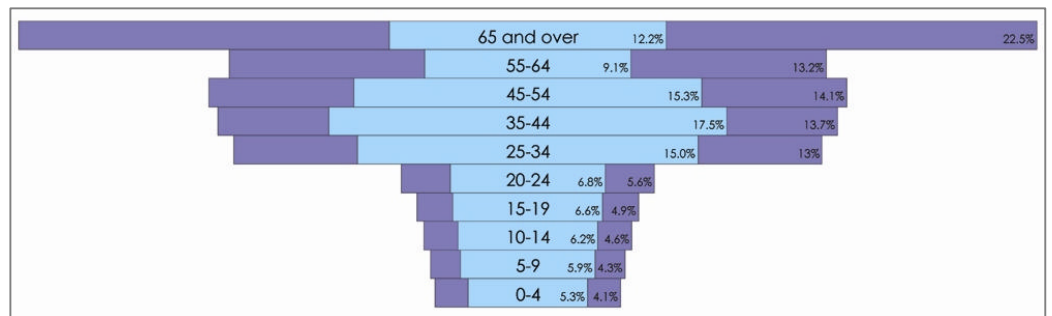
Table 1: 2001 and 2056 Population by Age Groups in the GVRD.

Source: 2001 data from Statistics Canada, in GVRD 2001 Census Bulletin #3 – Population by Age. 2056 data elaborated through the application of Urban Future’s 2045 percentages of Population by Age Groups to 2056 Population Projection in Technical Bulletin No.1

2001 AND 2056 POPULATION BY AGE GROUPS FOR GVRD						
Age Group	2001		2056		2001-2056 change	
	absolute	%	absolute	%	absolute	%
0--4	104,810	5.3%	162,508	4.10%	57,698	55%
5--9	117,970	5.9%	170,435	4.30%	52,465	44%
10--14	122,610	6.2%	182,326	4.60%	59,716	49%
15--19	131,180	6.6%	194,217	4.90%	63,037	48%
20--24	135,795	6.8%	221,962	5.60%	86,167	63%
25--34	298,330	15.0%	515,270	13.00%	216,940	73%
35--44	348,605	17.5%	543,015	13.70%	194,410	56%
45--54	304,775	15.3%	558,870	14.10%	254,095	83%
55--64	180,405	9.1%	523,197	13.20%	342,792	190%
65 years and over	242,495	12.2%	891,814	22.50%	649,319	268%
<b>GVRD [Vancouver CMA]</b>	<b>1,986,975</b>	<b>100%</b>	<b>3,963,616</b>	<b>100%</b>	<b>1,976,641</b>	<b>100%</b>

Applying the demographic projections developed by Urban Futures<sup>4</sup> to the population projections for a region of 4 Million developed in Technical Bulletin No.2, by 2056, senior populations will have grown by over 250% while younger ones will have done so by just about 50% [Figure 3-1 and Table 1]. Although the effects of an aging population have already started to emerge - more elders and fewer children – the outcome fifty years from now represents a considerable demographic shift. Over one fifth of the population will be sixty-five years old or over, while the shares of both residents under twenty - children and students-, and between twenty and sixty-five - workers / labour force - will have significantly decreased compared to their current share of population.

Figure 3-1: 2001 – 2056 projected demographic change in the GVRD. [related to Table1].



### III. Aging Population: Outcome on Household Size and Type

Some of the consequences of a population with a larger share of seniors and a smaller share of children and ‘younger’ adults are the decrease in household size - number of people per household - and the shift in household types – basically an increase of ‘empty nester’ ones, and a decrease in those of families with children.

The average household size – number of persons per household –in the GVRD is currently 2.6<sup>5</sup> [2001 census], and has been constant for the 1991-2001 period, although varying within the region’s municipalities. However, as population ages, average household size is expected to decrease. According to BC Stats Household Estimates and Projections<sup>6</sup> and to Urban Future’s Housing Projections<sup>7</sup> for 2031 and 2045 respectively, it will drop to 2.3 persons per household.

Consequently, more dwelling units will be needed in order to accommodate a certain population growth: 2056 doubling population represents a growth of 100%, while the housing growth it requires is of 120%.

The distribution of household types is also affected by the demographic shift. At the moment, 41% of the total households in the region correspond to families with children<sup>8</sup> [*children*: residents under fifteen years old]. The remaining 59% corresponds to one family households without children, multiple-family households, and non family households. Considering the aging demographic trend, by 2056 the share of households with children in the region will drop by 5.5%, becoming 35.5% of the total number of households.

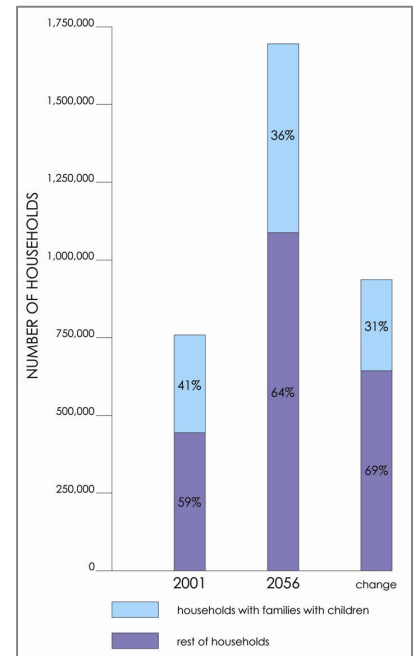


Figure 3-2: 2001 – 2056 projected change in distribution of household types in the GVRD.

#### IV. Aging Population: Outcome on Housing Types

As for 2001, the current housing supply in the region consists on 63% ground oriented housing types [single-detached and other ground oriented] and 37% apartments [low rise and high rise]<sup>9</sup>. The most significant housing type in particular is the single-detached house, which accounts for 43.2% of the total housing mix. However, the share of this housing type out of the total of dwelling units in the region has been gradually declining over the last forty five years. In 1961 it represented 76% of the total dwellings, dropping to 57.4% by 1981, to 43.2% by 2001. At the same time, the share of apartments has been gradually increasing; from 15.2% in 1961, to 32.5% in 1981, to 37.1% in 2001.

The change in the region’s housing mix in the 1996-2001 period shows that the largest increases in new dwelling units took place in the two apartment categories: *fewer than five stories* [24%], and *five or more stories* [22%]. However, ground oriented houses on the whole still represent the largest proportion of the new dwelling units [57.3%; single-detached 18.9%, and other ground oriented 34.8%].

Considering the existing housing mix in the region – supply - and the impact of demographic trends of both ‘empty nesters’ and ‘never nesters’ on household types - thus, on housing demand -, what type of new dwellings are needed in order to provide an adequate housing mix for a doubling population in 50 years a timeframe? The rapid change in our urban landscape since 1950, where suburbs provided almost exclusively single family homes for young large families with children, was caused by a condition that no longer exists. The question is this: by 2056 will we have enough detached ground oriented housing for families with children? [A type commonly associated with this family type]. Conversely, will we have enough housing appropriate for smaller families without children? Where is this housing now, and where should it be located in the future?

Under these circumstances, and assuming that the detached home with a small or large yard is the most appropriate type for families with children, we calculate that of the

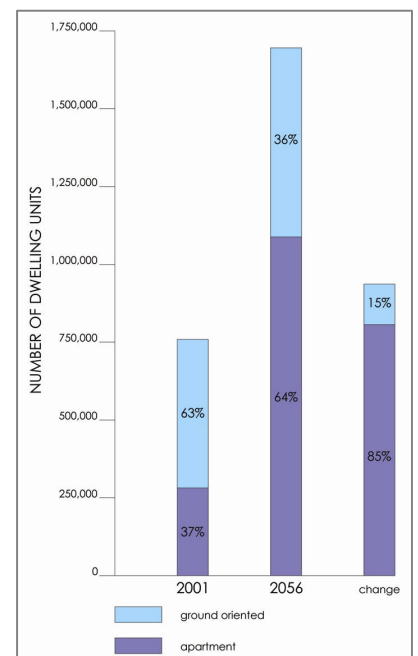


Figure 3-3: 2001 – 2056 projected change in housing mix in the GVRD.

over 900,000 new housing units required by 2056, 15% should be detached and semi detached ground oriented homes [Figure 3-3 and Table 2].

2001-2056 CHANGE IN HOUSING MIX IN THE GVRD						
	2001		2056		change [new du]	
ground oriented	477,275	63%	607,221	36%	129,946	15%
apartment	281,450	37%	1,088,061	64%	806,611	85%
<b>total</b>	<b>758,725</b>	<b>100%</b>	<b>1,695,283</b>	<b>100%</b>	<b>936,558</b>	<b>100%</b>

Figure 3-4 illustrates how this housing shift could take within the region, considering 2056 Scenario #2 Population Projection from Technical Bulletin No.2, demographic trends and projections by ‘sub-regions’<sup>10</sup>, and the existing housing mix in those areas.

Table 2: 2001 – 2056 projected change in housing mix in the GVRD.

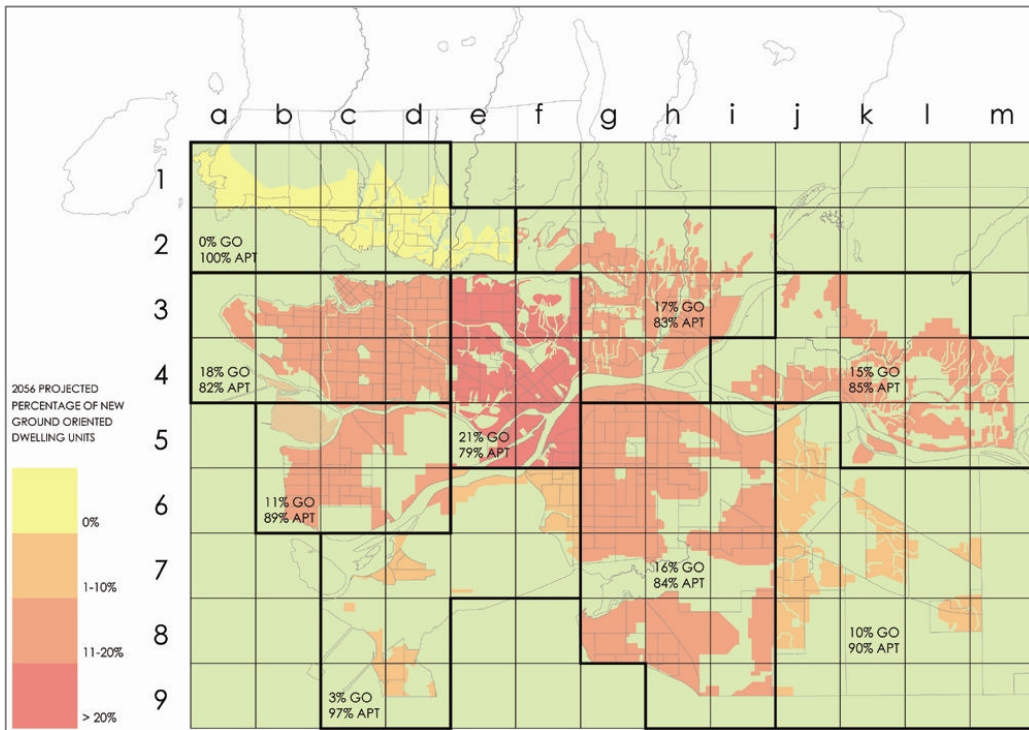


Figure 3-4: 2001 – 2056 change in housing mix within the GVRD, considering 2056 Scenario #2 Population Projection, demographic trends and current housing mix by sub regions.

## V. Conclusion

The demographic shift taking place will affect household size – people per household- and household types – with children / without children. This will consequently affect housing demand –ground oriented / apartment. On the one hand, smaller households will involve more, but smaller, houses. On the other, a population with a smaller share of households with children combined with the existing ground oriented housing supply, suggests that by 2056 only 15% of the new dwelling units in the region need to be this type to house all families with children. Meanwhile, the remaining 85% may be apartment units, accommodating the larger share of empty nesters.

## Notes

- <sup>1</sup> GVRD, 2002, *2001 Census Bulletin #3 – Population by Age*, GVRD Policy & Planning Department, September 2002 <http://www.gvrd.bc.ca/growth/pdfs/Census2001-PopAge.pdf>
- <sup>2</sup> Statistics Canada, in *2001 Census Bulletin #3 – Population by Age*, GVRD Policy & Planning Department, September 2002 <http://www.gvrd.bc.ca/growth/pdfs/Census2001-PopAge.pdf>
- <sup>3</sup> Urban Futures, 2006, *Spatial Projections of Population, Housing and Employment in the Southwest Metropolitan Region, 2005 to 2045*, paper for The Second Annual ‘Fashioning Vancouver’s Future’ Conference, February 8, 2006
- <sup>4</sup> Data provided by Urban Futures, May, 2006: Percentage of Population by Age Groups 2005-2045: Vancouver / UEL, Burnaby/New West, North Shore, Richmond, Tri-Cities, Delta, Surrey/White Rock, Pitt Ridge, and Langleys.
- <sup>5</sup> GVRD, GVRD Persons in Private Households and Average Number of Persons per Household, 1991-2001, site visited on March 2006, <http://www.gvrd.bc.ca/growth/keyfacts/perinprivhhd.htm>
- <sup>6</sup> BC Stats, *Household Estimates and Projections for various administrative boundaries*, site visited on May 2006, <http://www.bcstats.gov.bc.ca/data/pop/popstart.asp>
- <sup>7</sup> Urban Futures, 2006, *Spatial Projections of Population, Housing and Employment in the Southwest Metropolitan Region, 2005 to 2045*, paper for The Second Annual ‘Fashioning Vancouver’s Future’ Conference, February 8, 2006
- <sup>8</sup> Data provided by Urban Futures, May, 2006
- <sup>9</sup> GVRD, 2002, *2001 Census Bulletin #5 – Dwellings in the GVRD*, GVRD Policy & Planning Department, March 2002 <http://www.gvrd.bc.ca/growth/pdfs/Census2001-Dwellings.pdf>
- <sup>10</sup> Data provided by Urban Futures, May, 2006

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