
Managing Growth and Change in the City of Victoria

*An assessment of the magnitude, nature, and
timing of population, housing and employment
change in the City of Victoria, 2008 to 2041*

Prepared for:

The City of Victoria

OCTOBER 2009

URBAN FUTURES
Strategic Research to Manage Change

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T H E C I T Y O F V I C T O R I A

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Managing Growth and Change in the City of Victoria

Executive Summary

As part of the City of Victoria's Official Community Plan (OCP) review and update, Urban Futures was asked to develop a series of projections for population, housing and employment to 2041. Of fundamental importance to these projections is housing – both the existing stock and future additions to it – as it will play a very specific role in determining not only the nature, magnitude, and timing of land use in the City of Victoria, but also in the size and composition of its population and, by extension, employment. In this context, the projections presented throughout the report represent trend-based projections of the City's future, in that they reflect the extension of the past into the future, adjusted for shorter term trends that may divert the patterns of change in long term trends. Implicit in these trends is how the patterns of land use policy and infrastructure change have shaped the region and its municipal members to date. The projections therefore represent baseline assessments of growth and change in the City over the coming 33 years, recognizing both its local circumstance and larger functional region within which it is situated.

The City of Victoria is currently home to 82,439 residents, with the baseline projection indicating that the City would grow by 4,314 residents (just over five percent) to 86,753 by 2018, 93,997 by 2028 and further to 101,242 by 2041. Over the next thirty-three years Victoria would add a total of just over 18,800 new residents to its current population. Below-average economic performance at the provincial and national levels will impact growth rates in the short term, but population growth rates are expected to rise to levels consistent with Victoria's historical experience over the medium term, declining slowly thereafter as the post Second World War boom generations ages into the higher mortality stage of the lifecycle.

Contrasting a slowly *growing* population, the City will experience dramatic compositional *change* in its demography. As an example, if changes to the three major lifecycle groups are considered out to 2041, the size of the population under the age of 20 would decline by one percent and the City's working-aged population would grow by six percent. The population aged 65 and older on the other hand would grow by 106 percent – in other words, it would more than double.

This dramatic change arises partly from the aging of the City's existing residents, and partly from the number and type of housing units expected to be added in Victoria in the coming years. Currently home to the bulk of the region's apartment stock, this is projected to prevail into the future as the City's apartment stock would grow to 34,300 units by 2018 (up from 30,000 in 2008) and 43,500 by the end of the projection period. The City's share of the regional apartment stock would decline slightly over the projection period, from 59 percent today to 55 percent by 2041. Victoria would also add to its stock of ground oriented units, albeit at a much slower pace than that of apartment units; the ground oriented stock is projected to increase from 14,500 units today to 17,200 by 2041, which would result in its share of the region's ground oriented stock remain relatively constant at between 12 and 13 percent over the course of the projection period.

Historically, employment in Victoria has been centred largely around service sector occupations, some of which serve the City's local population and some of which serve export markets (such as tourists). In 2006 almost one-third of the jobs in the City were found in Management, Business, Finance and Administrative occupations, while a further 28 percent were found in Sales and Service occupations.

Looking towards the future, the projection indicates that over the coming thirty-three years this pattern would be maintained, with Sales and Service occupations adding the greatest absolute number of jobs by 2041 (3,365). Public Service, Arts & Humanities would follow close behind with 2,388 additional jobs, followed by Natural and Applied Sciences with 1,817.

The greatest relative growth would be the 25 percent projected for Natural and Applied Sciences and Public Service, Arts and Humanities. Given the context of an aging local and regional population, Health Occupations are anticipated to be the third fastest growing sector, increasing by 16 percent, or 1,100 jobs, by 2041. As they already constitute a significant share of the City's employment, slower relative growth (five percent) would be seen in Management, Business, Finance and Administrative occupations. Employment in occupations unique to Manufacturing and Processing (including Primary sector activities) would remain relatively constant over the projection period, a situation that could reasonably be anticipated within the urban context of the City. Overall, the City would see an increase of 10,600 jobs over the coming 33 years, with total employment growing by 13 percent over the period.

As inputs to future policy changes, the role of these projections is to form a baseline scenario to determine the degree to which the future they describe is compatible with the City's vision, and hence the degree to which policy needs to work to support, or change, the trends on which the projections are based. To the degree to which the policies are intended to slow, accelerate, or avoid the consequences of the baseline scenario, policy intervention will inevitably result in a future that differs from that described by this research.

Thus, as a basis for updating the City's OCP, there must be a vision of the City in the future that policy can direct action towards. This vision must acknowledge that while policy will play a role in shaping new communities, places of work and the infrastructure to tie them together, the current stock of people, homes, workplaces and infrastructure will also play a significant role in determining the future of the City, particularly in the near and medium term.

Introduction

As part of the City of Victoria's Official Community Plan (OCP) review and update, Urban Futures has been asked to develop a series of long-range projections of population, housing and employment to 2041. This research was conducted in the context of work performed by Urban Futures as part of the Capital Regional District's Regional Growth Strategy (RGS) update. The modeling approach for the City of Victoria builds on the significant amount of work completed for the regional RGS, in order to develop detailed projections of housing by structure type, population by age, and employment by occupation category for the City of Victoria.

These projections provide information about the factors that will change the City's demography and economy in the coming decades, thereby providing a foundation for the policy directions and strategic plans addressed in the City's Official Community Plan. The methodology used in developing City specific projections relies on a community lifecycle modeling approach in conjunction with a wide range of demographic, housing and employment data from the 2006 Census, Canada Mortgage and Housing and the City of Victoria.

The first step in developing this lifecycle based population projection is to recognize the future demographic and economic contexts for the City of Victoria. These contexts range from the outlook for the Capital Region to projections for the province of British Columbia and Canada as a whole. Recognizing the scope and scale of the region-wide projections acknowledges that Victoria and the other municipalities and local jurisdictions at the southern end of Vancouver Island are integral parts of a large and diverse functional Capital Region that shares a common labour force, transportation network and social infrastructure. In this context, economic, transportation and land use changes in the City of Victoria affect, and are affected by, economic, transportation and land use changes throughout the Region. By extension, recognizing the provincial and national projections acknowledges that it is from these larger geographies that the region's future migrants, both domestic and international, will originate. Furthermore, given the unique role that the region – particularly the City – plays in both provincial and national governance, these larger regions' trends directly affect the City and region's economy.

With these broader contexts in mind, the lifecycle approach to developing projections for the City of Victoria begins by accounting for the vital changes (births, aging and deaths) of the City's existing residents during a year. The next dimension of annual change that is considered is the consequence of people moving into and out of the City each year. The structure of this approach is to consider both the turnover of existing housing (people moving out of the community, vacating units for other people to move into), and the construction of new housing (people moving into newly constructed units). For each of these mobility groups, demographic characteristics are estimated from the most recent 2006 Census data, which detail mobility status cross-tabulated by age, sex, structure type of dwelling and period of construction of the dwelling they occupy.

When out-movers are subtracted and in-movers are added to the City's existing resident population (adjusted for births, aging and deaths throughout the year), the result is an estimate of the year-end population in the community. This population, in turn, becomes the new resident population base (by age, sex and structure type of dwelling) for the next annual iteration in the modeling process. The results of this lifecycle approach are annual projections of population by age and sex, and housing occupancy by structure type for the City of Victoria.

The starting point for projections of future levels of employment in the City are the projections of employment by broad occupation classification for the Capital Regional District. It is at this functional economic level that economic projections are considered against the region's demographic outlook; a

resolution that matches the need for the region's labour force (and hence the region's population) to grow in order to fill positions created by a growing metropolitan economy.

Deriving employment projections at the City level is based on two distinct types of employment: jobs which typically serve the local population's needs and wants (the population serving sector) and those which aren't, by and large, dependent on the local population (the economic base or the non-population serving sector). The extent of population serving employment in each occupation group (for example, retailing activities serving neighbourhood residents) is derived from the projections of the City's share of population growth within the region. For the non-population serving dimensions (such as retailing to tourists or manufacturing for export markets), future allocations of employment are based on the existing structure of the City's employment relative to the rest of the region. This step-down approach recognizes trends in regional economic change; the existing composition of employment found within the City and the rest of the region; and the role of local and regional population change on employment location over the projection period.

These baseline projections of change within the City of Victoria are the product of a **trend-based** approach to forecasting: one built on a foundation of empirically observed long run historical trends in Canada, BC, the Region and the City, extended into the future in a manner that acknowledges both their long-run pattern and more recent evidence, which may indicate future shifts in these long run trends. The result of the modification of long run trends in light of recent evidence is that the projections presented here are referred to as trend-based scenarios rather than simply trend scenarios.

Some of the adjustments made to long run trends are dictated by mathematics – if long term trends in the postponement of births experienced nationally and locally continued into the future, at some point there would be no births. As a result, the historical long run trend in postponement must be muted for a reasonable projection of future natality. Other adjustments are dictated by consideration of a number of data sources. For example, the past three decades have been characterized by a decline in age-specific male labour force participation rates in the Capital Regional District. While a purely historical trend projection would see these declines continue, tightening labour markets are expected to lead to increasing participation for all male age groups. Thus the trend-based projection of labour supply considered here has male rates, most noticeably in the second half of the working lifecycle, increasing in spite of their long run historical decline.

The use of trend-based projections will be of particular relevance in the context of this report; demography will ensure that the City's future is not merely an extension of its past. The dominant demographic theme that will be expressed within the City, and within its larger regional, provincial and national contexts, will be that of an aging population; with all regions experiencing relatively rapid growth in the number of older people and relatively slow growth (and even some declines) in the number of younger people.

This implies a demographic future that will be significantly different from the past. As a context for change and change management, this demographic shift will have profound implications not only for housing and land use within the region, but for its economy, both local and national. The relationship between demographics and economics was highlighted in a speech by David Dodge, the recently retired Governor of the Bank of Canada, which the press encapsulated as “cautioning that Canada needs a productivity miracle to avoid a demographic torpedo to the economy”.

The concern of a “demographic torpedo” is that the aging of Canada's population – with rapidly increasing numbers in the retirement stage of the lifecycle and a static younger population – will reduce the available supply of labour to the point that it will significantly constrain economic growth. The labour supply contribution to real national economic growth is projected to slow from about 1.4 percent recently to 1.0 percent by 2010, further to 0.6 percent by 2016 and even lower thereafter. With the demands of an aging population on the economy increasing, there will be the need for commensurate

economic growth, in order to pay for pension plans, healthcare and other social programs. The constraint of a slowly growing labour supply is that it will mean that the economy may not achieve the real growth required to support the demands of our population.

Dodge stated that this concern could only be addressed by Canada moving “off trend”. This would involve, by design or by default, moving from its historical patterns of change, by consistently increasing the labour production input to economic growth (increased productivity, participation and immigration) enough not only to offset the decline in the labour supply input that will inevitably result from our aging population, but to ensure that the economy can grow to meet the increasing needs of an aging population. This “new economic paradigm” is reflected in the collection of projections for the national, provincial, regional and City of Victoria levels that are presented in this research.

The research represents the results of a series of linked projections which begin with the national and regional demographic context and finish with the demographic and employment implications for the City of Victoria. These projections provide a framework for the discussion of strategies to manage the change – nationally, provincially and locally – that can be anticipated for the coming decades. In this context, it is important to emphasize that long term projections such as these are more concerned with time periods than with specific dates, with orders of magnitude rather than with specific values, and with strategic rather than with definitive plans. In this vein, while the projections presented in the following pages document a great deal of information, the level of detail presented in the numbers should not be taken as being indicative of their level of precision. In many statistical reports it has become common practice to round numbers so as not to impart a level of precision to the reader. This practice makes any subsequent analysis by the reader difficult as numbers commonly will “*not add up due to rounding*”. To facilitate further analysis based on the projections, tables and charts have not been rounded throughout this report.

The City of Victoria

To set the stage for projections of the future, it is important to first consider, albeit briefly, the changes that the City of Victoria has experienced in the past. In some senses, the City's role in the region has changed over the past decades, and yet in many others it has remained the same. In 1951, the City's Census population was 51,330 residents, accounting for 49 percent of the region's population. By 2006, while its population had grown to 78,060 residents (a 52 percent increase), it accounted for only 24 percent of the regional total, half of its previous share. While remaining dominant in the region's economy, the City is no longer the region's most populous municipality – in terms of total resident population, the City of Victoria was surpassed by Saanich during the region's suburban expansion of the early 1960s. The CRD's much faster growth, from a 104,300 Census count in 1951 to 330,090 in 2006, was the result of an almost quadrupling of the population in the rest of the region outside the City.

Over the past 55 years Victoria's housing stock has also grown much faster than its population, from 15,790 occupied dwellings in 1951 to 41,705 in 2006, a 164 percent increase (versus the 52 percent increase in population). This pattern was the result of a significant compositional shift in the type of housing within the City. In 1951, there were 9,960 single detached dwellings in the City (63 percent of the total stock); by 2006 there were only 6,589 single detached units (accounting for only 16 percent of the stock). In contrast, the number of occupied apartment units increased from 4,840 units to 28,025 by 2006, (an almost six-fold increase) to account for two-thirds of the City's housing stock. Having noted this, it is important to also note that the City has always been home to the dominant share of the region's apartment stock (it accounted for 69 percent of the CRD's apartments in 1951); surprisingly, this dominance has declined over time, with the City accounting for just under half (49 percent) of the occupied apartment stock in the region by 2006.

The City dominates the region's stock of locations for work, with an estimated 42 percent of the places of work in the region located within the City, compared to its 25 percent share of the population active in the employed labour force. According to the 2006 Census, half of the City's resident workers have a usual place of work outside the home but located within the City boundaries, compared to only 19 percent of the

residents of the other municipalities in the region having a usual place of work outside of their home that is located in their municipality of residence.

Census counts invariably miss some residents by a margin known as the Census Undercount. For example, in 2006, the Census count for the City of Victoria was 78,060 residents while the estimated total population adjusted for the undercount was 81,293, indicating a Census Undercount of 4.1 percent. Acknowledging the Census Undercount, the City of Victoria's population has grown from 1986's 69,474 residents to 82,439 residents today (2008,

Figure 1

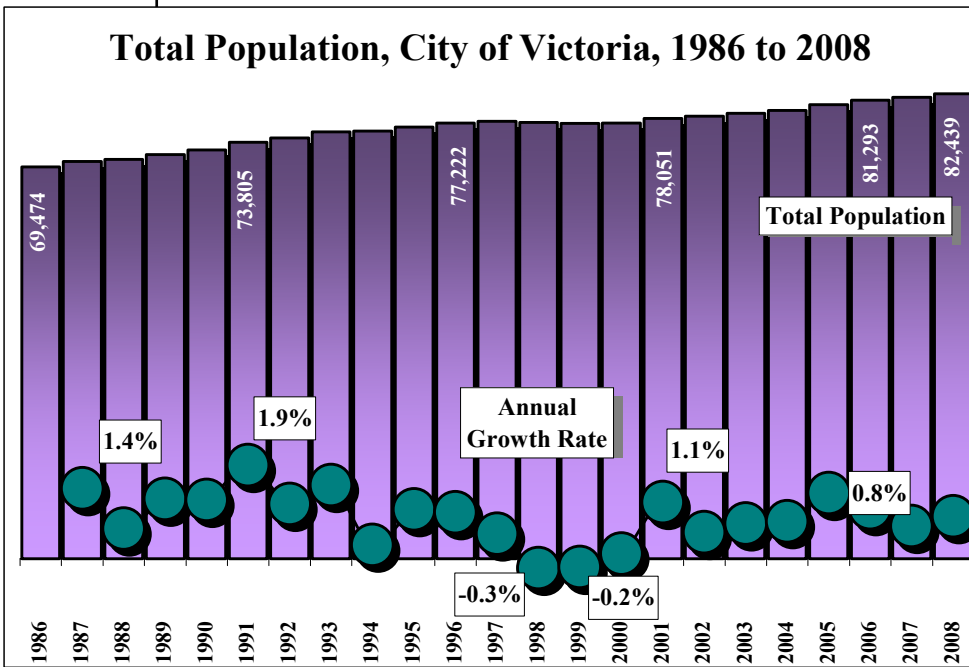
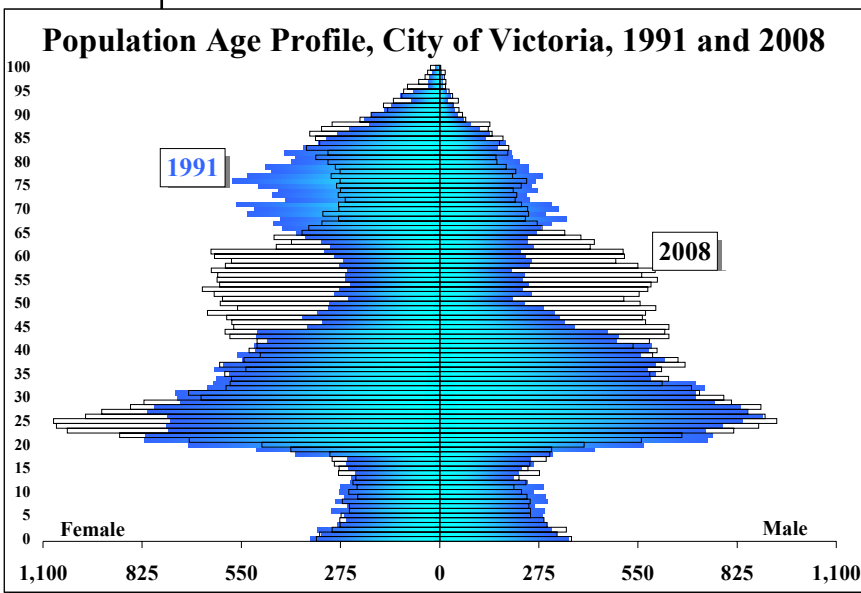


Figure 1ⁱ). Unlike population at the provincial and regional levels, the population of the City has not grown continually over the past two decades; rather it has experienced periods of rapid, moderate, and slow growth, and even periods of slight declines. These cycles notwithstanding, the City grew by 19 percent (12,965 people) over the 1986 to 2008 period, with annual growth averaging 0.8 percent over this 22-year period. Over the past decade the City has grown at a slower pace (0.6 percent per year), despite the past five years seeing a slightly faster rate of growth (0.9 percent per year) than the longer-term historical trend.

One of the unique demographic characteristics of the City is its age profile, which, when compared to the province as a whole, has a greater proportion of its population in the 75 plus age group (eleven percent compared to seven percent) and a smaller proportion in the under 20 age group (15 percent compared to 22 percent). This is directly reflective of the characteristics of the City's housing stock (with its predominance of apartment units) in contrast with the region's significant stocks of single detached housing. In addition, differences in life expectancies between males and females, magnified by the City's role as an attractive place for the older population to settle, have resulted in an age profile that is skewed towards females in the older age groups.

Having noted these points, the major demographic change that Victoria has experienced over the past two decades is the same one that has characterized demographic change throughout Canada – the growth of the working aged population as a result of the aging of the baby boom generation (Figure 2). In 1991, over one third of the region's population was between the ages of 25 and 45, with the most typical resident being in their late-20s; these were people born between 1946 and 1965, members of the same birth cohort that dominate the national and provincial age profiles. Seventeen years later, in 2008, these people have moved up the City's age profile into the 42 to 62 age group, reflecting the intervening birthdays of the baby boom cohort.

Figure 2



Notwithstanding the common demographic theme of the aging of the baby boom cohort, the City of Victoria's age profile has retained a distinct bulge in the young adult age group (unlike other regions). This is seen in the 20 to 30 year old age group especially, with females dominating the age profile in 2008 and 1991, thus reflecting not only the pool of post secondary students and young urbanites who populate the City but also the predominance of apartments in the City's housing stock.

While the dominance of the 20 to 30 population is reflected in both the 1991 and 2008 age profiles, the presence of some of the 20 to 30 year olds who lived in the City in 1991 is reflected in large number of residents

between the ages of 37 and 47 in 2008's profile. While the City is certainly a destination for those entering both post-secondary education and/or the labour force, the 1991 and 2008 age profiles show that some of these generally highly mobile people, both within and between regions, have established roots within the City.

ⁱ Historical population figures have been developed using both BC Statistics' Municipal Estimates and Urban Futures' projections.

Mobility plays a lead role in changes in the number of people living in the City. For example; only 73 percent of the City's 2006 population over the age of five were residents of the City five years earlier in 2001, compared to 80 percent of the residents in the rest of the region living in the same municipality in both 2006 and 2001. A slightly larger share of the City's population had moved from other parts of the region and province (14 percent) than the rest of the region (12 percent); from other provinces (eight percent compared to six percent), and from other countries (five percent versus three percent). While not a major destination for immigrants, the foreign born population plays an important role in the City's demography, with twenty-two percent of its 2006 population being people born outside of Canada, down from their 36 percent share of the 1951 population.

The future population of the City will be shaped by both its current residents and by migration. With specific respect to migrants, some will be young families leaving apartments in the Core for family housing in other municipalities; some will be young adults leaving family homes in the other municipalities for apartments in the core; and all will be affected by the land use and housing policies of the region's municipalities. Migration between the City and locations outside of the region, and particularly inter-provincial and international migration, will not be significantly influenced by local policies, but rather by relative economic, demographic and life cycle characteristics of these larger external regions. As the focus of this research is the City of Victoria, these external sources and destinations of migrants will be considered first, beginning with Canada in the next section, and stepping down to reach projections the Capital Region as a functional entity.

Stage One: The Context for Demographic and Economic Change

1. The National and Provincial Contexts

a. Directions of Growth and Change in Canada

Canada's population grew from 23.4 million in 1976 to 33.3 million today (2008). Over this period, net additions to the population averaged just over 300,000 residents per year, for an average annual growth rate of 1.1 percent. While the Canadian population has always grown, the rate of growth was far from constant. The mid-1970s, early- and late-1980s and the early-1990s were characterized by periods of above average growth; the late-1970s, mid-1980s, late-1990s and this past decade are characterized by below average growth. Between 1998 and 2008 Canada's population grew at an average annual rate of 1.0 percent, compared to 1.1 percent over the 1988 to 1998 decade and to 1.2 percent over the 1978 to 1988 decade. This is part of a long run slowing in growth rates since the post World War II years when population growth averaged 2.6 percent between 1948 and 1958, and 1.9 percent between 1958 and 1968.

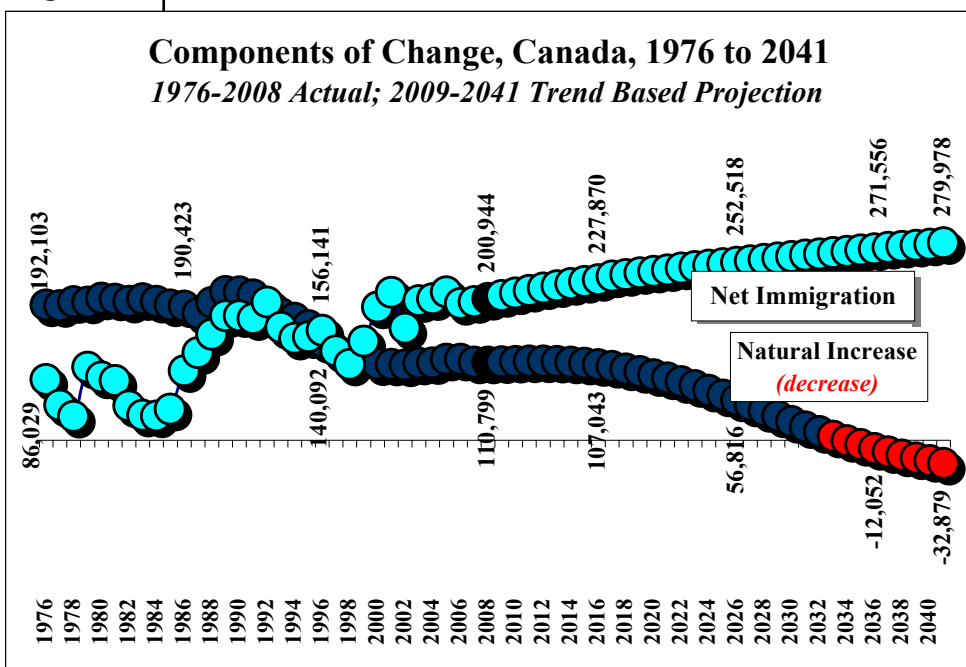
Underlying this slowing of overall population growth has been a dramatic change in the Canadian age profile. The early-1960s was characterized by the birth of the Post World War II Boom generation; high birth rates resulted in record numbers of annual births, creating the "big generation" of baby boomers – people born between 1946 and 1965 who are now between the ages of 43 and 62 and account for almost one third of the country's population. The past four and half decades have been characterized by the aging of this cohort through the major life milestones of completing school, entering the labour force, purchasing a home and settling down.

The single largest five year age group in Canada in 1963 was the under five age group, comprised of people born between 1959 and 1963 at the peak of the baby boom. In 1976, the typical person in Canada was between the ages of 13 and 17 (born between 1959 and 1963), a dominance that indelibly marked the seventies as the era of youth. In 2008, the typical person was aged 45 to 49, again comprising those born between 1959 and 1963, a demographic dominance that has given significant support to the home ownership market over the past decade. These typical Canadians are now looking toward the next major life milestones – paying off the mortgage, the children (finally) moving out, and retirement. As a point of comparison, there are now

3,559,000 people under the age of 10 in Canada, ten percent less than a decade ago and 21 percent fewer than there were in 1965 when Canada was at its youngest.

This shrinking younger population is largely the consequence of significant declines in birth rates since the baby boom peak. In 1961, birth rates were at a level that implied that, had they continued, on average women would have given birth to 3.9 children during their lifetime (the total fertility rate, TFR). By 1971 this rate had declined to an average of 2.1 children, the level at which a

Figure 3

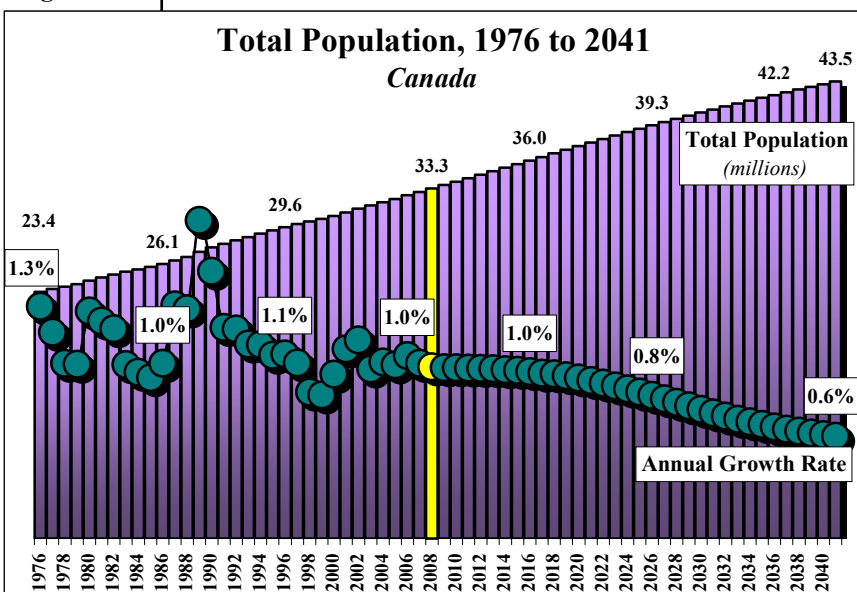


population only replaces itself, and by 1981 it had declined to a level of 1.7 children per woman, a level at which, without positive net immigration, population decline and aging will inevitably follow. The prevalence of below the replacement birth rates in Canada since 1971 has meant not only a shrinking younger population, but also to an increased emphasis on the implications of the aging of the baby boom cohort.

The decline in births' relative contribution to demographic change has also led to an increase in the contribution of other factors. These factors are grouped into two categories – natural and migratory change. *Natural change* (historically referred to as natural increase) is the result of births' additions to the population and deaths' reduction of it; *net migration* (at the national level, net immigration) is the sum of the number of immigrants minus the number of emigrants, plus changes in the number of non-permanent residents and in the number of Canadian's temporarily living abroad. In the post world war two period, high levels of births and low levels of deaths meant that natural increase contributed more people to Canada's population than net immigration; from 1991 onward however, declining birth rates and an aging population reduced the contribution of natural increase, adding an average of only 134,000 people per year compared to net immigration's average of over 172,000 (Figure 3). By 2008 net immigration added just over 200,000 people to the population while the contribution of natural increase had fallen to 110,000.

Looking to the future, trends would indicate that a relatively stable total fertility rate can be reasonably anticipated in the coming years. Similarly, life expectancies in Canada have been increasing, albeit slowly and at a declining rate, over the past decades; something that, again, can be reasonably anticipated to characterize our future. Given the aging of population that will accompany the aging of the boomers over the rest of their lives, these trends in vital rates would result in a relatively constant annual number of births and an increasing number of deaths. Thus, the contribution of natural increase will continue to decline to the point where it becomes natural *decrease* by about 2033 when the annual number of deaths exceeds the number of births (Figure 3). Meanwhile, net immigration is projected to increase from 200,000 immigrants nationally today to just under 280,000 by 2041. This projection assumes that immigration will increase from its current rate of 0.76 percent of the Canadian population to 0.82 percent over the next decade, stabilizing in this range for the remainder of the projection period. As this immigration flow is typically concentrated in the under 35 age group – and hence younger than the baby boom cohort – immigration will help to slow the aging of Canada's population. That said, it will not stop it; the aging of the country's ten million baby boomers will easily overshadow the contributions of both net immigration and births over the coming decades.

Figure 4

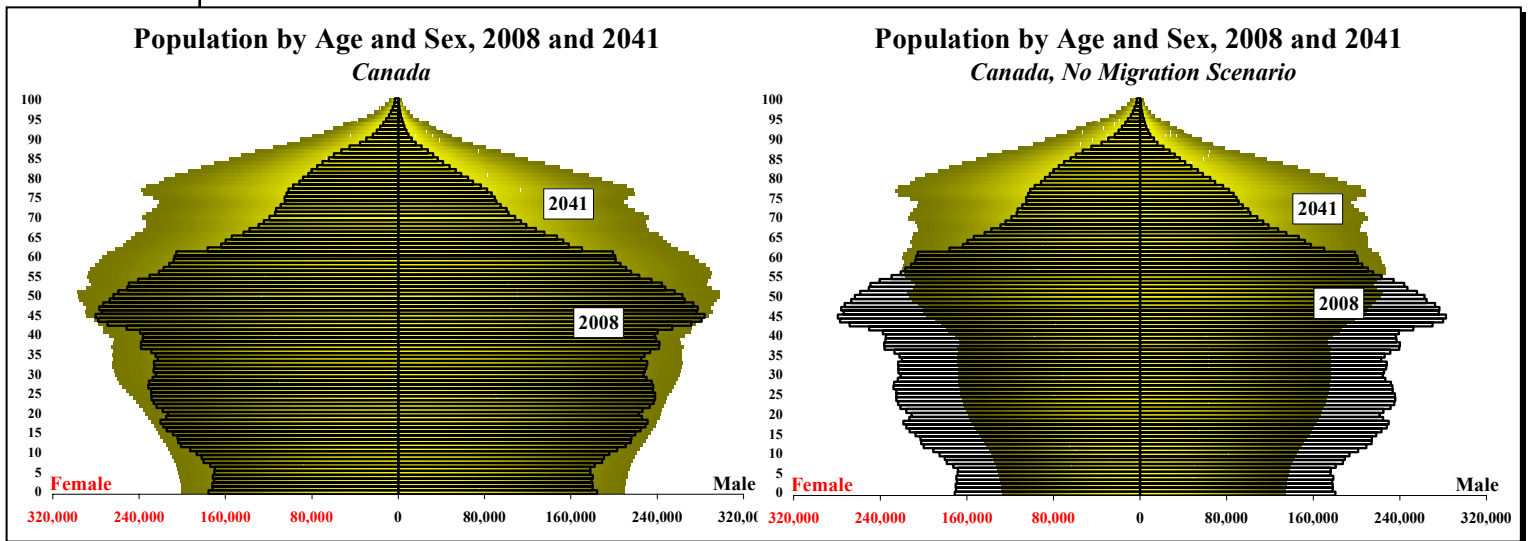


Trends in natural increase and net immigration, when combined with the aging of Canada's current population, results in a projection of Canada's population growing from 33.3 million residents in 2008 to 39.3 by 2026, and further to 43.5 million people by 2041 (Figure 4). This represents an increase of 31 percent, or 10.2 million new residents over the next three decades. Given the declining contribution of natural increase, (even with increasing net immigration) the annual rate of population growth would continue its slow decline, from a current rate of 1.0 percent per year into the neighbourhood of 0.6 percent by the end of the projection period.

As has occurred over the past half century, while Canada’s total population will increase at a slowing rate, it will experience significant changes in its age composition. The total projected population growth of 31 percent over the next thirty-three years would be comprised of an 89 percent (7.5 million people) increase in the 55 plus population versus a mere 11 percent (2.7 million people) increase in the number of people under the age of 55.

The role of aging, mortality, natality and migration can be demonstrated by comparing Canada’s trend projected population profile in 2041 and what would occur, all other things being equal, if there was no migration into or out of the country. Figure 5 shows that, with no net immigration, Canada’s 55 plus population would still grow by 67 percent or 5.7 million people while the under 55 population would decline, falling by 25 percent (6.1 million people) over the next three decades. This is the natural consequence of a prolonged period of below the replacement level birth rates in the absences of migration. Thus, the maintenance or growth of the under 55 population – our working aged population – will result solely from net immigration over the next three decades. This comparison emphasises the magnitude of demographic opportunities and challenges that will be evident in Canada in the coming years; our older population will grow much faster than its younger counterpart nationally, spurring on a balancing act of growing demand for intergenerational transfers.

Figure 5



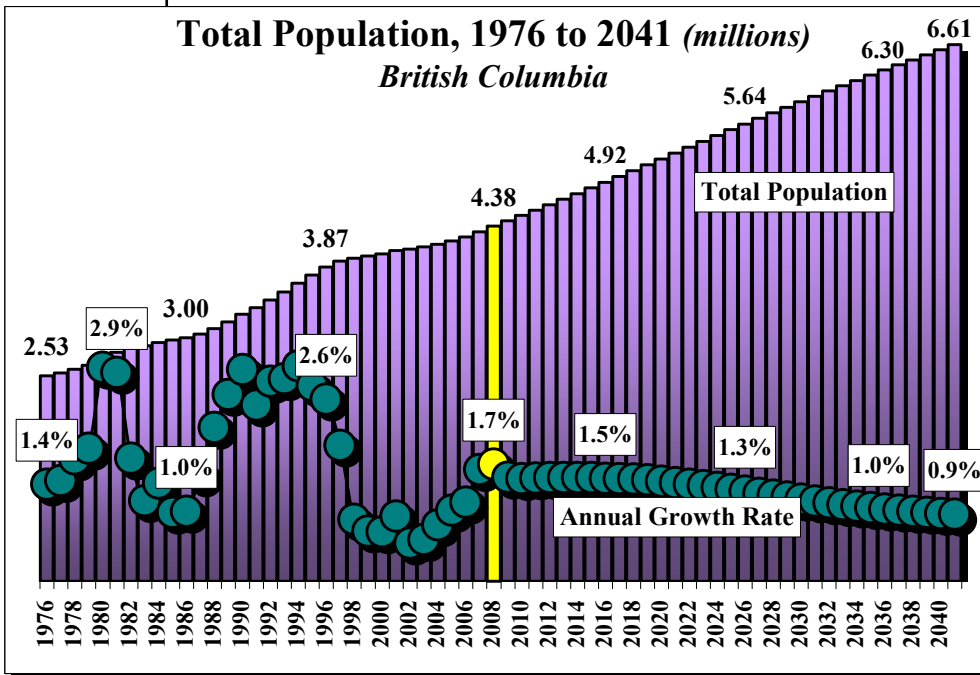
b. British Columbia within the Canadian Context

Demographically, British Columbia is very similar to the nation as a whole, with an age distribution that mirrors that of Canada. Furthermore, the province has essentially the same total fertility rate, and a life expectancy that is close to the national average. However, British Columbia differs from the national picture with respect to migration: BC receives 17 percent of Canada’s immigrants (relative to its 13 percent share of the national population), and generally attracts a positive net interprovincial migration flow of new residents. As a result of these migratory factors, British Columbia’s population growth rate has generally exceeded that of Canada as a whole. For example, over the past thirty years, the province’s population increased by 69 percent while Canada as a whole grew by 40 percent.

While the province’s population has increased in every year over the past three decades, this growth has demonstrated significant year to year variance. Above average population growth was seen in the late 1970s and early to mid 1990s, with below average rates in the 1980s and post 1997 periods. While population growth has picked up over the recent past – from lows of 0.5 percent in 2002 to 1.7 percent in

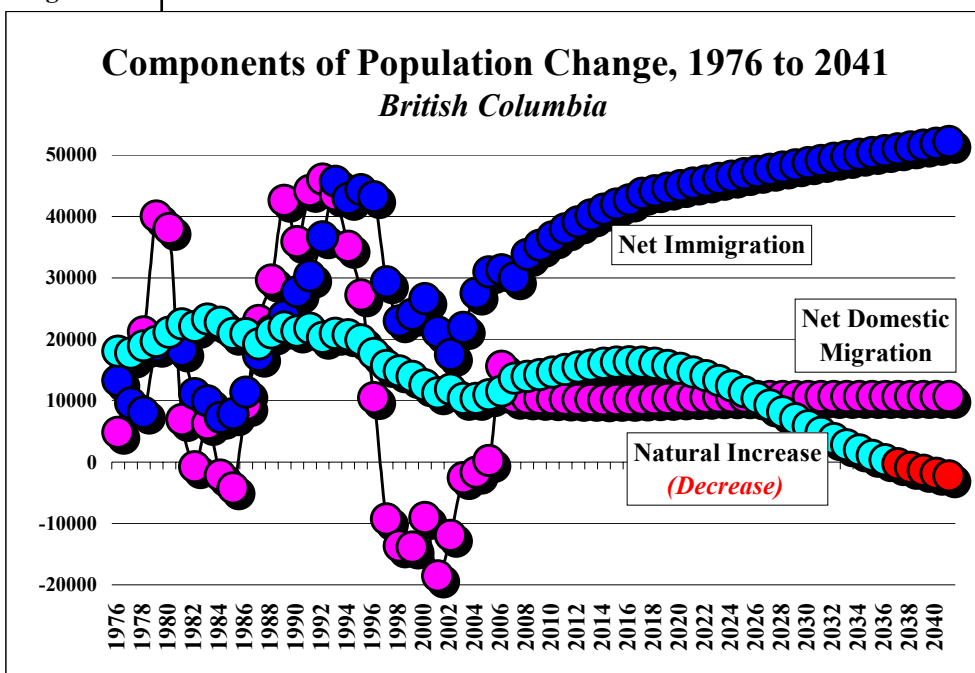
2008 – provincial population growth currently remains well below the 2.1 percent annual average of the past three decades.

Figure 6



average annual population growth rates. Given the cyclical nature of the provincial economy, the economic reversal of the post-1995 decade resulted in sharply reduced immigration and record levels of net outward inter-provincial migration, and hence slow population growth. With the economy recovering in 2004, both net immigration and net inter-provincial migration returned towards their long run averages by 2008.

Figure 7



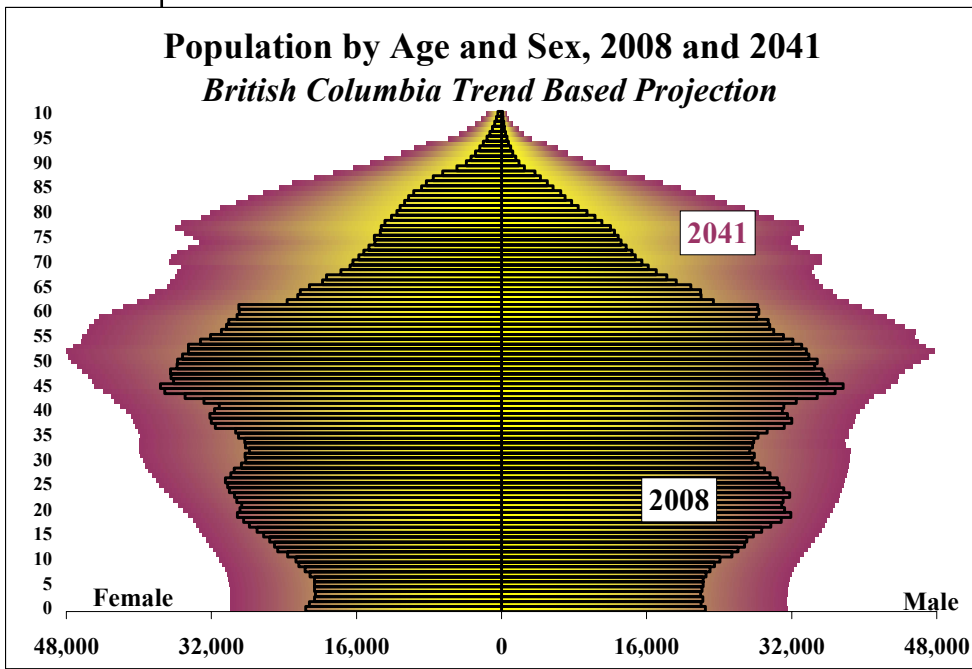
Given the important role that migration has played within the province, it is not surprising that patterns of migration and population growth move in tandem with provincial economic cycles. Annual growth rose significantly through the late-1970s as the provincial economy expanded and attracted significant net domestic migration (Figure 6). With the recession of the 1980s, net international migration declined sharply and net inter-provincial migration went negative, bringing population growth to below the one percent level. The strong recovery of the province in the late-1980s and early-1990s was in turn accompanied by strong increases in both international and inter-provincial migration and above

With Canada providing the demographic context for immigration to the province, a trend-based projection indicates that net immigration to British Columbia would increase from the current level of 33,800 per year back towards the 45,000 range seen in the early 1990's by 2021 and further to 52,200 by 2041. Given the relatively slow growth that is projected for the younger population of Canada as a whole (which comprises the bulk of the inter-provincial migratory flow), domestic migration is projected to remain in the range of its long run average of 10,000 net inter-provincial migrants per year.

As at the national level, trends

would point to British Columbia's total fertility rate remaining relatively constant (with only slight shifts over the projection period) while life expectancies are projected to increase further, albeit at a declining rate. Combining the projected vital rates with projected levels of inter-provincial and international migration, and the aging of the current residents, results in a projection of the province's population increasing from 4.38 million today (2008) to 5.58 million by 2026 and to 6.61 million by 2041 (Figure 6, above). On average, an estimated 67,000 new residents would be added to the provincial population each year, 10,000 more than the 57,000 that was added annually over the past three decades, resulting in overall provincial population growth of 51 percent over the next thirty-three years.

Figure 8



BC will certainly share in the national experience of an aging population. As an example, the 85 plus population would grow by 258 percent by 2041, adding 221,000 people; the 75 to 84 and 65 to 74 age groups would also experience significant growth, growing by 179 percent (388,585 people) and 110 percent (365,550 people) respectively (Figure 8).

British Columbia's population is projected to grow more rapidly than the national average (51 percent versus 31), driven by the province's disproportionate share of net international migration and positive share of net inter-provincial migration. This would mean that, due to the younger age composition

of these migratory groups, the younger population will grow faster in BC than for the corresponding age groups at the national level. The under 55 population in the province would grow by 30 percent over the next thirty-three years, almost three times as fast as the national average of 11 percent. In contrast, British Columbia's 55 plus population would more than double by 2041, growing by 107 percent (versus the national average of 89 percent). It is important to consider that while British Columbia would experience growth in the younger age groups, this will still fall significantly short of the growth in the older ones.

2 The Regional Context: The CRD

Having established the demographic contexts, provided by the national and provincial projections, it is important to note that in the large, diverse and open jurisdictional entities that these contexts represent, population mobility is effectively between functional regions – a migrant does not move from Ontario to British Columbia, but rather from the Toronto region to the Capital Region. What attracts migrants are the opportunities offered within a given region, often characterized by the central city; when they get there, the determinant of which municipality they actually live in is housing availability.

This means that population projections for a municipality within a functional region are, ironically, much more complex than projections for the country or the province. At the fundamental level, this complexity lies with the need to first project the population for the functional region as a whole; the economic and social opportunities offered by the functional region determine the demographic context for each of its

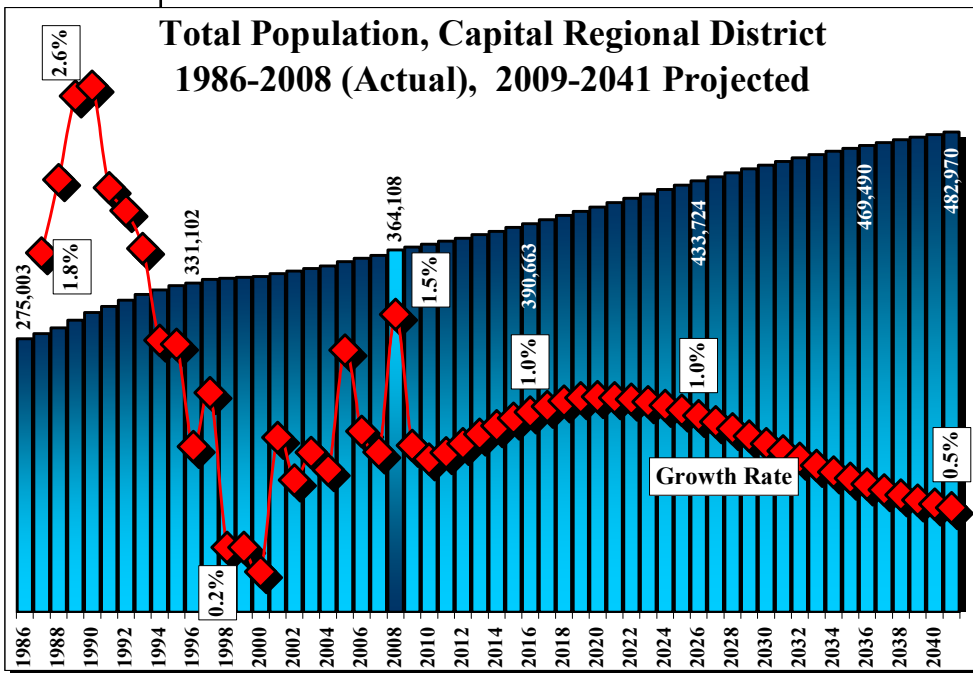
member municipalities. An additional dimension is then added by the requirement to compare the labour force change that would accompany this demographic change with independent projections of employment in the region (much of which is population serving). This ensures that both the demographic and economic futures are consistent and allows development of projections of the employment that will have to be accommodated in the region's municipalities.

With respect to housing, it is necessary to forecast the spatial distribution of housing capacity throughout the region to estimate *where* in the region future population will be accommodated. Finally, this population distribution will in turn influence the location of population serving employment in the region, which will also be impacted by land use planning and site availability throughout the region. Only after all of these parameters are established can the projection of population and employment in the City of Victoria be completed.

a. The CRD Region Past and Present

Over the past two decades the Capital Regional District grew from 275,000 residents in 1986 to 307,000 by 1991 and further to 364,108 people todayⁱⁱ (Figure 9). As at the provincial level, the population of the CRD has grown continually over the past two decades, but has experienced a great deal of variance in its rate of annual growth. From highs of 2.5 percent in the 1989 to 1990 period to lows of 0.2 percent in the 1998 to 2000 period, this reflects the changing economic conditions within the province, and their impact on net migration, both to the province and to the CRD.

Figure 9



The level of migration to the region has resulted in a unique demographic profile for the CRD, which has a far greater proportion of its population in the 75 plus age group (9.5 percent, compared to 6.9 percent at the provincial level) and a smaller proportion in the under 20 age group (19.3 percent, compared to 22.2 percent provincially). Having noted this, the major demographic change that the CRD has experienced over the past two decades is the same one that has characterized Canada's demography – growth of the working aged population as a result of the aging of the baby boom generation. In 1986, one third of the region's population was between the ages of 21 and 40, with

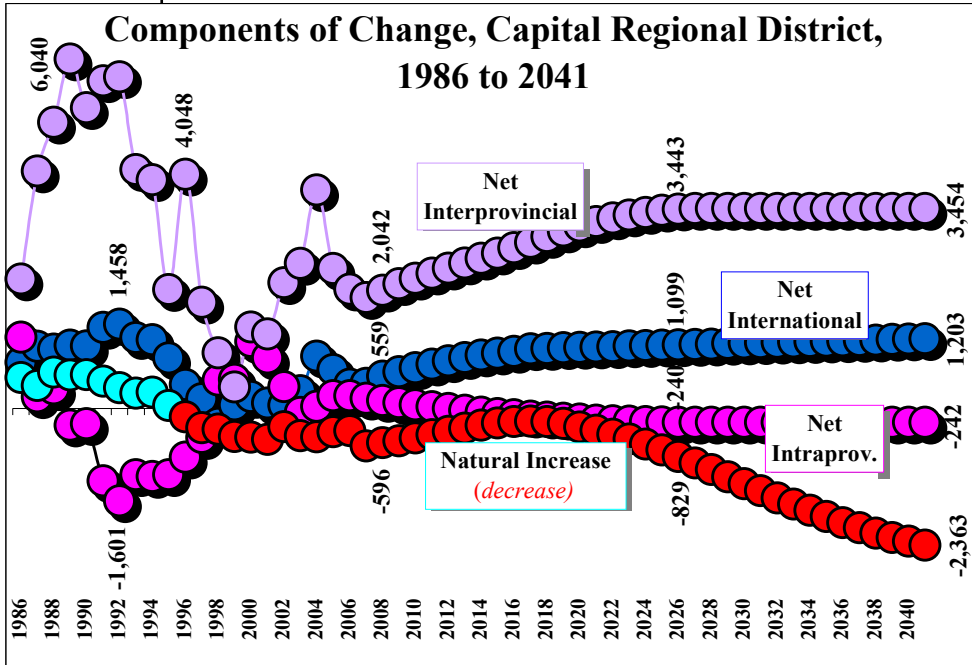
the typical resident being in their mid-20s; twenty two years later (2008) the CRD's age profile has shifted upwards into the older age groups, with today's typical resident being 48.

It was noted earlier that, in both the Canadian and British Columbian contexts, an aging population would result in natural change moving from natural increase to natural decrease (deaths exceeding births) within

ⁱⁱ Note that the 2006 population count for the CRD reported on the 2006 Census was 345,164 residents, 3.1 percent less than the estimated 355,871 total population for that year. The reason for the difference is Statistics Canada's undercount estimate of 3.1 percent of the total population.

three decades. This has been happening in the CRD for the past decade, with deaths averaging 3,300 per year and births averaging only 2,900. Given the age profile of the region's current population, and its below the replacement level birth rate of 1.6 children per woman during her lifetime, natural increase will continue to decline over the projection period, even with record levels of net in-migration to the region.

Figure 10



The importance of net migration is that, in every dimension (internationally, inter-provincially and intra-provincially), it is concentrated in the younger age groups. While intra-provincial migration involves the greatest directional flows, its net contribution to the region's population averaged a modest 212 people per year over the past decade, and only 134 in 2008. Inter-provincial migration is the biggest net contributor to the regional population, adding an average of 1,069 people per year over the past decade, and 2,042 in 2008. While net international migration was the second largest contributor in 2008, adding 559 people to the region, over the past

decade its average annual contribution has been only 116 persons per year, less than that of the other two sources (Figure 10).

All of these migratory flows involve considerable annual variation, with net intra-provincial being the most variable and net international being the least. For example, over the 1989 to 1997 period, net **intra-provincial migration** to the region was significantly negative; the CRD lost a record 1,600 people to other parts of the province in 1992 alone. Since 1998, the region has generally been a net gainer from intra-provincial migration, attracting a net of 1,155 net intra-provincial migrants in 2000; from 2000 on, the level of net intra-provincial migration has slowly declined to reach 134 in 2008. Continuation of this trend will gradually move the region back into to a net loss due to intra-provincial migration, stabilizing in the range of a loss of 240 people per year by 2026.

While net **inter-provincial migration** to the region has always been positive, in times of poor economic conditions (such as in 1999 and 2000) it has been barely so. Net inter-provincial migration dropped from highs of 6,000 net additional residents in the late 1980s and early 1990s to a net of only 368 people in 1999. With the recovery of the provincial economy in the past decade, net inter-provincial migration to the region increased into the 2,000 persons per year range by 2008. The CRD is projected to maintain its historical share of 12 to 14 percent of British Columbia's future inter-provincial migration. This results in a projected increase in net inter-provincial migration to the CRD from its current 2,000 net migrants per year to the range of 3,400 by 2026 and beyond. This long term projected average compares to an average of 3,100 annually over the past two decades.

The inter-temporal pattern of net **international migration** to the region has followed a similar theme, albeit on a muted scale. International migration saw strong positive net contributions in the late-1980s and early-1990s, dropping to very low levels (including a net loss in 1998), and then recovering over the past

few years to reach a net contribution of 559 persons per year by 2008. Considering the projection of an increase in immigration to Canada and the CRD's attractiveness as an immigration destination, net international migration is projected to increase from the range of 500 to 600 people per year over the next decade to the 1,100 to 1,200 person level over the following two decades of the projection period.

Combined, these migratory population flows would increase net migration to the region from the current 3,600 persons per year level to the 4,800 per year range by the end of the projection period. Net migration's disproportionate contribution to the region's younger population will slow the pattern of generally increasing natural decrease that has occurred in the region since 1996: by 2018 the net effect of births and deaths on the size of the population will almost be zero. However, given the current age structure of the region's population, this will be but a temporary slowing of the process of natural decrease; by 2021 (the first baby boomers' seventy-fifth birthdays) the gap between deaths and births will again start to grow. By the end of the projection period natural decline would be almost four times as large as it is today.

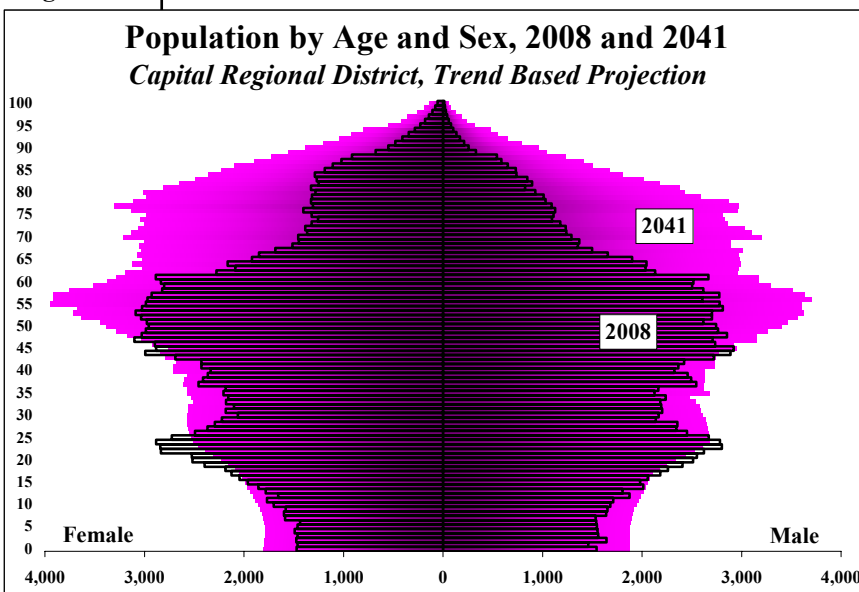
b. The Capital Regional District's Projected Population

Combining the projected levels and compositions of migration to and from the Capital Regional District with natural increase and the aging of current residents provides the baseline projection of population growth and change in the region for the next thirty-three years. It shows a population that grows larger but at a slowing average annual rate. As Figure 9 shows, the baseline projection is for the region's population to increase from a 2008 population of 364,000 residents to 390,000 by 2016; passing the 400,000 mark in 2019, and almost 483,000 people by 2041. The region would therefore add an average of 3,600 new residents each year, as it grows by an average 0.9 percent per annum.

Over the next two decades the projection indicates an average one percent per year growth rate. After 2028, in spite of relatively high but constant net migration, growth in the region would decline to 0.6 percent per year by 2041 as natural decrease offsets some of the contribution of net migration to population growth.

The CRD's population will grow *older* much faster than it will grow over the next three decades (Figure 11). While the number of people of almost every age group will increase in the CRD over the coming

Figure 11



three decades, the older age groups will see the greatest absolute and relative growth. As a result of the aging of the CRD's current residents, a 139 percent increase in the number of people aged 85 plus is anticipated, as well as increases of 137 percent for those aged 75 to 84, and a 108 percent increase of the 65 to 74 age group. By 2041, 16 percent of the CRD's population would be under 20 years of age (less than the 19 percent in 2008); the 20 to 49 prime working stage age group would account for 33 percent of the population (below its 2008 share of 41 percent); and the pre-retirement 50 to 64 age group would account for 21 percent of residents (slightly less than its 22 percent share in 2008). The only age group that is projected to see its share of the population increase is the 65 plus population, who in

2041 would account for 29 percent of the population, compared to only 17 percent today. Over the next 33 years, the working aged (15 to 64) population's share would decline to 59 percent of the region's population from 69 percent today.

It is the aging of today's population that will frame much of tomorrow's demographic change. With a more-than-doubling of the 65 plus population projected over the next thirty years (growth of 78,760 people, all of whom are under the age of 65 today) and an increase of only 32,319 people aged 15 to 64, the growth of the retiring population will far exceed that of the working aged population in the CRD. The working aged population will increase by 13 percent overall, an annual average of 0.4 percent growth. However, this compares to a 77 percent increase in the population of people under 15 and over 65 (86,543 people). For every additional person of working age in the region there would be approximately 2.7 additional seniors and children (both which are generally considered to be dependents of the working-aged population), and this will have profound implications for labour supply and economic change in the Capital Regional District.

c. Workers and Work in the Region

The link between a region's population in the 15 to 64 age group and its labour force lies in the age specific pattern of **labour force participation**. Age specific labour force participation rates – the percentage of people in an age group who are active in the labour force (either employed, or unemployed and actively seeking work) – shows a strong lifecycle pattern for both males and females. In both cases, labour force participation rates are highest in the 15 to 64 age groups, with core years of labour force participation in the 20 to 54 age range, and the 15 to 19 and 55 to 64 age groups representing lower participation rate transition stages of entry and retirement. In the context of a trend-based projection, the labour force participation rates in all age groups are projected to increase over the coming years, with the greatest increases anticipated in the 55 and older age groups.

Combining projected increased age and sex specific labour force participation rates with the population projection for the CRD produces a **labour force projection** based on both demographic and behavioural change. In the labour supply context, the relatively slow growth of the working aged population (averaging 0.4 percent per year) will in part offset projections of increasing age specific participation, particularly the projected increases in participation in the rapidly growing 55 and older age groups. The region's projected future labour supply would grow from its current 205,224 people in the labour force to 250,343 in 2041, representing a 45,000 person increase (22 percent) in labour supply in the CRD over the period. Annual growth in the labour force will be relatively modest, averaging 0.6 percent per year as compared to the average annual growth of 1.9 percent that has occurred over the past two decades. Relatively slow growth in the regional labour force will have significant implications for employment in the CRD as it may constrain the ability of the regional economy to grow. As the economy is the source of revenue to pay for the goods and services that the region's residents require – from both private and public sector producers – the role of labour supply in economic change will become much more significant in the future than it has been in the past.

Having established a baseline labour supply projection, analysis then turned to a projection of employment in the region that was independent of the population projection. The first step in the projection of regional employment was to extend the historical relationship demonstrated between annual estimated employment in the CRD and real Gross Domestic Product for the province of British Columbia. As future real GDP forms the dependant variable in the mathematics of this methodology, it is necessary to establish projections for real GDP for British Columbia. The Ministry of Finance, annual through its economic update and outlook, provides short term estimates of economic activity in the province: current assessments anticipate BC's economy to contract slightly in 2009 (a 0.9 percent decline) and then grow in

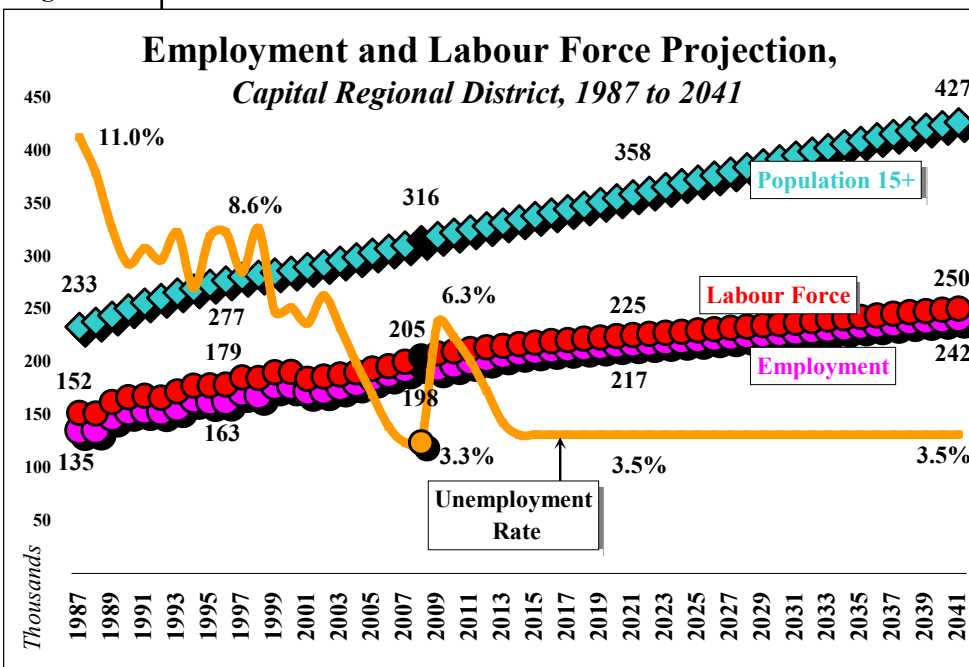
the range of 2.4 percent for 2010 and 2.6 percent for the 2011 to 2013 period. The projection beyond 2013 was based on longer term historical trends: a logarithmic trend line was fitted through the past 47 years of economic activity within the province and extended out for 33 years. Following this trend line would see economic growth in the province slow from the Ministry's assessment of 2.6 percent annual growth in 2013 towards 1.5 percent by 2020 and further to one percent by the end of the projection period.

With this GDP projection, and the formula that describes the historical relationship between regional employment and GDP, future employment in the region was calculated. This approach yields an employment projection that a) is independent of projections of the region's demography; b) captures the implications that the *provincial* economy has for the *regional* economy, and c) considers historical structural changes, changes in productivity, and changes in labour force participation. Once the initial employment projection is completed, the results – which are effectively a time series demand for labour in the region – were compared to the available labour force through the resulting unemployment rate and both projections are adjusted accordingly to ensure the future level and rate of unemployment falls within a reasonable range.

This resolution of employment and population projections through the evaluation of unemployment rates reveals the degree to which the relative role of labour supply in the region's economy may change in the future. Given the assessments of economic growth (or decline for 2009) for the next couple of years in British Columbia, the short term unemployment rate is expected to increase into the range of six percent, as labour supply grows more rapidly than employment growth, before falling back to the three to four percent range as the growth of the labour force falls below that of employment. This is the consequence of a projection of labor supply growing slowly, in spite of increased participation and net migration, as the region's population ages. By 2015, labour supply will become the speed limit to growth in the number of workers to be employed, and hence employment growth, with unemployment remaining at the structural level for the duration of the projection period. This is exactly the situation foretold in the concerns with the "demographic torpedo" to the economy discussed in the introduction to this report.

It is important to note that while labour supply may be the speed limit to employment, it does not have to be the speed limit to the economy, as increased productivity, combined with the increased population and participation already included in the labour force projection, will determine future levels of economic growth in the region.

Figure 12

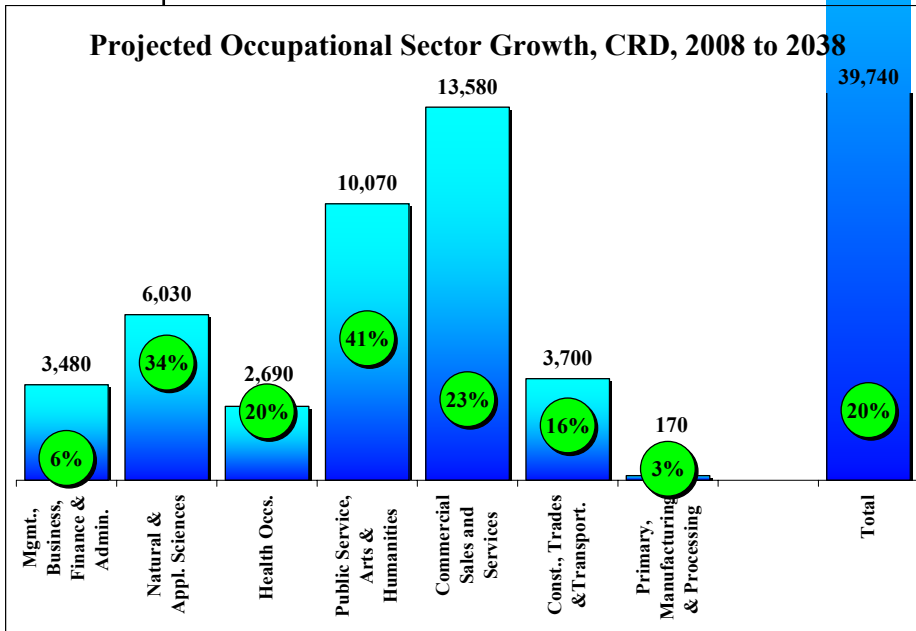


Following the historical relationship among these changes in provincial economic activity, total employment in the region is forecast to grow from its current 198,452 jobs to 222,000 by 2026 and 242,000 by the end of the projection period (Figure 12). Under this scenario regional employment would grow by 22 percent as 43,000 new jobs would be added to the regional economy over the course of the projection. In order for employment to grow beyond this level, an additional supply of workers must be found. To the degree that this occurs as a result of even greater increases in labour force participation than

anticipated in the projection (which would mean accelerated increases in the older age groups, as participation in the under 55 age groups is already essentially at its maximum), it would not have population implications. Otherwise, the region's population will have to grow more than is justified by trends in birth rates and net-migration.

Figure 13

Having resolved the total employment and labour supply projections, the final step in forecasting regional



employment was to project the number of workers required in each of the major occupational sectors in the region. This structural analysis was carried out in same way as that for total employment, using the historical relationship between sectoral employment and Provincial GDP, subject to the constraint of the total employment projection for the region. The result (Figure 13) is projected increases in employment ranging from a 41 percent increase in the number of people in public service, arts and humanities occupations to 3 percent in occupations unique to primary and manufacturing industries. In absolute terms, the greatest increase would be the addition of 13,580 persons in Commercial Sales and Services occupations, while the lowest would be

the 170 person increase in the occupations unique to primary and manufacturing.

d. CRD Housing Occupancy Demand

The CRD's changing and growing population will shape the type of housing required in the region in order to accommodate its population; the location of this accommodation within the region will, in turn, determine the population of the region's communities. Thus, the next step towards a projection of the future population in the City of Victoria is a projection of the housing demand in the region, as it is the regional sharing of housing that will determine the regional sharing of population.

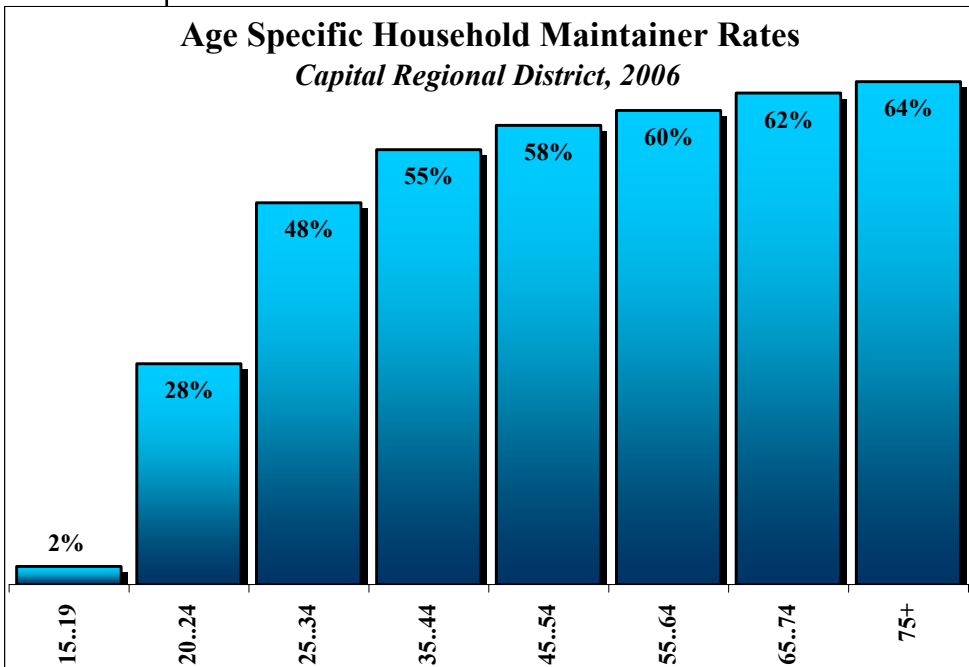
The link between housing occupancy demand and the age composition of the population is provided by the percentage of people of each age who are "*household maintainers*". In the Census questionnaire used to gather data on housing, each group of people living together in a private dwelling unit (a household) is asked to indicate the age and other attributes of the household member they consider to be primarily responsible for the financial support of that household. This person is referred to as the (primary) *household maintainer*. Dividing the total number of people of a specific age who are household maintainers by the total number of people in that age group in the population determines the *household maintainer rate* for that particular age group.

Considering changes in the maintainer rate between various age groups illustrates that maintaining a household is marked by a strong lifecycle pattern. As shown in Figure 14, the Census data for 2006 shows that only two percent of people between the ages of 15 and 19 were household maintainers; most people in this age group (and all of those under the age of 15) live in households maintained by someone else,

generally their parents. As people begin to leave the parental home to establish households of their own, the maintainer rates begin to rise – with 28 percent of the 20 to 24 age group and 48 percent of the 25 to 34 age group being household maintainers. This growth is driven by entry into the family formation and working career stages of the lifecycle. In all of the 35 plus age groups more than half of the people are household maintainers, increasing to 64 percent in the 75 plus age groupⁱⁱⁱ.

Figure 14

As the population in the CRD grows, this pattern of increasing age specific maintainer rates has significant



implications on future housing demand. Consider the example of 1,000 people in the 15 to 19 age group: in 2006 there would be only 20 households maintained by these 1,000 people. Five years later these 1,000 people have aged into the 20 to 24 age group, and would now maintain 280 households. Five years after that they would maintain 480 units as they aged into the 25 to 34 age group. Over a ten-year period the occupancy demand from the same 1,000 people would increase 23 times, from 20 units to 480. This characterized housing markets throughout Canada in the late 1960s and 1970s as the post-World War Two baby boom generation moved out of their parents' homes and into their own housing. It will also

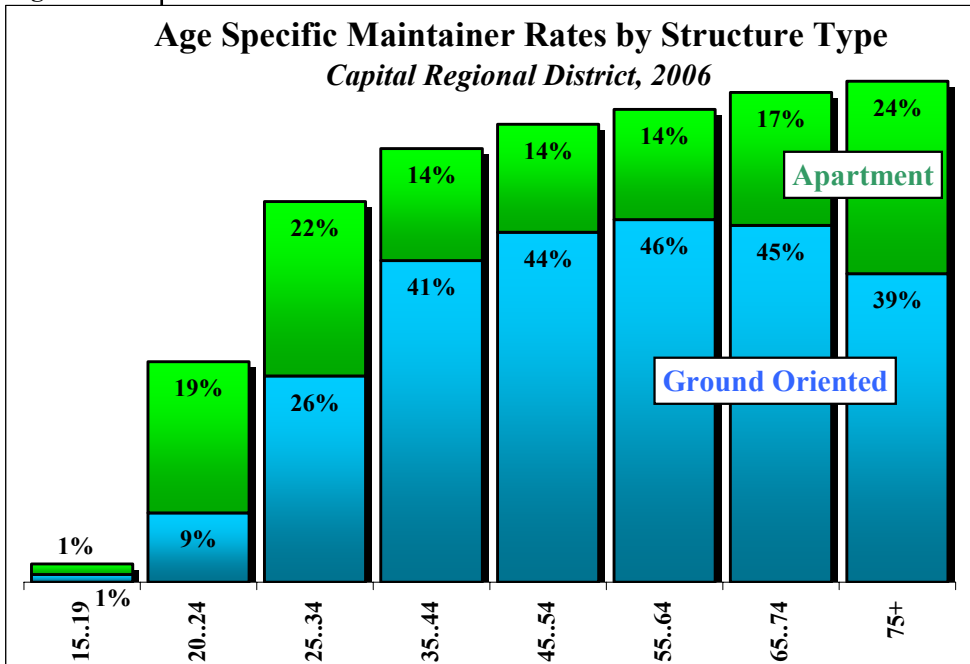
characterize the coming years as the boom ages into the stage of the lifecycle where maintainer rates peak.

The great diversity of housing types people live in can be classified into two broad structural types, ground-oriented and apartment. The term 'ground-oriented' accounts for a wide range of housing accommodations, from the traditional single detached house with side yards separating it from other dwellings, and only one household living within it, to a side by side duplex where dwelling units are on the ground but attached to another unit; row houses where the dwelling units are attached to each other on both sides, and moveable and mobile homes. The defining feature of ground oriented units are that they open directly to a yard and do not share a common corridor entrance. Distinct from these ground oriented housing types are apartments, dwelling units that are not only attached on each side, but also stacked one on top of the other. As a result of being stacked, individual dwelling units do not generally have direct access to the street or to a yard, but rather have entrances that open onto a corridor, sharing a common access to the yard and street with other dwelling units.

ⁱⁱⁱ Note that maintainer rates decline near the end of the life cycle when the oldest age group is considered in more detail as individuals shift from maintaining their own private household to either living in a household maintained by someone else, or to some form of seniors' accommodation (such as an institutional or collective care facility) which is not considered a private accommodation.

There is also a distinct lifecycle pattern to household maintainer rates for each of these structure types (Figure 15). From the age of 25 onwards, a greater share of individuals in the CRD maintain ground oriented dwellings – a pattern that generally coincides with the family rearing and empty nester stages of the lifecycle. Conversely, a person is more likely to be the maintainer of a household living in an apartment

Figure 15



in the under 25 age groups (where maintainer rates for apartments are double those of ground oriented). While apartment maintainer rates peak in the 75 plus age group (where almost one quarter of people maintain apartment units), even for this age group ground oriented accommodation still predominates, with 39 percent of people maintaining ground oriented units.

The pattern of age and structure type specific maintainer rates represents what might be called the behavioural component of the housing market; it describes the way in which households, given their resources and the constraints of prices and availability, accommodate themselves in the

housing stock. As with the other behavioural variables, age specific household maintainer rates have changed over time and are expected to continue to do so. These changes will be driven by factors such as the continued urbanization of the Capital Regional District, changing social behaviour with respect to family formation, labour force participation, retirement, education and growing environmental concerns. Some of these factors are considered below in presenting how maintainer rates may change in the coming years.

iii. Projected Household Maintainer Rates

As related to housing, growth and change generally occur in two directions – *out* and *up*. The out is the most commonly perceived dimension; the boundaries of urbanized areas expand as additional housing is added to the edges of regions to accommodate new residents.

Two forces ensure that along with the *out* comes *up*. The first is a by-product of the outward growth; as the expansion of the urbanized area increases, there is an increasing premium attached to locations that are readily accessible to major employment concentrations, which are typically found in the central part of the urban area. Over time, the accessibility advantage of these sites will be capitalized into higher land values. In urban land economics this is typically referred to as a declining land value gradient from the highest to the lowest accessibility sites.

Efficiency of resource utilization means that as the value of a site increases due to its accessibility, it also becomes more intensively used, so that the higher costs of the site can be spread over more users. Therefore, accompanying the declining land value gradient is a declining density gradient from the most accessible sites to the least accessible. Thus, as urban regions grow, a residential development pattern emerges whereby emphasis is placed on apartments being located on highly accessible sites (typically the core of the region); conversely, compact forms of ground oriented housing are located in areas of moderate

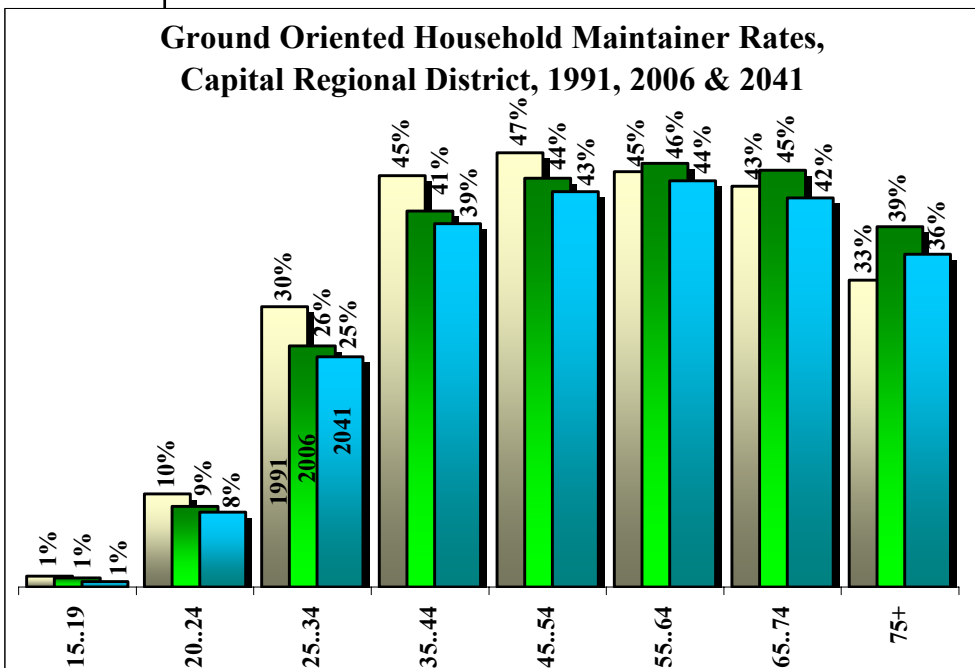
accessibility, and single detached in areas most distant from the highly accessible sites. This general pattern has led to apartments and attached ground oriented housing accounting for an increasing share of the housing stock in urbanizing regions, reflecting the increasing cost of accessibility.

This pattern is demonstrated in the increasing share of apartments in the City of Victoria's housing stock. In 1951, there were 9,960 single detached dwellings in the City (63 percent of the total stock); by 2006 there were only 6,589 single detached units (accounting for only 16 percent of the stock). In contrast, the number of occupied apartment units increased from 4,840 units to 28,025 in 2006, (an almost six-fold increase) to account for two-thirds of the City's housing stock.

The second factor that changes housing mix in an urban region as it grows also stems from economics, but in this case it is the actual economic structure of the region that affects occupancy demand. As the population in a region grows, economic activity (in terms of the distribution of employment across occupational sectors) becomes more diverse. In this instance, the population serving components of employment grow, both absolutely and in share of total employment. This diversification of economic activity brings with it the requirement for a wider range of skills and talents, and hence for a greater diversity in the workforce. This, in turn, brings a greater diversity to the region's population; specifically with respect to emphasis on what might be called urban lifestyles. This ultimately leads to a greater diversity, and density, of housing types. Thus, urban growth also contributes to the land value and density gradients through a more diverse consumer population and more diverse demand for housing. Land use policies, transportation infrastructure and geographic constraints have combined with this general pattern to determine the specific character for urban regions throughout Canada. In this context, while noting that the City has always been home to the dominant share of the region's apartment stock (it accounted for 69 percent of the region's apartments in 1951), its dominance has declined over time, with the City accounting for just under half (49 percent) of the occupied apartment stock in the region by 2006, as the type of housing in non-Core locations has diversified in response to changes in residents' housing requirements.

In analyzing how these factors may influence the behavioral aspects of housing demand in the future, it is important to recognize the large stock of ground oriented housing that currently exists in the CRD. While the region will remain predominantly ground oriented over the coming years, continued population growth and change will support shifts at the margin towards other forms of housing as a result of accessibility, land values and increased diversification of consumers. Additionally, high real energy prices may further contribute to increasing transportation costs and, along with a growing awareness of environmental impacts, reinforce (again at the margin) the role that accessibility cost and land value play in shifting housing occupancy patterns.

Figure 16



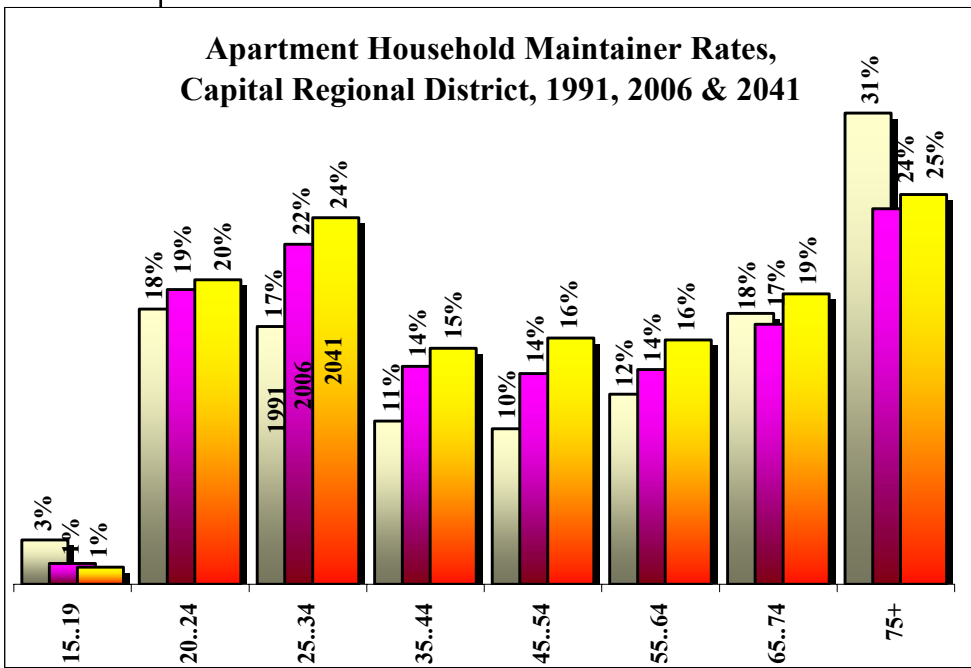
Additionally, high real energy prices may further contribute to increasing transportation costs and, along with a growing awareness of environmental impacts, reinforce (again at the margin) the role that accessibility cost and land value play in shifting housing occupancy patterns.

Considering the historical changes in age specific maintainer rates for the CRD, along with the patterns seen in other metropolitan regions provides some indication of the extent to which maintainer rates may change in the coming years. Increasing accessibility costs and increasingly urban lifestyles will result in a shift in housing patterns

in the CRD, gradually but inevitably, towards the patterns observed in larger metropolitan regions as it passes through the same population thresholds. In particular, age specific maintainer rates for ground oriented accommodation are expected to continue their pattern of decline for the under 55 age groups and fall back towards historical values for those aged 55 and up. Overall, this trend would see rates for ground oriented housing fall within the 39 to 44 percent range through the family-rearing stage of the life cycle and between 36 and 42 percent through the retirement stage (Figure 16).

The most significant relative reductions would be in the younger, market-entrant age groups: ground oriented maintainer rates would fall, for example, by almost 13 percent (from nine to eight percent) for the 20 to 24 age group. The reductions are not expected to be as significant for the older age groups, who typically have more resources available to pursue a greater range of housing options. For example, the decline in the ground oriented maintainer rate for the 55 to 64 age group would be under five percent (from 46 percent of the age group maintaining this type of accommodation in 2006 to 44 percent by 2041).

Figure 17



The decline in ground oriented age specific maintainer rates is projected to be offset by continuing increases in the propensity to maintain apartment units. The increase in apartment rates would be driven by both the push of affordability and the pull of lifestyle choices as discussed above. The 20 to 24 age group, for example, is expected to increase its propensity to maintain a household in an apartment by five percent (from 19 to 20 percent) by 2041 (Figure 17). Through the family rearing stage of the lifecycle apartment maintainer rates are expected to increase by 14 percent (from 14 to 16 percent for the 45 to 54 age group). Note that in aggregate, total age specific maintainer rates in the Capital

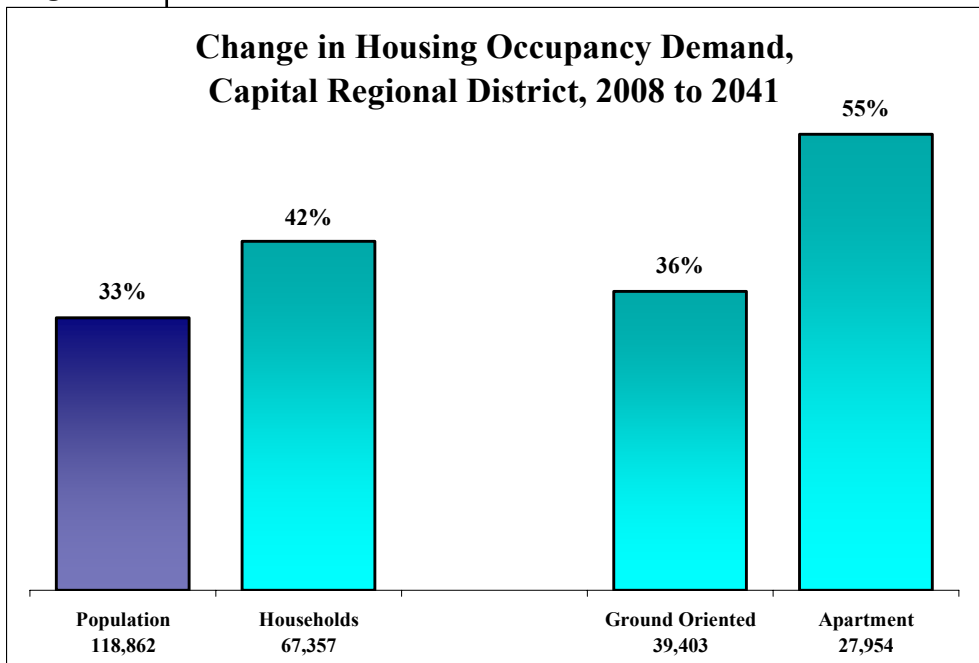
Regional District are projected to remain relatively constant over the projection period, with shifts being seen between the structure types.

Combining this changing lifecycle pattern of household maintainership by broad structure type with the projected change in the CRD's demography results in a projection of the number of dwelling units required to accommodate the region's changing and growing population. Overall, the projected 33 percent growth in population (118,862 more people) between now and 2041 would be accompanied by a 42 percent increase in total household occupancy demand, or a total of 67,357 new units (Figure 18). The greatest relative growth would be seen in the apartment segment of the market, growing by 55 percent; 27,954 new apartment units would need to be added to accommodate projected demand by the end of the projection period.

Alternatively, ground oriented accommodation is expected to grow more slowly, increasing by 36 percent between 2008 and 2041. That said, the additional number of ground oriented units will outweigh apartments, with 39,403 units added to the region to accommodate projected occupancy demand.

Figure 18

While the relative growth in apartment demand would be significant in the region the change in the housing stock brought about by these additions would be gradual.



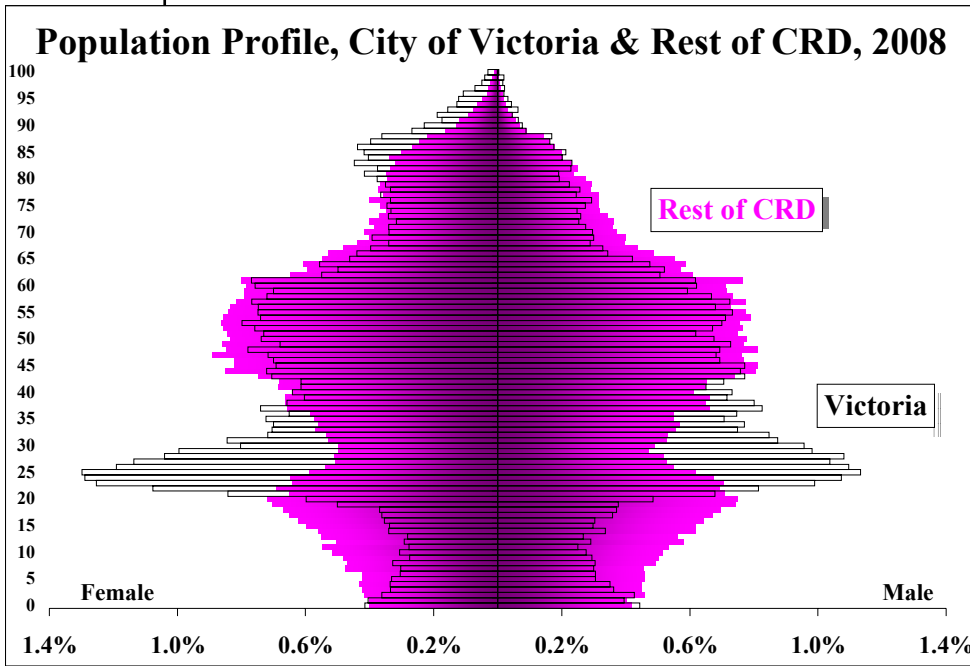
Over the near term, ground oriented additions would continue to account for their current 60 percent plus share of growth in occupancy demand (until the early-2020s), declining towards 50 percent by 2031, and to the 45 percent range by the late 2030s. This will be reflected in the housing stock, as the region would still be predominately characterized by ground oriented units over the entire projection period. Of the total housing stock of 229,000 units projected for 2041 65 percent of occupied units would be ground oriented (compared to 68 percent today), while apartments would account for 35 percent (relative to 32 percent today).

This projection illustrates a picture of gradual change for the region, as the reality of the inertia of the large stock of existing housing in the region becomes evident. Recognizing these issues, it will be scale, market and environment that will gradually but inevitably shift the Capital Regional District towards more compact forms of housing, a trend that holds important implications for the City of Victoria.

Stage II: Growth and Change in the City of Victoria

With national, provincial and regional contextual changes in mind, it is important to distinguish the City of Victoria's unique demographic, social, and economic characteristics, as they will influence how the City will move along its own economic and demographic paths over the coming years. As shown in Figure 19, the City of Victoria is home to a much larger concentration of post secondary students and people of young working age than the rest of the Capital Region. This pattern should not be surprising given the composition of the City's housing stock; the City has almost 67 percent the region's apartment housing.

Figure 19



While overrepresented with respect to the 20 to 30 population, the City has a smaller share of population aged 40 to 60 relative to the rest of the region. Again, in part reflective of the housing stock, it is throughout the rest of the region where the large stock of family style housing is found (the City has only ten percent of the region's single detached stock). It is also interesting to note that the City has larger concentration of older women than the rest of the region. The slight bulge in the number of females aged 74 to 100 are likely retirees who live in apartments due to their manageable size and convenient location, or potentially widows who may be long-time City

residents.

More recently the City has been growing as quickly as the rest of the Regional District. Between 1996 and 2001 the City grew at about a third of the rate seen in the rest of the region (1.1 versus 3.4 percent). However, between 2001 and 2006 each area grew by about the same rate (4.4 versus 4.5 percent). Post Census estimates show the City growing to a total population 82,560 today (2008).

How the City continues to grow and change in the coming decades will be shaped, in part, by the aging, natality and mortality of the City's 82,439 existing residents. Contributing to this growth and change will be the net addition of new residents from international and local origins. While at the regional level trends in mobility and migration were considered in projecting future additions to the region, considering the local context requires consideration of land availability and local development policy.

For example, the housing occupancy demand projections for the Region represent the net number of additional dwelling units that will be built in response to the changing housing demand that will result from growth and change in the region's economy and in the housing requirements of the region's future residents. In this context the scale of the regional housing market is not a product of land use policy, but rather of economic conditions and senior government economic policy – as such, is an input rather than an output, to regional land use and infrastructure policy. The tapestry of local land use policy and direction

will determine where housing development goes in the region, shaping the regional pattern of land use and development to accommodate the region-wide demand.

As land use and infrastructure policy are largely the responsibility of local governments, from Cities, Towns, and Villages to Municipal Districts and First Nations, the focus of projections for the City of Victoria turns from consideration of the functional Capital Region to local jurisdictions within it. There are a large number of such jurisdictions within the CRD, with no less than 20 separate local governance bodies. The land use decisions of each jurisdiction, whether made within a regional framework, or independently, will cumulatively and collectively shape how the projected change in housing occupancy demand is shared within the CRD.

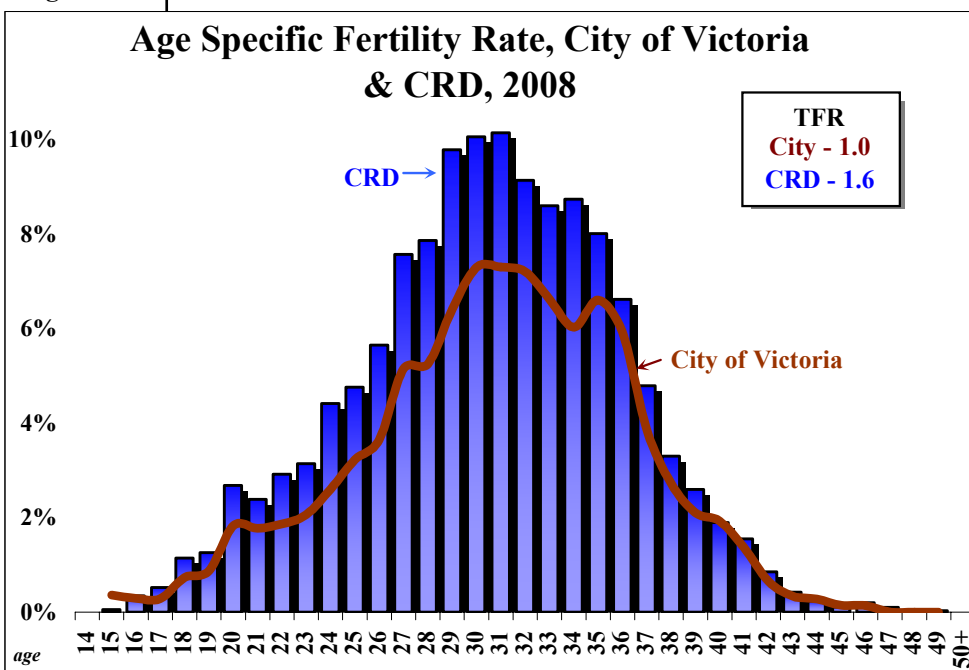
As it is not possible to anticipate the spatial consequences of each and every local government land use decision in the region, a good starting point is to consider historical development trends to determine the direction these decisions could take at the municipal level. Layered onto the pattern of development trends is the landscape of current plans and policies represented through the collection of Official Community plans within the region.

To project future demographic change within the City, three components therefore must be considered: the demographic change affecting the area's current residents (aging, natality and mortality); the turnover of occupancy of the existing housing stock and their re-occupancy by new residents; and the net additions to the housing stock that will result from the City's potential share of new residential development. As each component is considered independently within the model, each component will be outlined briefly below before the population implications are presented.

1. Biological Factors Shaping the City's Future Population.

As indicated previously, the biological occurrences of births and deaths are combined to describe what is referred to as the natural increase component of population growth. When the number of births exceeds the number of deaths, natural increase is positive; when there are fewer births than deaths, natural increase becomes natural decrease. This statement is important for the City of Victoria, as, with a relatively low birth rate and an older population, the number of deaths already exceeds the annual number of births. Over the past decade the annual number of deaths has been almost twice the number of births; for every birth in 2008 there were almost 1.7 deaths. This means that in the absence of migration, biology alone would have resulted in a contraction, and more significant aging, of the City's population over this period.

Figure 20



i. Natality. In 2008, the age specific birth rate (the percentage of women in an age group who gave birth during a year) in the City increased from 0.36 percent of women over 15 years of age giving birth to a peak of 7.3 percent of women aged 30 and 31 doing so (Figure 20). From this peak, the age specific rate drops back down to 1.9 percent of women age 40 giving birth during the year, or about the same level seen for women under the age of 20.

The sum of the individual age groups' propensities to give birth to a child during a year is the average number of children that would be born to a woman as she ages through the childbearing stage of the lifecycle at prevailing fertility rates (commonly referred to as the total fertility rate or TFR). Currently, the TFR for the City of Victoria is in the range of 1.0 children, meaning that on average, at today's age specific rates, each woman in the City would give birth to 1.0 children in her lifetime. This compares to a CRD-wide TFR of 1.6 kids, likely due in part to the composition of the City's housing stock and the more urban nature of the City.

There are two other dimensions relating to age specific natality that will have long run population consequences for the City. The first is the shift in the timing of births into later years in the childbearing period, characterized by a decline in the age specific birth rates in the younger age groups and an increase in the older ones. The pattern of postponement has meant that over the past decade, the total fertility rate has remained relatively constant; as the decline in rates in the younger age groups has been offset by increases in the older ones. The most recent period has even seen a slight increase in the TFR as a result of the shifting pattern of natality. Based on local and national age specific trends in natality, the total fertility rate is not expected to change dramatically in the coming years, with changes in birth rates mainly characterized by a continued shifting of timing to later stages of the childbearing lifecycle. This would mean that by 2022 the total fertility rate would stabilize in the range of 1.08 children per woman – up only marginally from the 1.0 of today – and remain at this level until the end of the projection period.

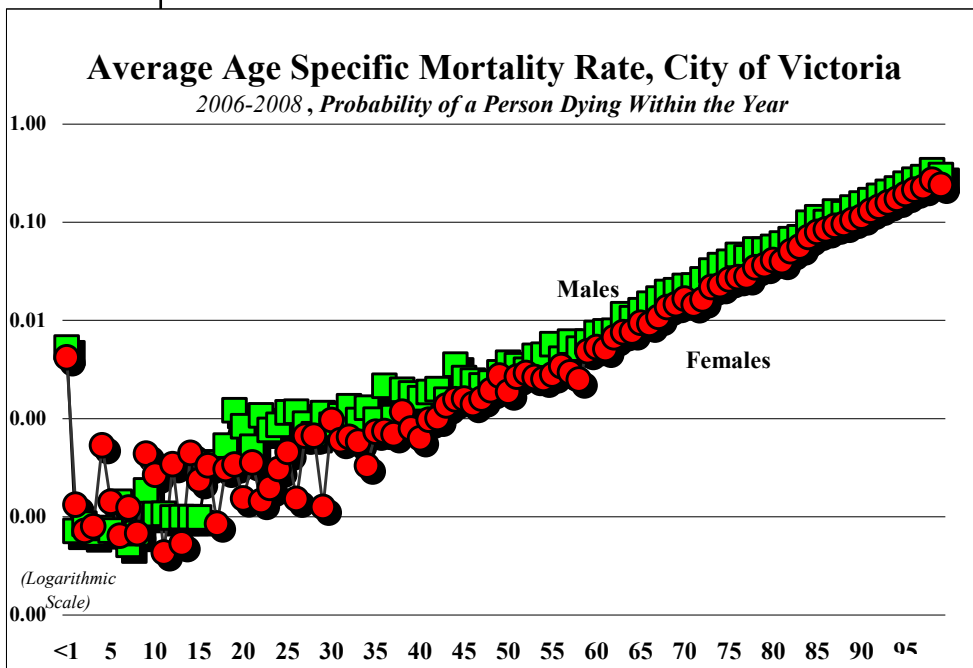
The second dimension that will influence the number of births in the coming years is the fact that a large share of the region's population have already aged out of the child bearing stage of the lifecycle, with the last members of the baby boom now in their early forties.

ii. Mortality. There is also a strong lifecycle pattern to mortality (Figure 21), with relatively high mortality rates observed in the first year of life (just under a 1 in 250 or 0.4 percent, death rate), and relatively low rates in the teenage years, followed by relatively constant rates in the twenties to forties. This is then followed by an inexorable increase to a 1 in 100 chance of dying by 65, a 1 in ten by 85, and, sometime after the 100th birthday, the end of probability. It is this age specific pattern that will cause the number of deaths in the City to increase significantly in the future. Note that male age specific mortality rates are higher at every stage of the lifecycle than those for females of the same age. While, to some

extent, this is offset by there being slightly more males than females born each year, the result is an older population where women outnumber men (as was seen in the city's population profile, Figure 19).

Death rates have also shifted to later in the lifecycle over the past decades, something difficult to show on an age specific mortality rate chart. The best way to describe this shifting is through consideration of life expectancy. Currently, the average male born in the City of Victoria (at today's age specific mortality rates) can anticipate living to the age of 78.3, and the average female baby to an

Figure 21



age of 82.5; almost 20 years longer than what their peers in 1921 could expect. The significant increases in life expectancy that occurred in the pre-World War Two period were mainly a result of a reduction in infant and childbirth mortality and in mortality due to communicable and infectious diseases. In the post war period, life expectancy continued to increase. Most of these increases have been related to reduction in mortality due to external causes such as accidents and behavioural factors, and through extensive application of medical and pharmaceutical technology. Significant increases in life expectancy have resulted, not only at birth, but at every age.

Historical trends indicate that life expectancy will continue to increase as technology and behavioural changes continue to reduce age specific mortality rates. These increases, however, will be subject to the laws of diminishing returns as the high impact, easy and cheap breakthroughs have already occurred. Relative to history, future advancements will have a smaller impact and require significantly more resources to achieve them. Over the next thirty-three years, national trends indicate that falling mortality rates will lead to life expectancy at birth gains of roughly 4.9 years for males and 3.0 years for females, bringing life expectancy to 86.5 years for women, and 83.9 for men by 2041.

At current life expectancies, the population in the 42 to 62 age group, the middle bulge in Victoria's age profile, can anticipate being around, on average, until between 2030 (for the oldest of them) and 2050 (for the youngest). This could be considered by many as useful information for retirement planning, but it is also fundamentally important information for strategic planning of population, labour force and economic change. The aging and many birthdays yet to come for this cohort which makes up one third of the City's current population – will profoundly shape the City over the coming decades.

2. Mobility and Migration

As indicated above, the availability of housing will in large part be the driver to the magnitude and composition of mobility and migration that will be seen in each community within the CRD. As a result, the current distribution of housing, and its modification by future additions to it, provides the functional link between the region-wide projections and any assessment of demographic change for communities within it. The methodology used to model this functional linkage starts with the City's current housing stock and current residents, modeling the annual demographic change of the City's existing population and their future housing requirements by structure type (ground oriented and apartment) as they age through the lifecycle of housing and move between different housing types (or, for that matter, remain in their existing homes)

As an example, between 2001 and 2006 the Census showed that of a total of 71,535 persons in private households in the City, 30,325 had remained in their same dwelling unit over that five year period. Forty-two percent of the City's residents remaining in the same dwelling means that 56 percent of its 2006 residents moved from one dwelling unit to another over the preceding five years. This high rate of mobility is indicative of the type of housing found within the City; the overall mobility rate of 56 percent was comprised of 66 percent of the households in apartments having moved and only 36 percent of those in single detached units moving between 2001 and 2006. With just under 60 percent of the region's apartment stock, above average mobility will be something that continues to characterize population dynamics within the City.

Once the housing requirements of existing residents and turnover of the existing housing stock is considered, the next step is to model the implications of adding new dwelling units to the City. As a starting point the allocation of new units is based on the historical patterns of structure type specific housing development seen throughout the region, as reflected in the annual patterns of housing starts over the past two decades. Other variables considered in this allocation were the patterns of regional

growth implied by local government Official Community Plans and policies as well as any major residential projects currently under review or development.

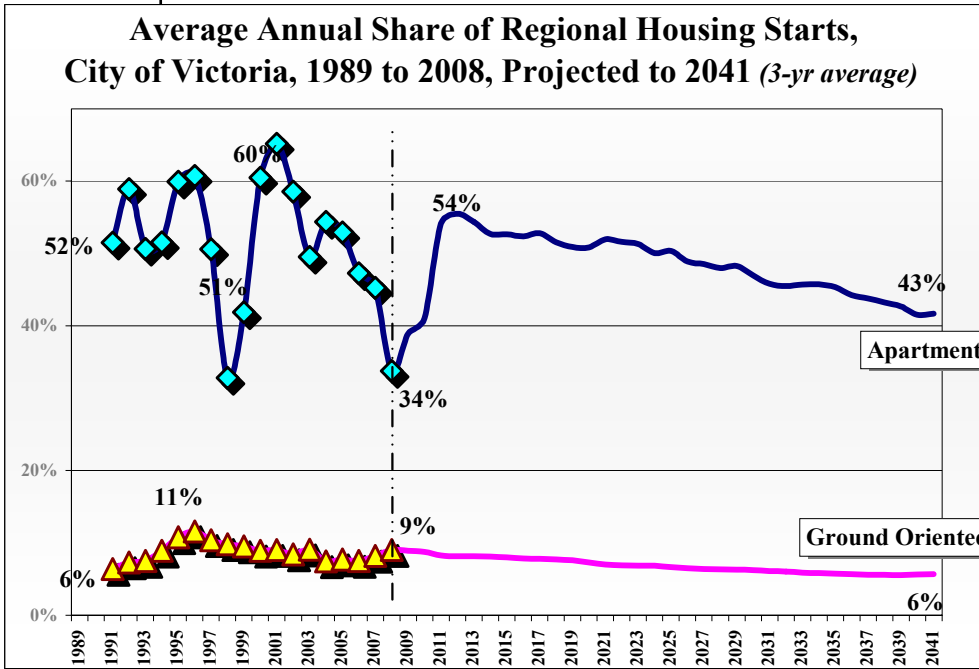
Once annual additional dwellings were located to the City, they were essentially “filled up” with people by age and sex based on structure type specific occupancy patterns from the most recent Census.

This approach therefore accounts for the housing occupancy implications of the City’s base population as it grows and changes (including the turnover of the dwelling stock as this population ages) as well as new residential development (and hence residents) that will be added each year over the projection period.

a. Additions to Sub-Area Housing Stock

The next step was to allocate net new dwelling units by structure type (ground oriented and apartment) to the City. As indicated above, three factors were used to determine how much net new housing would be accommodated in the City. The first was the regional projection of net additional housing demand to accommodate the region’s projected population. This recognizes that, while at the sub-area level land use and transportation policies will guide the pace and composition of new housing development, at the regional level, economics and demographics determine both the population and future demand for housing.

Figure 22



The second factor was the historical pattern of housing development within the region, as seen in the annual pattern of housing starts by structure type. This historical pattern of starts (Figure 22) was then modified on the basis of capacity thresholds, development constraints and planning policies reflected in the aggregate of Official Community Plans and policies within the region; thus, arriving at a future share of additional housing by structure type for the City. Having noted this, the sum of regions within the CRD has to equal the total regional additions each year, and hence, projections for one area a may differ from planning capacity alone.

Figure 21 shows the projected shares of housing starts by structure type for the City of Victoria from 1989 to 2008 (using a the three-year moving average), and the results of a trend-based projection of these shares to 2041. With respect to the apartment additions, the City’s share of future starts is expected to increase from recent lows (only 147 apartment starts were recorded in the City in 2008, 16 percent of the 928 started regionally), back above the 50 percent level by 2013-2014, a level previously experienced between 2002 and 2005 and in 2007. Over the longer term of the projection, the City’s share of regional apartment starts is expected to decline, driven by the push of tightening land supply within

the City and the pull of the surrounding communities desire to add apartment stock in other locations throughout the region.

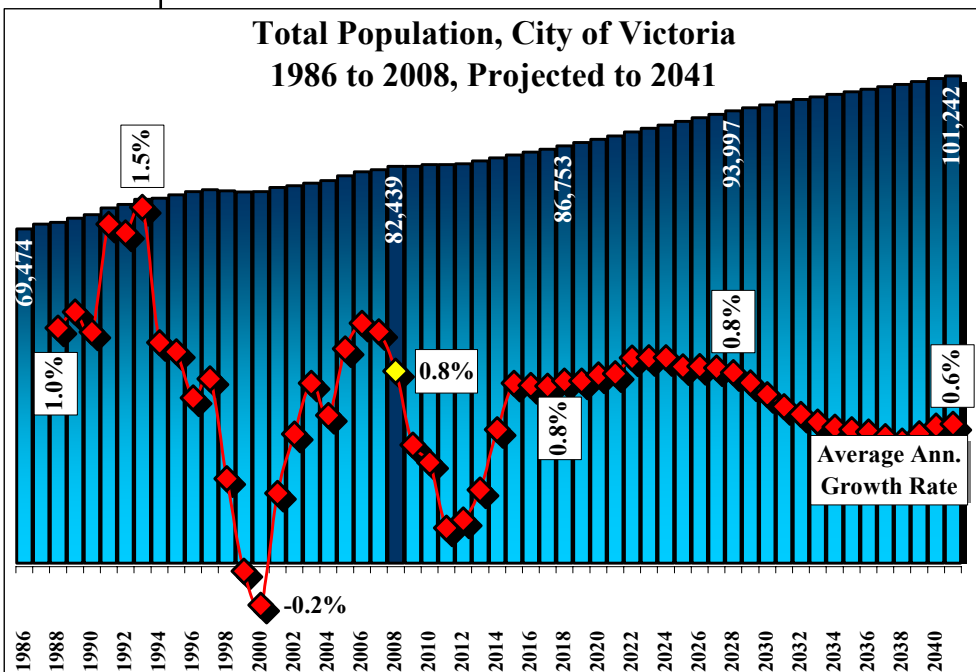
In terms of total apartment stock, this share of regional starts would see the total number of apartments in the City increase from almost 30,000 units in 2008 to 34,300 over the next decade (2018), 38,500 by 2028 and further to 43,500 by the end of the projection period. This would see the City's share of total regional apartment stock decline slightly over the projection period, falling from 59 percent today to 58 percent by 2018, 57 percent by 2028 and 55 percent by 2041.

On the ground oriented side, the City has historically seen only a small share of the region's ground oriented starts. On average, between 1989 and 2008, the City captured roughly nine percent of the region's ground oriented starts, peaking at 11 percent in the mid-1990s (associated with a period of significant population growth locally, regionally and provincially), and falling to a low of seven percent through 2004 and 2005. Over the whole period the City added an average of 90 units annually to its ground oriented stock. Over the coming years the City's share of ground oriented starts is projected to decline from nine to ten percent, moving towards six percent by the end of the projection period. Again driven by constraints on the available supply of land within the City's boundaries to build ground oriented accommodation, much of these additions will come through redevelopment in existing communities. While the redevelopment process can certainly add to the residential dwelling stock, the process also changes its composition as single detached homes are removed and replaced with duplexes or town homes.

On average the projected shares of regional ground oriented starts would see an average of 83 ground oriented units added annually to the City's existing stock. Over the next ten years the outlook is for an above long-term average of approximately 120 ground oriented additions annually, falling towards 50 units being added annually over the longer-term of the projection period. Overall this would see the City's stock of ground oriented housing increase from 14,500 units today to 15,600 by 2018, 16,500 by 2028 and 17,200 by 2041. Thus, the City's total share of regional ground oriented housing would remain relatively constant in the 12 to 13 percent range over the projection period.

b. From Dwelling Units to People

Figure 23

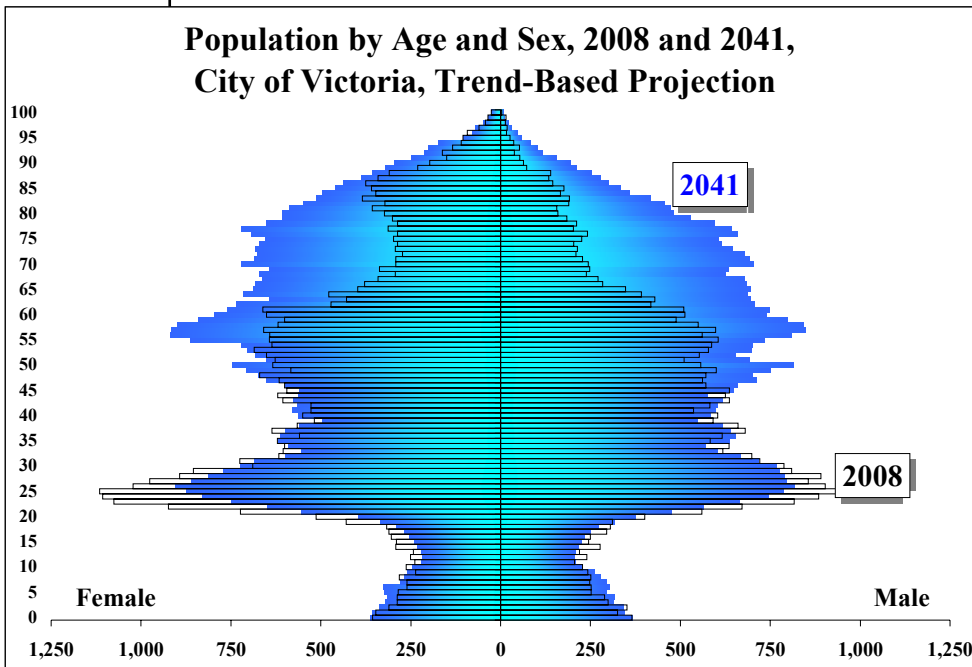


The final step in the demographic projections for the City involved populating newly-constructed dwelling units and those vacated by existing residents with new people by structure type – essentially “filling up” the housing stock with people in each year of the projection period. Data from the 2006 Census on the mobility status of the population was cross-tabulated by age, structure type of dwelling and period of construction to determine the demographic composition of residents moving into (and out

of) existing units and into new construction. This was done on a structure type specific basis to reflect different occupancy characteristics of ground oriented units versus apartments.

Combining the projected levels and composition of new housing and their new occupants in the City with the natural increase, aging and housing turnover from the City's current residents provides the baseline projection of population growth and change to 2041. As Figure 23 shows, the City's population is projected to increase from 82,439 current residents to 86,753 by 2018, 93,997 by 2028 and 101,242 by 2041. Over the next thirty-three years, Victoria would add a total of just over 18,800 residents to its current population, or an average of 570 people each year. In the short-term, The City's population growth rate would slow (as it is expected to at the regional level), driven by slow economic activity provincially and nationally. Over the medium term, growth is projected to increase back towards the range of 0.8 percent, as the regional and provincial economies recover. Over the longer-term however the City is expected to follow a slowing annual pattern of growth (which will also characterize the rest of the region, province and Canada), as the impact of the aging of the post War boom into the high mortality stage of the lifecycle is felt.

Figure 24



While projected to grow more slowly than it has in the past, the City will change much more dramatically. One major aspect of change will be the projected compositional changes to the City's population (Figure 24). Graphically, this picture illustrates the extent to which these compositional changes in the demography of the population will be seen, particularly in the older population. Interestingly, it also gives attention to the younger age cohorts, not due to their growth, but to the fact that they are not projected to change much over the coming decades. This, when associated with a significant growth at the top of the age profile, shows the dramatic shift in the composition of the City's population in the coming years.

As an example, if changes to three major lifecycle groups, those under the age of 20 (the kids), those between the ages of 20 and 64 (the workers) and those 65 plus (the retirees) are considered over the projection period, here is the picture that emerges: the population under the age of 20 would remain relatively constant, declining by one percent, the working aged population would grow by six percent (adding just over 3,400 new residents), and the population over the age of 65 would soar by 106 percent, or by more than 15,000 residents.

It should be noted that this pattern of change is a consequence of two factors – one demographic, the other housing-related. In large part the pattern will emerge due to the aging of the City's existing residents over the projection period. With a significant share of the City's population currently between the ages of 45 and 65, long and increasing life expectancies could see many of these residents still in the City by 2041. Their aging out of the working stage of the lifecycle over the next two decades will only just be offset by the additions to the City's population that would come through the development of new housing or the

turnover of the existing stock. A relatively constant population between the ages of 25 and 35 over the projection period (the peak of family formation) would logically result in a relatively constant number of kids to fill in the bottom of the age profile.

This pattern is also a consequence of the number and type of housing units expected to be added to the City in the coming years. With the bulk of the region's apartment stock, the urban nature of the City will see this role remain, focusing additional development into the apartment segments of the market. The particular consequence here will be to continue to attract residents in the post-secondary and labour force entry stages of the lifecycle, seeing them leave for family housing in neighbouring suburban communities or further a field as they enter the family formation stages of the lifecycle.

c. From People to Employment

The final considerations in this research were the implications of a growing and changing regional economy for employment within the City. Future changes in the level and structure of employment in the City will be influenced by a wide range of factors, from both within and outside of its municipal boundaries. These factors range from external drivers such as macro economic and technological change and global shifts in production and consumption, to regional changes in transportation infrastructure, regional economic development, and the municipal context of population growth and change – changing land values, and shifts in local land use policy.

The approach in preparing sector specific employment projections for the City focused on the associated land uses of employment. While a seemingly intuitive statement, within any metropolitan economy this now necessitates moving beyond the standard characterization of economic activity by industry sector, (a classification based on the commodities a firm produces) towards one based on what people employed by the firm do on a daily basis (employment by occupational sector). For example, while a firm involved in logging, sawmilling, or pulp and paper production is logically classified as part of the forestry or manufacturing industry, not everyone working in that firm is a logger, part of the green chain, or on the production floor. Within most urban areas such as the City of Victoria, many of the workers in these industries are engaged in activities such as accounting and law, and increasingly marketing, IT and human resources.

In terms of land use, it is the *occupations* of people working on the firm's premises within the City, not the products that the firm produces, that determine land use requirements, a fact that is more pertinent to an Official Community Plan than the general industry classification of the firm. Thus, the reality of a metropolitan economy is that growth in the mining, forestry, and manufacturing industries increasingly means growth in demand for office space, not for shaker boxes, green chains, or large scale production space, a distinction that is overlooked in projections focusing on industry sectors.

With this in mind, City-specific projections of employment by major occupational sector over the 2008 to 2041 period were prepared. As with the population projections, the starting point for this projection was the regional projection of employment growth and change. Beginning with the employment projections at the regional level allows us to consider the regional economic projections against the regional demographic outlook, recognizing the need for the CRD's labour force (and hence the region's population) to grow to fill positions created by a growing economy.

The general approach in developing the regional occupation projections is to consider the historical relationships between changes in the region's employment structure and changes in the broader provincial economy. With short-term projections of change in the provincial economy (BC Ministry of Finance to 2014) and longer-run assessments based on the capacity of the region's labour force to grow

(in terms of number and productivity), projections of changing sectoral employment in the region can be developed.

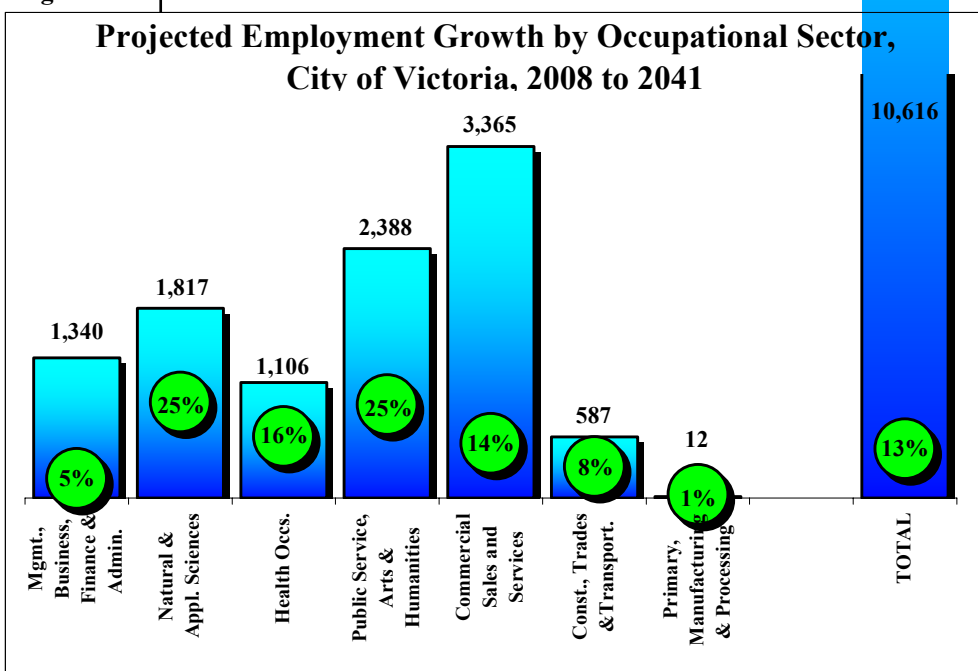
Given the regional projections, occupational projections for the City were based on two distinct orientations of employment: employment which serves the local population's needs, such as local retailing activities (commonly referred to as *population serving employment*); and that which serves non-local production and services (such as retailing to non-residents or manufacturing for export). The City's future share of regional population growth served as the primary driver to future change in the population serving components of its employment, while for the non-population serving aspects of employment, considerations were given to the City's current employment structure and trends in regional sectoral growth and economic infrastructure.

Historically, employment in Victoria has been focused largely on service sector occupations, some of which serve the City's local population and some of which serve export markets (such as tourism). In 2006 almost one third of the jobs in the City were found in Management, Business, Finance and Administrative occupations, while a further 28 percent were found in Sales and Service occupations.

In looking to the future, the projection indicates that over the coming thirty-three years this pattern would be maintained, with Sales and Service occupations adding the greatest absolute number of jobs by 2041 (3,365, Figure 25). Public Service, Arts & Humanities would follow close behind with 2,388 additional jobs, and then Natural and Applied Sciences (1,817).

The greatest relative growth would be the 25 percent growth projected for Natural and Applied Sciences and Public Service, Arts and

Figure 25



and Public Service, Arts and Humanities. Given the context of an aging local and regional population, Health Occupations are anticipated to be the third fastest growing sector, increasing by 16 percent or 1,100 jobs by 2041. As they already form a significant share of the City's employment, slower growth would come to the Management, Business, Finance and Administrative occupations, which are expected to grow by five percent. Employment in occupations unique to Manufacturing and Processing (including Primary sector activities) would remain relatively constant over the projection period, something that could reasonably be anticipated

within the urban Context of the City. Overall the City of Victoria would see growth of 10,616 jobs over the coming 33 years as total employment expands by 13 percent.

Strategic Considerations

As touched on throughout this report, the City of Victoria's future will be determined by a wide range of factors, ranging from structural economic changes that will characterize the provincial economy to the collection of emerging local land use policies and even the current composition of the City's resident population. Considering this broad range of factors required two levels of analysis. The first level of analysis was that of the region-wide context, as it is at the regional level that the interaction of the economy and the demography of the region will establish, among other things, the future demand for housing and the changing nature of employment.

The second level of analysis was to step down to the municipal level; given the regional demand for housing (and, more specifically for different housing types), the implications for locations within the region could be assessed. The characteristics of each local area within the region in terms of relative accessibility and infrastructure, the current composition of its housing stock, its capacity for accommodating additional residential development, and plans and policies to guide this development will collectively determine where growth in regional housing demand will be accommodated.

Just as it has in the past, housing, both the existing stock and future additions to it, will play a very significant role in determining not only land use in the City of Victoria, but also the size and composition of its population and, by extension, employment. In this context, the projections presented throughout this report represent trend-based projections of the City's future, in that they reflect the extension of the past into the future, adjusted for shorter term trends that may divert the patterns of change in long term trends. Implicit in these trends are the effects of land use and infrastructure policy have contributed to the shaping of the region and its municipal members in the past, and hence, should they continue, how they may contribute in the future.

With respect to the forward looking nature of an Official Community Plan, the City may decide to pursue land use policies that are distinctly off trend, something that would alter its future population and employment characteristics both directly and indirectly. Thus, as a basis for updating the City's OCP, there must be a vision of the City in the future that policy can direct action towards. This vision must acknowledge that while policy will play a role in shaping new communities, places of work and the infrastructure to tie them together, the current stock of people, homes, workplaces and infrastructure will also play a significant role in determining the future of the City, particularly in the near and medium term. Given trends in life expectancy, of the City's current 81,000 residents, almost 80 percent would still be alive by 2028 (and possibly still City residents). Further, even by 2041 roughly two thirds of the City's current residents might be around to contemplate the results of directions undertaken as part of this OCP review.

As inputs to future policy changes, the trend based projections presented in this report form a baseline to determine the degree to which the future they describe is compatible with the City's vision, and hence the degree to which policy needs to work to support, or change, the trends on which the projections are based. To the degree to which the policies are intended to slow, accelerate, or avoid the consequences of the baseline scenario, policy intervention will inevitably result in a future that differs from that described by this research.

Further research on the future of the City and the larger CRD region can be done, research that will expand, deepen and refine this and other work done to date. What all of this research will show is that the City is facing a future where issues related to change, be it demographic, economic, or land use, will be much greater than those of growth, and where leadership and vision will have the opportunity and the responsibility to help manage the change.

Data Tables

Housing City of Victoria	2008	2011	2016	2021	2026	2031	2036	2041	Growth 2008-2041	
									Abs.	Rel.
Ground Oriented	14,455	14,839	15,424	15,962	16,400	16,740	16,996	17,200	2,745	19%
Apartment	29,967	31,335	33,493	35,517	37,642	39,767	41,770	43,525	13,559	45%
Total	44,421	46,174	48,917	51,479	54,042	56,507	58,766	60,725	16,303	37%
Rest of CRD										
Ground Oriented	95,538	99,802	106,538	113,379	119,488	124,622	128,782	132,196	36,658	38%
Apartment	21,191	22,355	24,265	26,160	28,354	30,745	33,197	35,586	14,395	68%
Total	116,728	122,157	130,803	139,539	147,842	155,367	161,979	167,782	51,054	44%
CRD										
Ground Oriented	109,992	114,642	121,962	129,341	135,888	141,363	145,778	149,396	39,403	36%
Apartment	51,157	53,690	57,758	61,677	65,997	70,511	74,967	79,111	27,954	55%
Total	161,150	168,331	179,720	191,018	201,884	211,874	220,745	228,507	67,357	42%

Population City of Victoria	2008	2011	2016	2021	2026	2031	2036	2041	Growth 2008-2041	
									Abs.	Rel.
0 - 14	8,074	7,878	8,509	9,008	9,072	8,740	8,373	8,284	210	3%
15 - 24	10,494	8,883	7,571	7,415	7,706	8,204	8,536	8,496	-1,998	-19%
25 - 34	15,628	16,831	16,814	14,286	13,347	13,251	13,635	14,367	-1,261	-8%
35 - 44	11,613	10,842	11,177	13,794	14,146	12,158	11,398	11,571	-42	0%
45 - 54	11,771	12,141	12,400	11,816	12,672	15,318	15,553	13,454	1,683	14%
55 - 64	10,679	11,888	12,483	12,846	12,591	11,899	12,630	15,368	4,689	44%
65+	14,181	14,362	16,493	19,634	23,023	26,267	28,402	29,701	15,520	109%
Total	82,439	82,825	85,447	88,799	92,557	95,837	98,528	101,242	18,803	23%
Rest of CRD										
0 - 14	40,461	39,671	40,749	44,555	48,141	49,168	48,496	48,034	7,573	19%
15 - 24	37,977	36,043	31,965	29,831	29,816	32,398	35,737	36,934	-1,044	-3%
25 - 34	30,096	33,881	39,922	39,756	36,853	35,350	35,163	37,182	7,085	24%
35 - 44	37,383	35,482	34,660	40,151	46,766	46,577	43,614	41,795	4,412	12%
45 - 54	45,747	46,346	44,375	40,806	40,162	45,902	52,665	52,646	6,898	15%
55 - 64	40,755	45,065	48,556	51,137	50,283	47,332	47,024	52,650	11,894	29%
65+	49,249	53,636	64,988	76,927	89,146	100,679	108,262	112,488	63,239	128%
Total	281,669	290,124	305,216	323,163	341,167	357,407	370,962	381,728	100,059	36%
CRD										
0 - 14	48,535	47,549	49,259	53,563	57,213	57,908	56,869	56,318	7,783	16%
15 - 24	48,471	44,926	39,536	37,246	37,522	40,603	44,273	45,429	-3,042	-6%
25 - 34	45,724	50,713	56,737	54,042	50,200	48,601	48,799	51,549	5,825	13%
35 - 44	48,996	46,323	45,837	53,945	60,912	58,736	55,012	53,366	4,370	9%
45 - 54	57,518	58,487	56,775	52,622	52,834	61,220	68,218	66,100	8,582	15%
55 - 64	51,434	56,953	61,039	63,983	62,874	59,231	59,655	68,018	16,584	32%
65+	63,430	67,998	81,481	96,561	112,169	126,946	136,664	142,190	78,760	124%
Total	364,108	372,949	390,663	411,962	433,724	453,244	469,490	482,970	118,862	33%

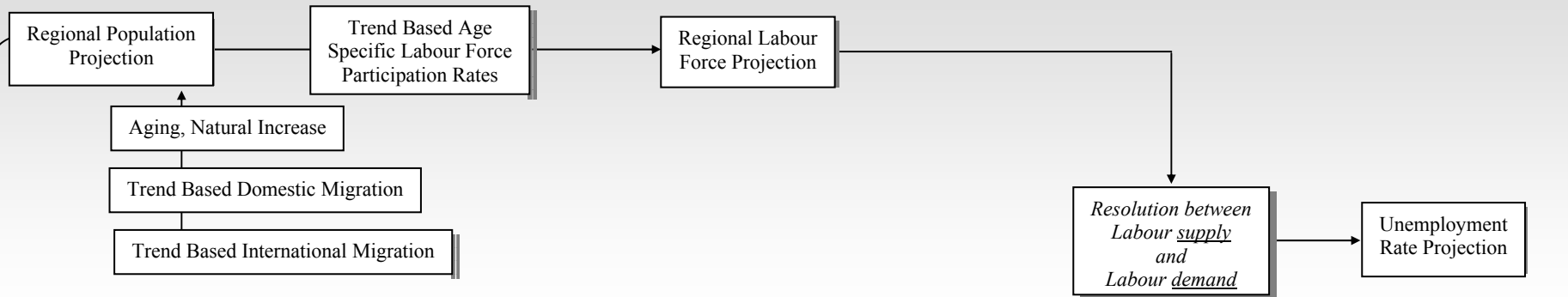
Note that "Rest of CRD" comprises the Capital Regional District outside of the City of Victoria, while the CRD represents the Capital Regional District including First Nations Reserves and the Gulf Islands.

Employment City of Victoria	2008	2011	2016	2021	2026	2031	2036	2041	Growth 2008-2041	
									<i>Abs.</i>	<i>Rel.</i>
Mgmt., Bus., Finance & Admin.	26,133	25,928	26,485	26,571	26,707	26,915	27,198	27,473	1,340	5%
Natural & Appl. Sciences	7,184	7,116	7,448	7,767	8,078	8,390	8,702	9,002	1,817	25%
Health Occs.	6,819	6,902	7,193	7,319	7,453	7,605	7,771	7,925	1,106	16%
Public Svcs., Arts & Humanities	9,702	10,074	10,625	10,905	11,194	11,486	11,790	12,090	2,388	25%
Commercial Sales and Services	23,435	23,559	24,333	24,780	25,252	25,746	26,272	26,800	3,365	14%
Const., Trades & Transport.	7,104	7,136	7,287	7,343	7,410	7,493	7,588	7,691	587	8%
Primary, Manuf. & Processing	1,306	1,333	1,425	1,474	1,422	1,382	1,349	1,318	12	1%
Total	81,683	82,047	84,796	86,160	87,517	89,017	90,671	92,299	10,616	13%
Rest of CRD										
Mgmt., Bus., Finance & Admin.	28,487	27,952	29,095	29,269	29,533	29,945	30,512	31,037	2,550	9%
Natural & Appl. Sciences	10,746	10,494	11,382	12,243	13,072	13,920	14,788	15,578	4,833	45%
Health Occs.	6,831	6,968	7,447	7,651	7,867	8,115	8,389	8,635	1,804	26%
Public Svcs., Arts & Humanities	15,108	16,666	18,605	19,555	20,506	21,494	22,540	23,490	8,382	55%
Commercial Sales and Services	35,145	35,591	38,337	39,870	41,428	43,104	44,918	46,580	11,435	33%
Const., Trades & Transport.	16,556	16,824	17,863	18,197	18,560	18,997	19,512	19,979	3,423	21%
Primary, Manuf. & Processing	3,904	4,007	4,335	4,506	4,328	4,188	4,071	3,972	68	2%
Total	116,777	118,503	127,064	131,290	135,293	139,763	144,729	149,271	32,494	28%
CRD										
Mgmt., Bus., Finance & Admin.	54,620	53,880	55,580	55,840	56,240	56,860	57,710	58,510	3,890	7%
Natural & Appl. Sciences	17,930	17,610	18,830	20,010	21,150	22,310	23,490	24,580	6,650	37%
Health Occs.	13,650	13,870	14,640	14,970	15,320	15,720	16,160	16,560	2,910	21%
Public Svcs., Arts & Humanities	24,810	26,740	29,230	30,460	31,700	32,980	34,330	35,580	10,770	43%
Commercial Sales and Services	58,580	59,150	62,670	64,650	66,680	68,850	71,190	73,380	14,800	25%
Const., Trades & Transport.	23,660	23,960	25,150	25,540	25,970	26,490	27,100	27,670	4,010	17%
Primary, Manuf. & Processing	5,210	5,340	5,760	5,980	5,750	5,570	5,420	5,290	80	2%
Total	198,460	200,550	211,860	217,450	222,810	228,780	235,400	241,570	43,110	22%

Modeling Approach

Step 1: The Regional Context

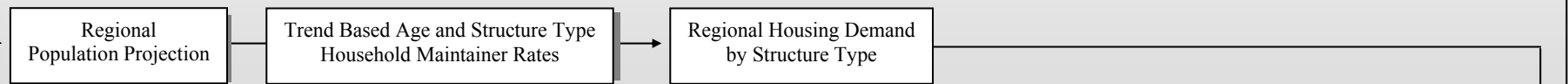
Independent Demographic Projection



Independent Employment Projection

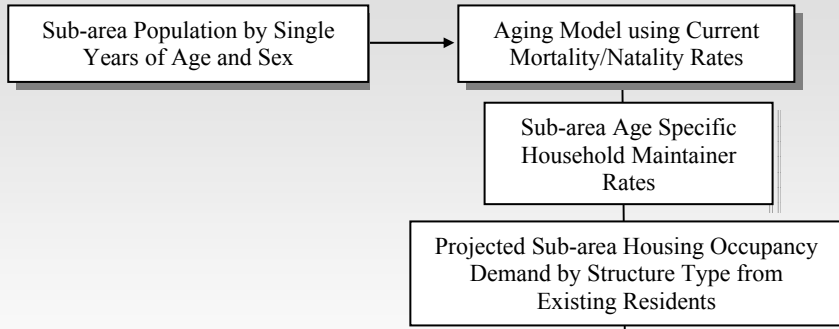


Housing Projection

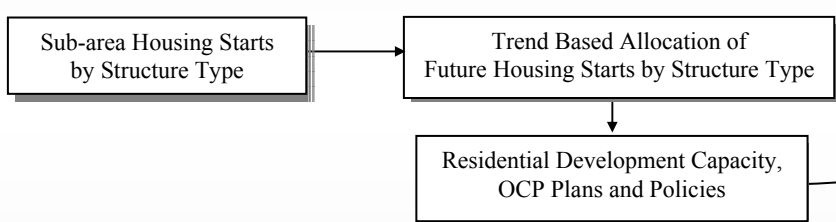


Step 2: Sub Area Growth and Change

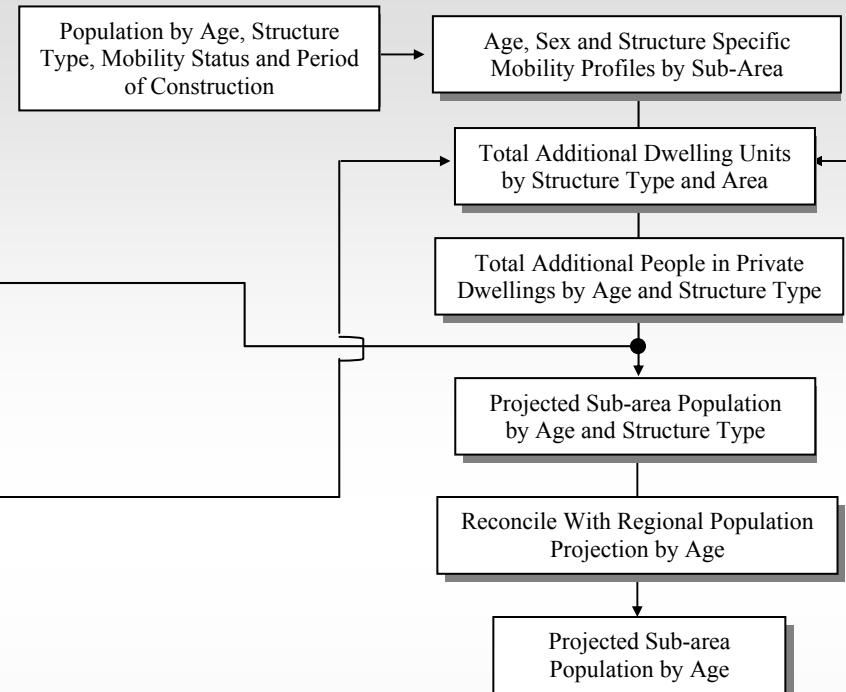
Housing Existing Residents



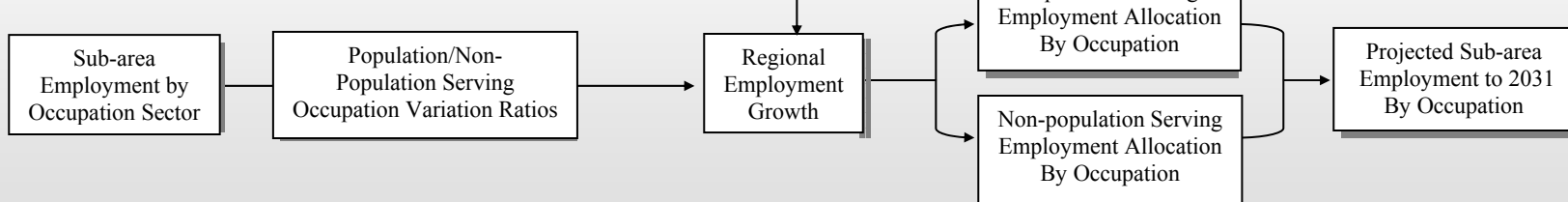
New Residents



From Housing to People



Employment



Data Sources

The following data sources were consulted in preparing the projections for the CRD.

Census of Canada, 1976 to 2006; Statistics Canada:

- labour force, employment, place of work, occupation, population by age and sex, housing occupancy, household maintainer rates, census undercount

Annual Demographic Statistics, Statistics Canada, various years:

- population by age and sex, births by age of mother, deaths by age and sex; intra-provincial, inter-provincial, and international migration.

Labour Force Survey; Statistics Canada, various years:

- labour force, employment, unemployment, occupation

CANSIM, Statistics Canada:

- British Columbia gross domestic product

Vital Statistics, Department of Government Services, Province of BC, various years:

- births by age of mother, deaths by age and sex

Official Community Plans and Policy documents, various years

All projections were compiled with using Urban Futures demographic and employment models.