

**City of Whitehorse
Official Community Plan Update**

**Demographic and Economic Analysis
of Housing Demand – 2018 Update**

Submitted to:

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draft 17 July 2018

final 9 September 2018

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Introduction

The City of Whitehorse’s Official Community Plan is a land use planning tool that provides a vision for the physical layout of the City. In consultation with local residents, the City of Whitehorse is currently updating its Official Community Plan, last updated in 2010.

A recurring question in previous Official Community Plan update exercises, has been “what really drives the demand for residential building lots in the City of Whitehorse”? Because City of Whitehorse residents perceive maintaining an adequate supply of residential building lots to be a key function of municipal government, this is an important question for City of Whitehorse planners. While population projections have been used as a proxy for housing demand in the past, experience suggests that residential housing demand is based on a more complex set of demographic and economic factors.

This report is an update to the report prepared by Vector Research in 2009 which identified and described the demographic and economic factors thought to drive the demand for residential property in the City of Whitehorse. A series of scenarios that illustrate the application of the demographic and economic factors to Whitehorse housing demand are also presented.

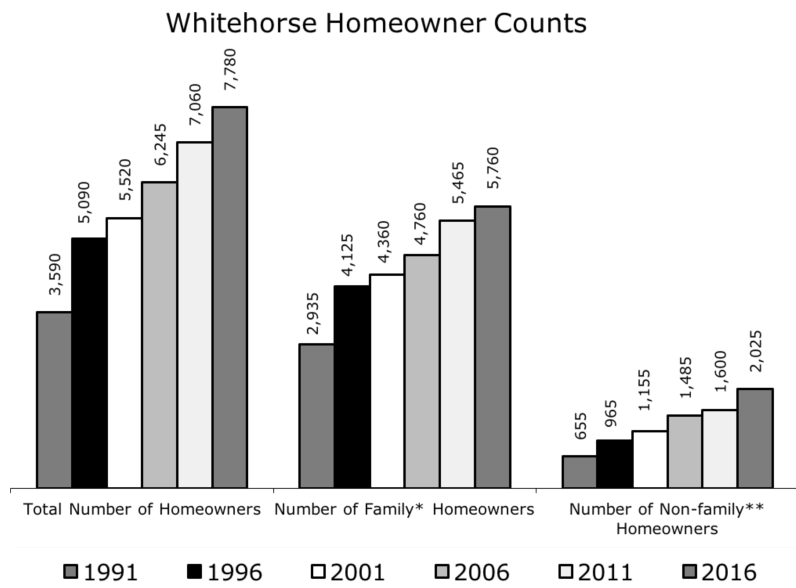
Demographic and Economic Factors

Number of Homeowners

As shown in the chart to the right, the number of homeowners in Whitehorse living in all types of dwellings has increased significantly over the last 25 years, more than doubling from 3,590 in 1991 to 7,780 in 2016, an increase of 117%.

Over the same time period, the number of family* homeowners in Whitehorse almost doubled, increasing by 96% (rising from 2,935 in 1991 to 5,760 in 2016).

The number of non-family** homeowners more than tripled, increasing by 209% from 655 in 1991 to 2,025 in 2016.



Source: Canada Mortgage and Housing Corporation and Statistics Canada.

*A family household is a household that contains at least one census family, that is, a married couple with or without sons or daughters, a couple living common-law with or without sons or daughters, or a lone parent living with one or more sons or daughters.

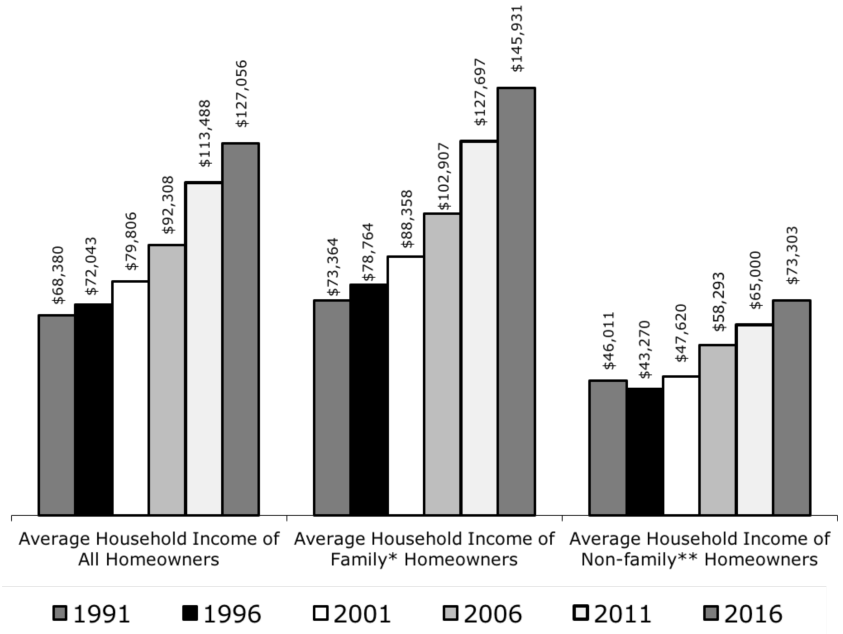
**A non-family household consists either of one person living alone in a private dwelling or of two or more people who share a private dwelling but who do not constitute a family.

Homeowner Incomes

Census data indicate that average household incomes (unadjusted for inflation) for Whitehorse homeowners have increased steadily over the last 25 years, rising by 86% from \$68,380 in 1991 to \$127,056 in 2016. By way of comparison, the average household income for all homeowners in Canada in 2016 was \$111,644.

Over the 1991 to 2016 time period, the average income of family* homeowners in Whitehorse doubled, increasing by 99% (rising from \$73,364 in 1991 to \$145,931 in 2016). The average income of non-family** homeowners increased by 59% from \$46,011 in 1991 to \$73,303 in 2016.

Whitehorse Homeowner Incomes



Source: Canada Mortgage and Housing Corporation and Statistics Canada.

*A family household is a household that contains at least one census family, that is, a married couple with or without sons or daughters, a couple living common-law with or without sons or daughters, or lone parent living with one or more sons or daughters.

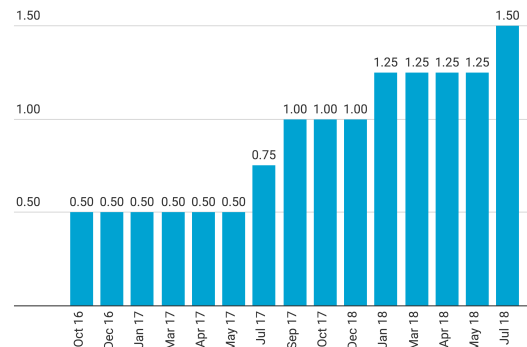
**A non-family household consists either of one person living alone in a private dwelling or of two or more people who share a private dwelling but who do not constitute a family.

Mortgage Rates

Mortgage rates are a key determinant of housing market activity, with higher interest rates serving to discourage entry and upgrading in the housing market. Lower interest rates encourage entry and upgrading in the housing market.

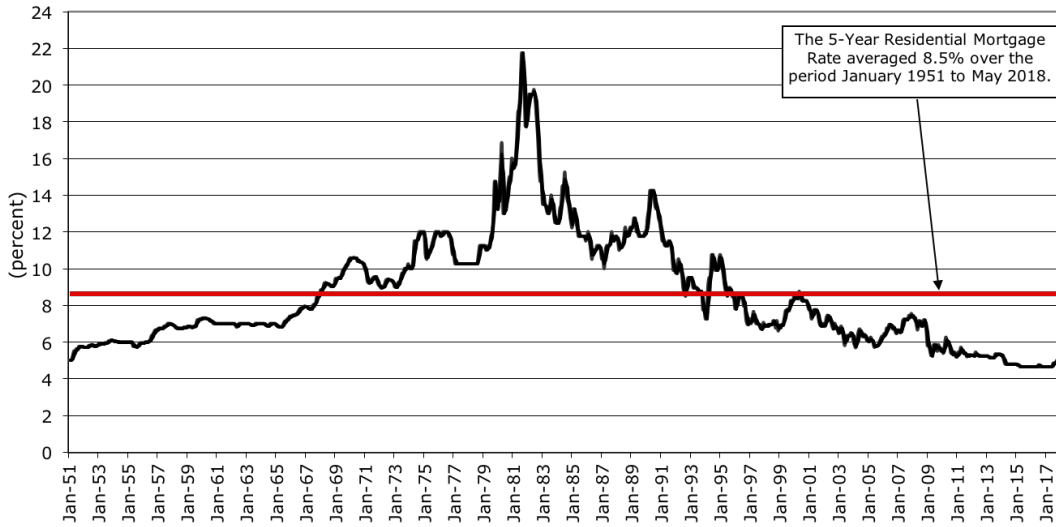
After half a decade of rock bottom interest rates, the Bank of Canada has recently increased the policy interest rate by a one full percentage point. As recently as May 2017, the policy interest rate stood at 0.5% and by July 2018 had increased to 1.5%. Canada’s lending institutions have responded with the recent increases in residential mortgage rates seen in the chart on the following page.

Bank of Canada - Policy Interest Rate (%)



Over the period January 1951 to May 2018, the Average Residential 5-year Mortgage Lending Rate averaged 8.5%. Relatively low mortgage rates mean relatively low monthly mortgage payments and have contributed to the growth in home ownership experienced in Whitehorse over the past 25 years. Relatively low mortgage rates also reduce the cost of new construction on newly developed lots.

5-year* Residential Mortgage Rate - Canada**
January 1951 to May 2018



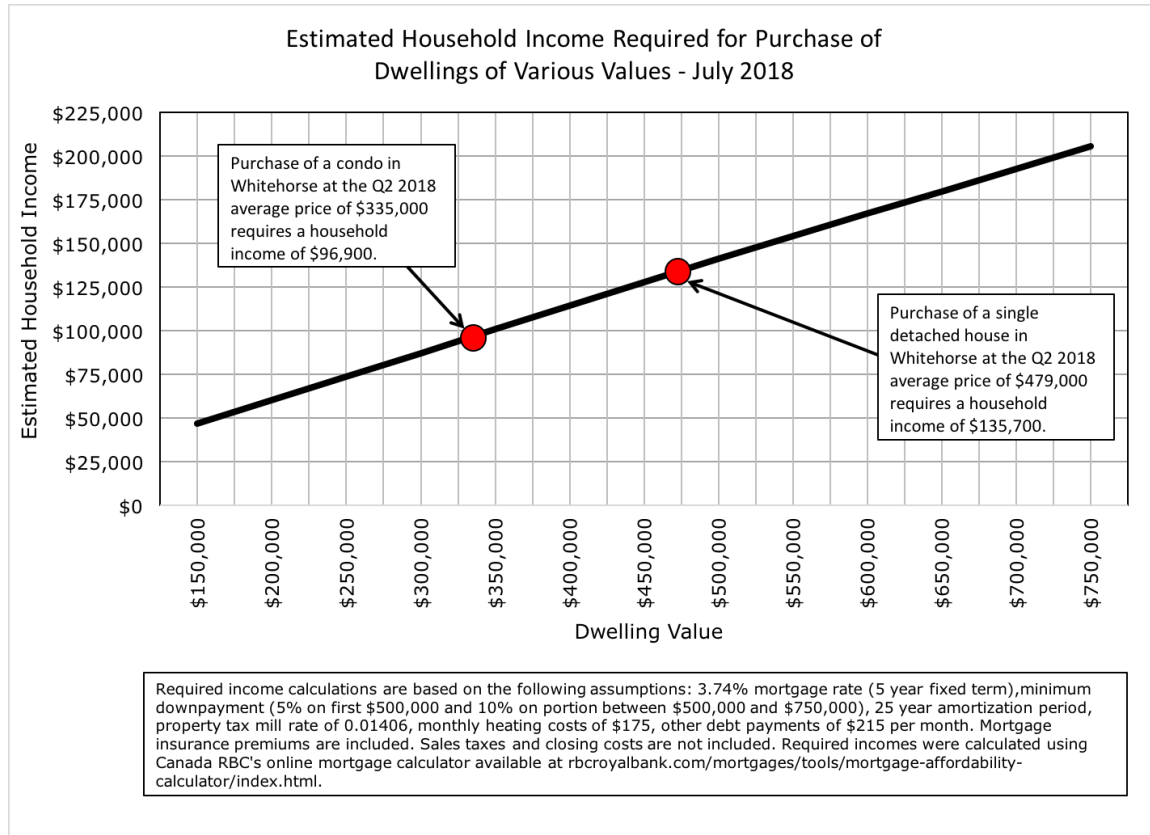
Source: Statistics Canada, CANSIM 176-0043.
 * The 5-Year Rate presented above is from CANSIM 176-0043: v122497 Average residential mortgage lending rate (5 year) for the period 1951 to 1972 and v122521 Chartered bank - conventional mortgage (5 year) after 1972.
 ** Mortgage rates are national-level economic variables; Yukon-specific mortgage rates are not offered by lending institutions.

Housing Affordability

One of the key determinants of housing demand is the number of families and individuals in a community with incomes sufficient to qualify for, and make payments on, a mortgage. In determining the number of families and individuals, a variety of factors come into play such as interest rates, mortgage features (size of down payment, amortization period, term of mortgage), mortgage insurance and non-mortgage housing costs (e.g., property taxes, heating costs).

To better understand the affordability question, household incomes required to purchase dwellings of various values were calculated using RBCs online mortgage affordability calculator. The calculations were carried out under a scenario thought to be reflective of current mortgage market conditions: 3.74% mortgage rate (5-year fixed term), minimum down payment (5% on first \$500,000 and 10% on portion between \$500,000 and \$750,000), 25-year amortization period, property tax mill rate of 0.01406, monthly heating costs of \$175 and other debt payments of \$215 per month. Mortgage insurance premiums are included. Sales taxes and closing costs are not included.

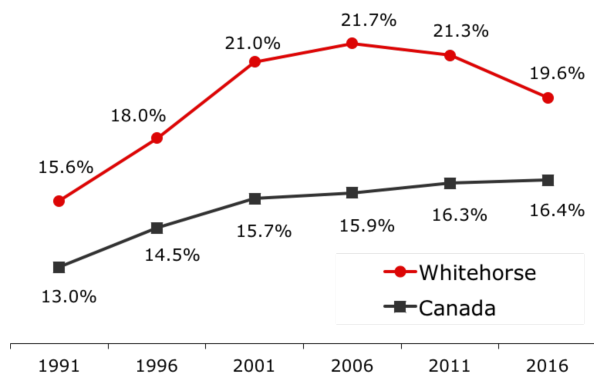
The calculation results are presented in the chart on the next page. As can be seen from the chart, the annual household income required to purchase a condo in Whitehorse at the Q2 2018 average price of \$334,900 is \$96,900. The annual household income required to purchase a single detached house in Whitehorse at the Q2 2018 average price of \$479,000 is \$135,700.



Lone Parent Families

A distinctive demographic feature of Whitehorse is the number of lone parent families (one parent living with one or more children). In every Census since 1991, the lone parent ratio (the number of lone parent families relative to the total number of all families) for Whitehorse has exceeded the national lone parent ratio. In the 2016 Census year, the lone parent ratio for Whitehorse was 19.6% and the national lone parent ratio was 16.4%.

Percentage of Lone Parent Census Families Whitehorse and Canada - 1991 to 2016

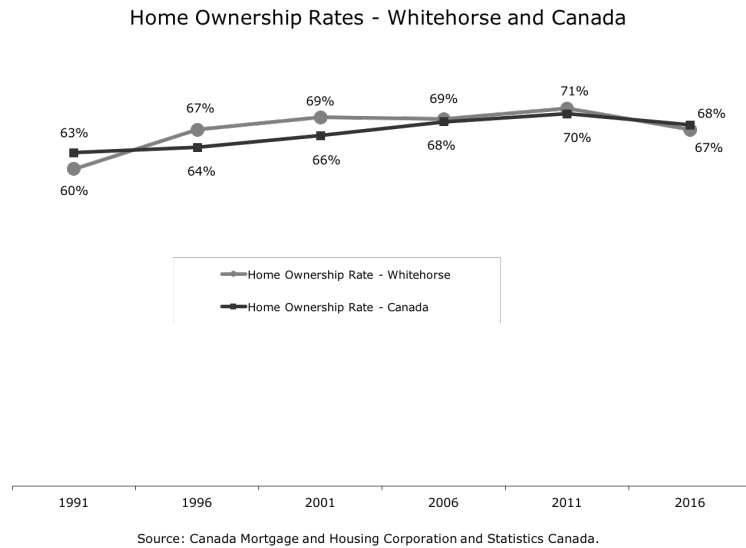


Source: Statistics Canada, *Census*, various years.

The average household income of lone parent homeowners in Whitehorse increased by 85% between 1991 and 2016, rising from \$50,604 in 1991 to \$93,379 in 2016.

Home Ownership Rates

Home ownership rates in Whitehorse (the percentage of dwellings owned by occupants) increased significantly between 1991 and 1996, rising from 60% to 67%. In 1996 and 2001 the rate of home ownership in Whitehorse slightly exceeded the national rate of home ownership by about 3%. From 2006 through to 2016 the home ownership rate for Whitehorse has closely matched the national home ownership rate.

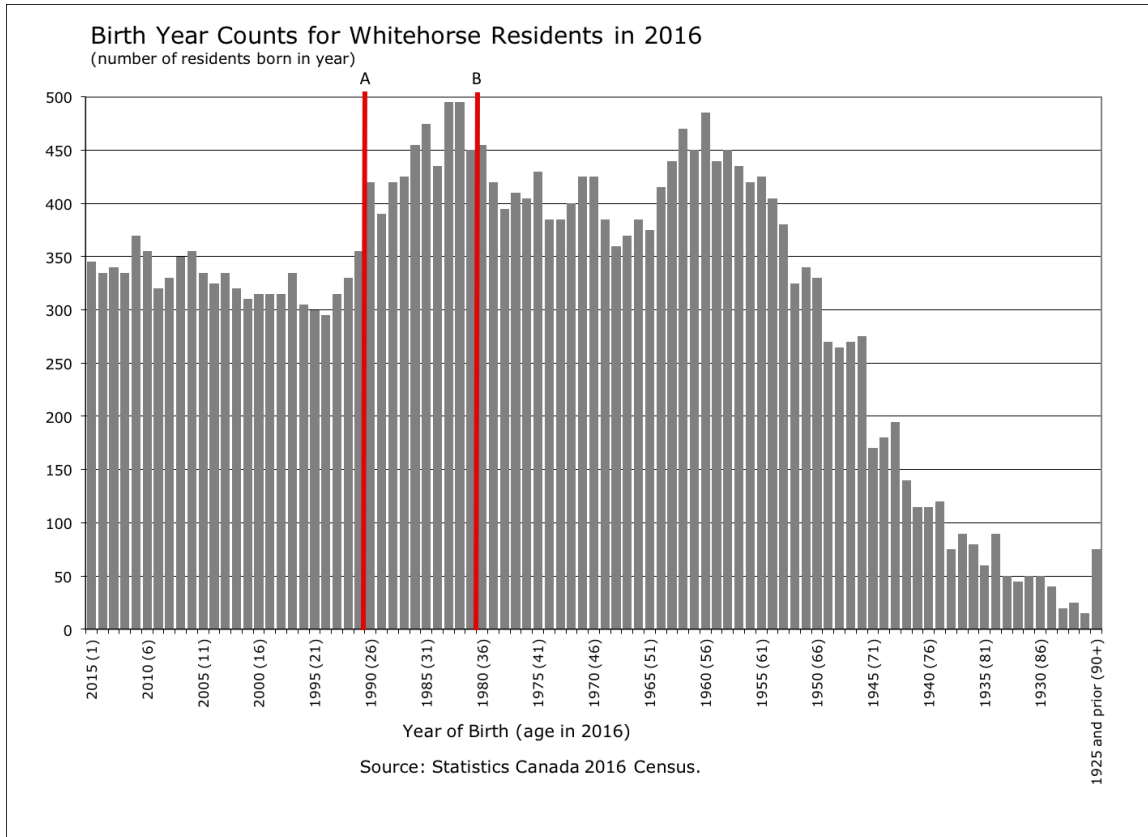


Age Distribution

Two key demographic variables underlie housing demand. One is changes in the age distribution of the population of a community over time and the other is the growth or decline in the overall population of a community. Note that one segment (or, age cohort) of the population may grow or decline at different rates than other age cohorts within the same population. Differences in growth rates are illustrated in the chart on the following page which shows the age distribution of Whitehorse residents by single year according to 2006 Census counts. The baby boom cohort, comprised of individuals born between 1946 and 1964, forms the tall cluster and peak on the right of the chart. Children of baby boomers, who comprise the baby boom echo cohort (individuals born from 1980 to 1995), form the tall cluster and peak towards the left on the chart.

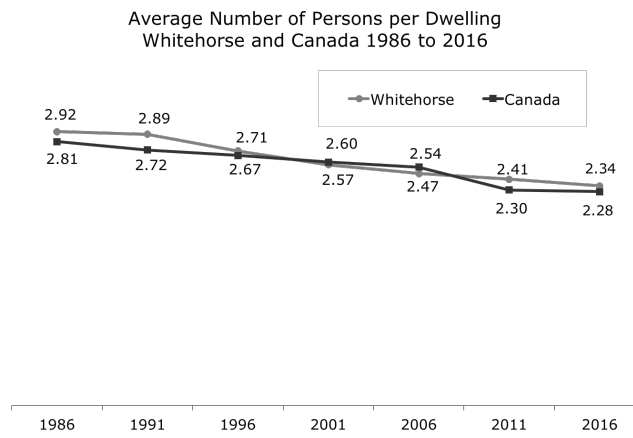
The age at which people become active (i.e., enter) the housing market is known as the average age of first-time home buyers. Achievement of home buying age by the baby boomer cohort was one of the reasons for the increase in Whitehorse home ownership levels experienced over the last 30 years. If the typical age of entry is 35 years (illustrated by line B), Whitehorse may be nearing the tail end of the surge in demand resulting from entry of the baby boom echo cohort (children of baby boomers) into the Whitehorse housing market.

If the typical age of entry is 25 years (illustrated by line A), demographically-driven demand for housing in Whitehorse is about to flatten out. Any increases in future housing demand will be driven by economic rather than demographic factors.



Persons per Dwelling

The average number of persons living in a dwelling has been declining in both Whitehorse and Canada over the last 20 years. The average number of persons per dwelling declined by 20% (from 2.92 to 2.34) between 1986 and 2016. As the average number of persons per dwelling declines, more houses are required to shelter the same number of people.



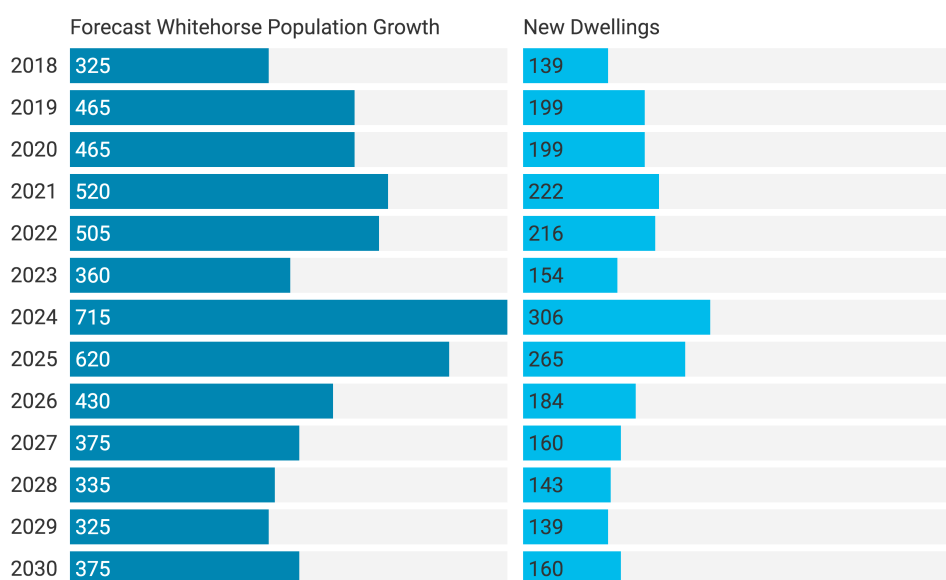
Population Growth

As noted above, growth or decline in the overall population of a community is a key factor in determining housing demand. The Yukon Bureau of Statistics' publication *Population Projections 2016* contains, for the first time, population projections at the community level for different growth scenarios. In YBS's new population projection model, various demographic factors (e.g., births, deaths, in-migration and out-migration) are used to inform regression analyses. The outputs from the regression analyses are then, also for the first time, combined with short-term economic forecasts by the Yukon Government and long-term economic forecasts by the Conference Board of Canada.

Among the various population projections produced the Yukon Bureau of Statistics is the 'preferred projection', a weighted average of the medium growth scenario and a projection based on economic factors. The Yukon Bureau of Statistics considers the preferred projection to be the most likely scenario to occur.

The chart below presents the incremental growth in population for Whitehorse, based on the Yukon Bureau of Statistics preferred population projection over the period 2018 to 2030. Note that for purposes of the Yukon Bureau of Statistic's Population Projections by Community, Whitehorse includes Marsh Lake and the areas immediately surrounding Whitehorse.

Whitehorse New Housing Demand - 2018 to 2030



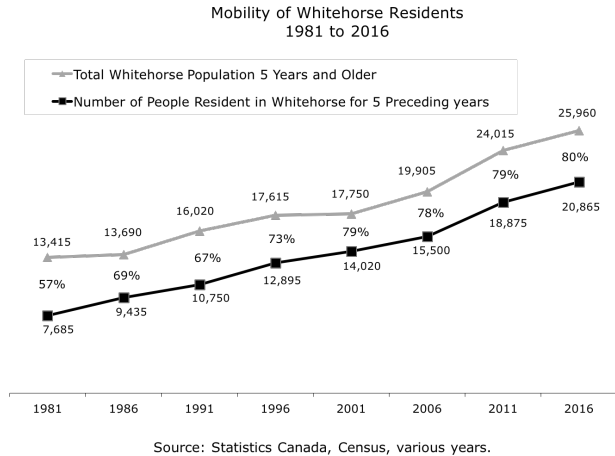
As can be seen from the chart, the population of Whitehorse is forecast to increase every year between 2018 and 2030, ranging from a low of 325 in 2018 and 2029 and a high of 715 in 2024. As noted earlier, according to Statistics Canada's 2016 Census, the average number of persons per dwelling in Whitehorse is 2.34 people. Dividing the yearly population growth by the average number of persons per dwelling (2.34) yields the annual demand for new housing.

On the basis of the Yukon Bureau of Statistics preferred projection, new housing demand driven by population growth in Whitehorse will total 2,485 dwellings over the 2018 to 2030 period. The new housing demand will range from a low of 139 dwellings in 2018 and 2029 to a high of 306 dwellings in 2024.

Mobility

Whitehorse’s population has become significantly more stable since 1981. In that year, 7,685 Whitehorse residents (57%) out of the total Whitehorse population of 13,415 (five years of age and older) reported being resident in Whitehorse during the preceding five years.

Since 1981, the five-year residency ratio has steadily increased, reaching a high of 80% in the most recent census year of 2016. The increased stability of Whitehorse residents over the long term has contributed to the increase in home ownership experienced in Whitehorse over the last three decades.



Housing Prices

As shown in the chart below, the average sale price for single detached houses in Whitehorse increased at a relatively steady rate from the beginning of 1999 through 2004. Starting in 2005, however, prices began to ramp up, with single detached house prices rising from an average of \$184,000 in 2004 to a peak of \$429,000 in 2011. Single detached house prices then settled back, falling slightly in 2012 and 2013 before reaching an average price of \$443,000 in 2017.

The average sale price for condos in Whitehorse also began to ramp up starting in 2005, with the average price of a condo rising from \$127,000 in 2004 to a peak of \$322,000 in 2013. Condo prices were lower in 2014 to 2016 before reaching an average price of \$319,000 in 2017.



Demographic and Economic Factor Summary Table

The table below presents a summary listing of the various factors which influence housing demand in Whitehorse and describes the nature of change in housing demand that follows from a change in a given factor.

Factors Affecting Housing Demand in Whitehorse

Factor	Nature of Change in Housing Demand
<i>Average Household Income</i>	As average household incomes increase, housing demand will also increase.
<i>Home Ownership Rate</i>	As the rate of homeownership increases (more homeowners and fewer renters), housing demand will also increase.
<i>Mortgage Rates</i>	As mortgage (interest) rates increase, housing demand will decrease.
<i>Housing Affordability</i>	As housing becomes less affordable (the possible result of changes in a variety of factors), housing demand will decrease.
<i>Age Distribution</i>	As the size of the home age buying population cohort increases, housing demand will also increase.
<i>Population Growth</i>	If the size of the home age buying population cohort increases, housing demand will also increase.
<i>Persons per Dwelling</i>	As the number of persons per dwelling decreases, housing demand will increase.
<i>Mobility</i>	As mobility rates decline (the population is more stable), housing demand is more likely to increase.
<i>Housing Prices</i>	As housing prices increase, housing demand will decrease.

Economic Scenarios

This section of the paper presents three economic scenarios that illustrate the application of the demographic and economic factors on Whitehorse housing demand. The 'change in economic scenario' column indicates the expected direction of change in the factor that corresponds to the economic scenario in question ("↑" indicates positive change, "↓" indicates negative change and "—" indicates that the factor is thought to be uncorrelated with changing economic conditions in the short term). The 'effect of change on demand' column indicates the corresponding effect on the demand for housing in Whitehorse.

Scenario 1: Economic Decline

Factor	Change in Economic Scenario	Effect of Change on Demand	Discussion
<i>Average Household Income</i>	↓	↓	Under an economic decline scenario, average household incomes could decrease and out-migration may result in negative population growth. Housing prices could drop making housing more affordable for those who remain resident in the territory. If the economic decline is national in scale, mortgage rates could drop also contributing to improved affordability. Overall effect: decrease in housing demand.
<i>Mortgage Rates</i>	↓	↑	
<i>Housing Affordability</i>	↑	↑	
<i>Home Ownership Rate</i>	—	—	
<i>Age Distribution</i>	—	—	
<i>Persons Per Dwelling</i>	—	—	
<i>Population Growth</i>	↓	↓	
<i>Mobility</i>	↑	↓	
<i>Housing Prices</i>	↓	↑	

Scenario 2: Natural Economic Growth

Factor	Change in Economic Scenario	Effect of Change on Demand	Discussion
<i>Average Household Income</i>	↑	↑	Under a natural economic growth scenario, average household incomes would likely increase. Population growth would be limited to natural increases. Housing prices may increase contributing to a decline in housing affordability. Overall effect: increase in housing demand.
<i>Mortgage Rates</i>	—	—	
<i>Housing Affordability</i>	↓	↓	
<i>Home Ownership Rate</i>	—	—	
<i>Age Distribution</i>	—	—	
<i>Persons Per Dwelling</i>	—	—	
<i>Population Growth</i>	↑	↑	
<i>Mobility</i>	—	—	
<i>Housing Prices</i>	↑	↓	

Scenario 3: Economic Boom

Factor	Change in Economic Scenario	Effect of Change on Demand	Discussion
<i>Average Household Income</i>	↑	↑	Under an economic boom scenario, average household incomes would increase. The number of persons per dwelling might decrease. In-migration would result in positive population growth. Housing prices would likely increase, contributing to a decline in housing affordability. If the economic boom is national in scale, mortgage rates could rise contributing to reduced housing affordability. Overall effect: increase in housing demand.
<i>Mortgage Rates</i>	↑	↓	
<i>Housing Affordability</i>	↓	↓	
<i>Home Ownership Rate</i>	—	—	
<i>Age Distribution</i>	—	—	
<i>Persons Per Dwelling</i>	↓	↑	
<i>Population Growth</i>	↑	↑	
<i>Mobility</i>	↓	↑	
<i>Housing Prices</i>	↑	↓	

