# GROWTH FORECAST TO 2046

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# EXECUTIVE SUMMARY

Long-term growth forecasts are essential for municipal land use, infrastructure and financial planning. Hemson Consulting has been retained to prepare forecasts of population, housing, and employment in the City of North Bay. The forecast provides the City with an understanding of the range of future growth patterns over a 30-year horizon from 2016 to 2046. They will also form a basis of the City's forthcoming Development Charges Background Study.

- The base year for the forecasts is 2016 and the forecast horizon extends to 2046. Over the past 30 years, North Bay has experienced periods of population growth and decline: with a population of 52,000 in 1986, the population peaked at 57,300 in 1991 and stood at 53,300 in 2016.[1]

- Over the forecast period, the dominant force in North Bay's demographic change will be the aging population. The large baby boom age groups, between 50 and 60 in 2016, will be 80 to 90 by 2046, with nearly half of them lost through death. North Bay, like most of Ontario outside the large urban areas, is entering a period of natural decrease; that is, fewer births than deaths. *As a result, net in-migration to North Bay is required just to maintain current population levels.*

- However, like most of northern Ontario, North Bay has experienced net out-migration for most of the past 25 years as the work force adjusted to fewer economic opportunities in the resource-based sectors and, particularly in North Bay, a reduction in the scale of Canadian Forces operations. The forecasts presented here are premised on resource industries and the military remaining relatively stable after this long period of economic adjustment.

- Three forecast scenarios are presented for consideration: a reference forecast recommended for use by the City; and low and high scenarios within a relatively narrow range for sensitivity testing:

  - The reference scenario is based on lower net out-migration of young adults than the City has experienced in recent decades, the success of municipal

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[1] Population figures in this report include the population recorded in the Census plus an estimate of Census net under-coverage, which represents those who were missed or double-counted by the Census (between 3% and 4% in North Bay). There is no Census net under-coverage associated with household figures or employment. Employment figures are by "place of work"; that is, the number of jobs in the City. Employment figures include all employment with a regular or no fixed place of work.

economic development initiatives, the realization of known development proposals (e.g. a casino), and some increase in the service / administrative functions that the City provides to the broader region. Total net in-migration of about 150 people per year is forecast.

- The low scenario is based on net zero migration into the City and results in a gradual decline in the population for the first 20 years followed by a more rapid decline as the baby boom population reaches high mortality age groups. *Near zero net migration still represents a reversal of the 2011-2016 period of significant net out migration.* What has not been tested is a very low growth scenario where out-migration continues at levels experienced over the past ten years. Such a scenario would result in a very large drop in population over the next 30 years and would represent unprecedented population decline for a major urban centre in Ontario. Given the purpose of these forecasts is to inform long-term planning and growth management, a scenario predicated on substantial population decline and corresponding housing vacancies is, for now, premature. Recent migration data for the District of Nipissing supports this assumption.

- The high scenario was developed to test the effects of increased economic opportunities, which would lead to reduced out-migration of young adults and higher in-migration for most other age groups. Greater economic opportunity in North Bay would arise from: some success of City Council initiatives to pursue growth initiatives; continued development of economic activity such as tourism, arts, culture and creative industries, the digital economy, mining supply and service activities, and transportation, aviation, and aerospace industries; investment in major infrastructure by senior levels of government; and development of key "one-off" employment drivers such as the casino. Net in-migration of about 250 people per year over the forecast is applied in this scenario, resulting in population growth of about 3,000 by 2046.

- North Bay City Council has recently approved a new casino for the City. While the number of jobs associated with the casino is not yet clear, for the purposes of the forecast we have assumed that it represents 200 net new jobs between 2021 and 2026. Furthermore, we have assumed that these 200 net new jobs are over and above the employment forecasts that have been prepared for the reference and high scenarios.

- Council has recently decided to pursue an aggressive growth strategy based on significant economic growth and corresponding growth in population. The objectives of Council exceed those of the high forecast presented here. Because the forecasts are used for such purposes as infrastructure and service planning as well as the associated financial planning, they need to be grounded in a realistic assessment of recent trends and adopt a somewhat conservative outlook so as not

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to place the City at financial risk by providing services for growth that may not materialize.

- That said, we would not discourage the City from trying to attract additional population and job growth beyond what is forecast here. The forecasts do not limit Council initiatives or preclude these initiatives from achieving their objectives. Should Council's initiatives realize their intended results, the forecasts, infrastructure and service planning, and associated financial planning can be updated to accommodate higher growth as necessary.

- From a current (2016) total population of 53,300, the City's population in the first 20 years of the forecast to 2036 could range from a low of 51,400, to a mid-range total of 53,800 under the reference scenario, or even to a high of 56,100 should economic conditions and migration to the City, notably by young adults, significantly change. In the final 10 years of the forecast to 2046, the effect of aging and fewer births and deaths results in a decline in the low scenario to 48,400 and the reference scenario to 52,600. The high scenario just remains stable after 2036 with a 2046 population of 56,000.

- The effect of the aging population is even more pronounced in the employment forecast than in the population forecast. Moving forward, a smaller proportion of the population will be of working age under any scenario. Some people choosing to work longer in life by delaying retirement is not enough to compensate for this change in the labour force. The three forecast scenarios are based on stable or increasing labour force participation rates in all age groups and ongoing relatively low unemployment rates. From 29,500 jobs in 2016, employment would decline to 27,100 in the low scenario and 28,900 in the reference scenario, but would experience a modest increase to 30,500 in the high scenario.

- The outlook for housing is also affected by an aging population. However, housing will grow at a faster rate than population because more households are needed to accommodate the same population as it ages: there are more empty nesters and single elderly people and fewer families with children at home. This results in a gradual decline in the average household size.

It is our view that the reference scenario should be used for growth management policy purposes as well as the Development Charges Background Study. The results of the reference scenario are shown in the following tables.

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**Table 1a**

| North Bay City-wide Population, Housing and Employment Reference Scenario | | | |
|---|---|---|---|
| **Year** | **Population** | **Housing** | **Employment** |
| 2001 | 54,770 | 21,400 | 30,110 |
| 2006 | 55,910 | 22,590 | 30,850 |
| 2011 | 55,440 | 23,250 | 32,950 |
| 2016 | 53,300 | 22,590 | 29,480 |
| 2021 | 53,610 | 22,940 | 29,570 |
| 2026 | 53,820 | 23,290 | 29,590 |
| 2031 | 53,870 | 23,670 | 29,480 |
| 2036 | 53,790 | 23,920 | 29,460 |
| 2041 | 53,340 | 24,100 | 29,310 |
| 2046 | 52,620 | 24,190 | 29,070 |

**Table 1b**

| Reference Scenario Growth | | | |
|---|---|---|---|
| **Year** | **Population** | **Housing** | **Employment** |
| 2001–2006 | 1,140 | 1,190 | 740 |
| 2006–2011 | -470 | 660 | 2,100 |
| 2011–2016 | -2,140 | -660 | -3,470 |
| 2016–2021 | 310 | 350 | 90 |
| 2021–2026 | 210 | 350 | 20 |
| 2026–2031 | 50 | 380 | -110 |
| 2031–2036 | -80 | 250 | -20 |
| 2036–2041 | -450 | 180 | -150 |
| 2041–2046 | -720 | 90 | -240 |

| | | | |
|---|---|---|---|
| *2001-2016* | -1,470 | 1,190 | -630 |
| *2016-2036* | 490 | 1,330 | -20 |
| *2036-2046* | -1,170 | 270 | -390 |

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# I    FACTORS AFFECTING GROWTH IN NORTH BAY

This section summarizes recent growth trends in North Bay and discusses the factors that have affected these trends in the past.

The base information and the forecasts are in large part based on Statistics Canada Census data, collected every five years, and are supplemented by other Statistics Canada data related to births, deaths and migration patterns. As well, information on local economic and construction activity trends is used.

## A.    RECENT GROWTH HAS BEEN SLOW BUT STEADY

North Bay owes its early success to its location at the intersection of key trans-national highways and rail lines. The construction of the Royal Canadian Air Force base in the 1950s, and the opening of the Canadian operations centre of the North American Air Defence Command (NORAD) at the base ten years later, led to 40 years of rapid growth in the community. By 1991, the City's population was 57,300 (see Figure 1).

**Figure 1**



**Historical Population and Occupied Households**

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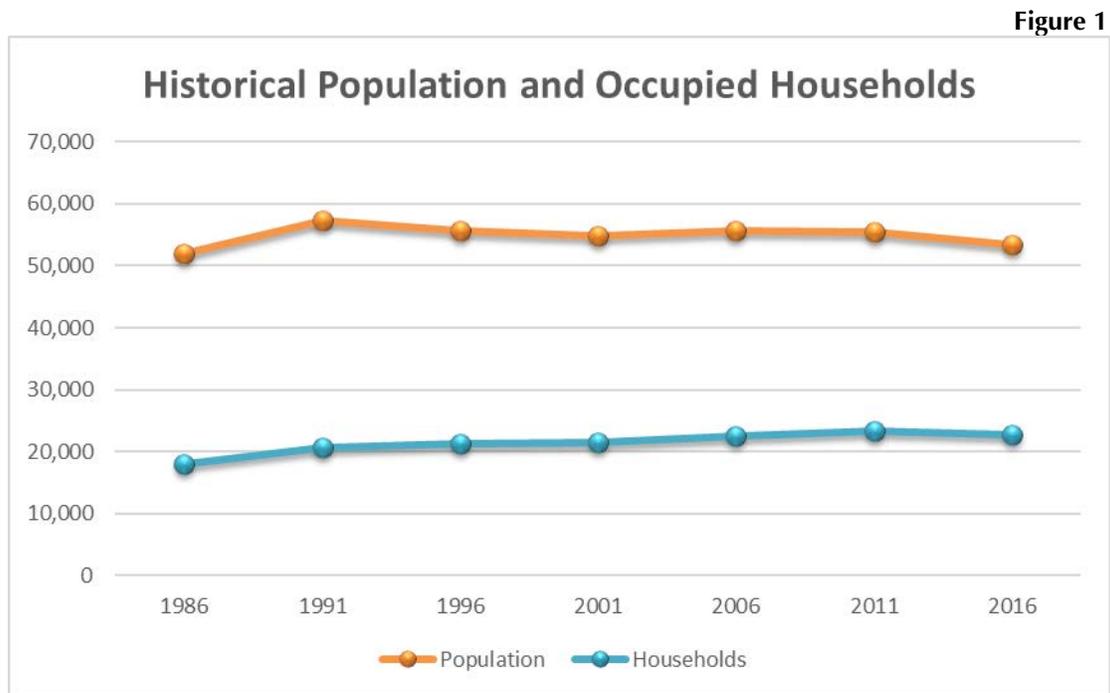
Growth in North Bay slowed as job losses arising from the nationwide recession in the 1990s and the Federal government's cuts to defense spending after the end of the Cold War. National defence remains an important part of the local economy and the military base, together with the City-owned Airport Industrial Park and its 10,000 foot runway (the longest in northern Ontario), continues to support a developing cluster of aviation and aerospace industries.

The City's population has seen gradual decline over the last 30 years and was 53,300 in 2016. In the broader geographic context, this pattern of a stable or declining population base has been occurring in other northern Ontario urban centres in recent years. Many areas outside the urban centres have seen significant declines. Figure 2 illustrates the cumulative population growth from 2001 to 2016 for Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs) in the north. While North Bay's population was essentially stable during this time, all other major urban areas with the exception of Greater Sudbury experienced decline. Greater Sudbury has managed to attract growth mostly from other parts of northern Ontario as it continued to consolidate its role as the regional centre for the north, recognizing that North Bay, Thunder Bay and Sault Ste. Marie remain important regional centres for their respective areas.

**Figure 2**



Cumulative Census Population Growth
Selected CMAs in Northern Ontario, 2001 - 2016
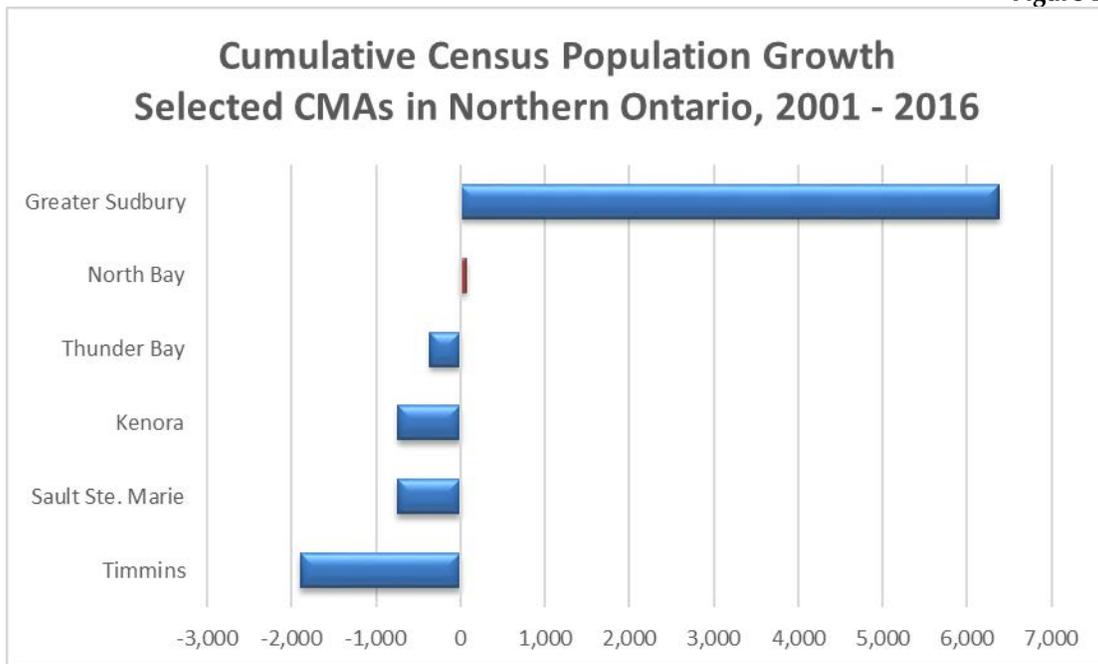
Housing growth has also been steady in North Bay over the last 30 years; total occupied households rose from 18,000 in 1986 to 22,600 in 2016 (see Figure 1). Even over the 15 years from 2001 to 2016, when the population declined by about 1,600 people, the number of households increased by about 1,200.  Households growing at a faster rate than the population is the result of an aging population. More empty nesters and single elderly people, and fewer families with children at home, mean more housing is required to house the same population. This also results in a gradual decline in the average household size.

New housing construction still takes place during periods when the number of occupied housing units declines overall. As shown in Table 2, during the five years from 2011 to 2015, 274 new housing units were built in North Bay during a period when the number of households declined by nearly 700. Housing completion data for the last three years indicate that new construction is continuing. While some of these units replace units on sites that are already developed, most represent new development. Thus, while there may be vacant units or other redevelopment opportunities throughout the City, many people simply want a new house.

**Table 2**

| CMHC Housing Unit Completions North Bay, CA 2011 - 2018 | | | | | |
|---|---|---|---|---|---|
| | **Single** | **Semi** | **Row** | **Apartment** | **Total** |
| 2011 | 112 | 8 | 0 | 0 | 120 |
| 2012 | 107 | 6 | 3 | 8 | 124 |
| 2013 | 83 | 10 | 3 | 4 | 100 |
| 2014 | 71 | 4 | 0 | 0 | 75 |
| 2015 | 54 | 0 | 3 | 4 | 61 |
| 2016 | 47 | 4 | 3 | 7 | 61 |
| 2017 | 41 | 8 | 4 | 0 | 53 |
| 2018 | 56 | 4 | 8 | 0 | 68 |
| 2011-15 | 427 | 28 | 9 | 16 | 480 |
| 2016-18 | 144 | 16 | 15 | 7 | 182 |

| CMHC Housing Unit Completions City of North Bay, 1991 - 2018 | | | | | |
|---|---|---|---|---|---|
| | **Single** | **Semi** | **Row** | **Apartment** | **Total** |
| 1991-1995 | 306 | 248 | 298 | 454 | 1,306 |
| 1996-2000 | 206 | 50 | 0 | 5 | 261 |
| 2001-2005 | 334 | 24 | 15 | 5 | 378 |
| 2006-2010 | 413 | 34 | 0 | 217 | 664 |
| 2011-2015 | 225 | 24 | 9 | 16 | 274 |
| 2016-2018 | 59 | 16 | 7 | 7 | 89 |
| Under Construction | 28 | 2 | 16 | 48 | 94 |

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The new construction data indicate a preponderance of single detached dwellings in the City with 68% of units completed or under construction being of this type in this decade. The overall North Bay housing stock is much more diverse. Single-detached housing units make up about 50% of all units in the City. Semi-detached and row house units comprise 17% of the stock while the remaining one-third are apartments (see Figure 3).

**Figure 3**
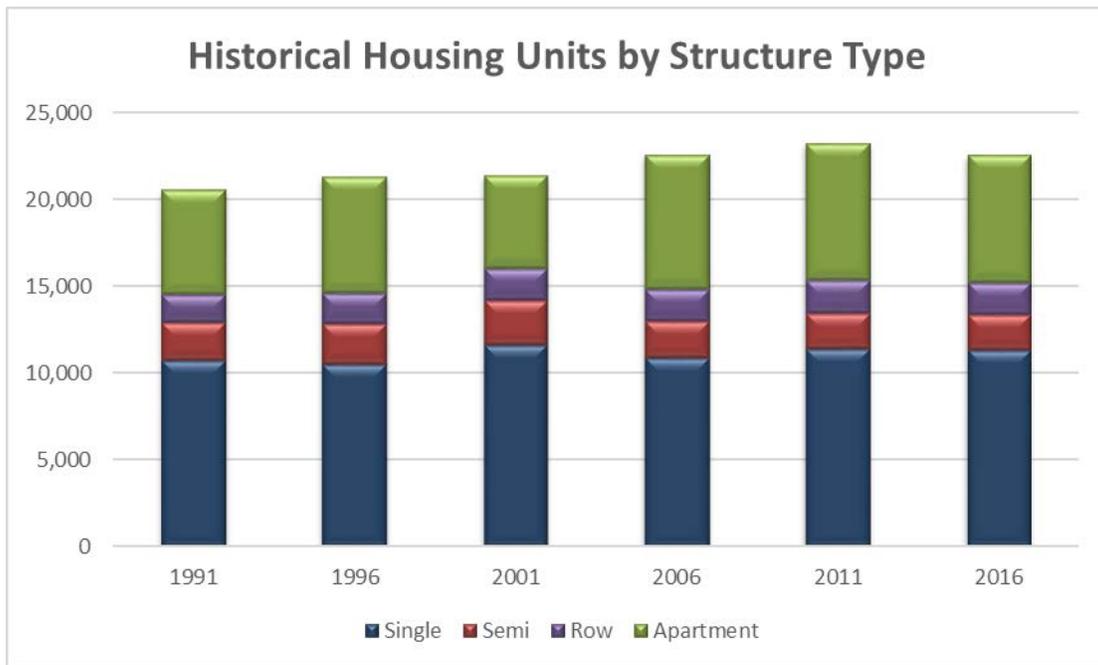


Note: There were some changes in the way units were recorded in the 2006 versus the 2001 Census. The apparent increase in the number of apartments from 2001 to 2006, and decline in single detached units, was statistical rather than an actual physical change in the number of units of these types.

The current economy in North Bay is relatively diverse. In addition to its important role in national defence, the City serves as a regional service and commercial centre. It is the location of many regional wholesale and retail operations, a regional hospital, Nipissing University and Canadore College (with a 700+ acre shared main campus and local enrollment of 8,600 students) and, as of 2013, an OHL hockey team. North Bay is also a prominent regional transportation hub, with excellent road and rail links, including two short line rail links.

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Tourism is an important part of the local economy and is driven by the lakes, shorelines, and other unique natural features and landscapes that exist around the City that currently attracts well over a million visitors a year.[2] Hunting, fishing, and camping opportunities attract short-term local and weekend-based tourists in all seasons. The prospects for tourism growth are good given there is now four lane highway access to the rapidly growing market area of southern Ontario.

The employment forecasts in this report are based on Statistics Canada place of work employment data. Place of work employment captures all people working within the City of North Bay irrespective of where they live, and includes those who work at home and those who have no usual place of employment.

The City's employment rose steadily from 2001 to a peak of 32,900 in 2011. However, about 3,500 jobs were lost between 2011 and 2016. Figure 4 shows the overall employment in North Bay. Within Nipissing District, employment is much more concentrated than the population. In 2016, the City was home to about 62% of the District population but accommodated about 79% of the jobs. This difference highlights the importance of North Bay as a regional centre not just for the provision of services but also much of the economic opportunity in the area.

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[2] There were 1.3 million visits to Nipissing District in 2011, a figure that has very likely increased in recent years. Most visits were for outdoor activities (boating, fishing, and other outdoor/sporting activities) and a substantial number, 19.4%, were from the City of Toronto, Regions of Peel and York, and Simcoe County (*2011 Statistics Canada Travel Survey of the Residents of Canada; International Travel Survey 2011, Ontario Ministry of Tourism, Culture and Sport*).

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**Figure 4**

## Historical Total Employment in Nipissing District and the City of North Bay
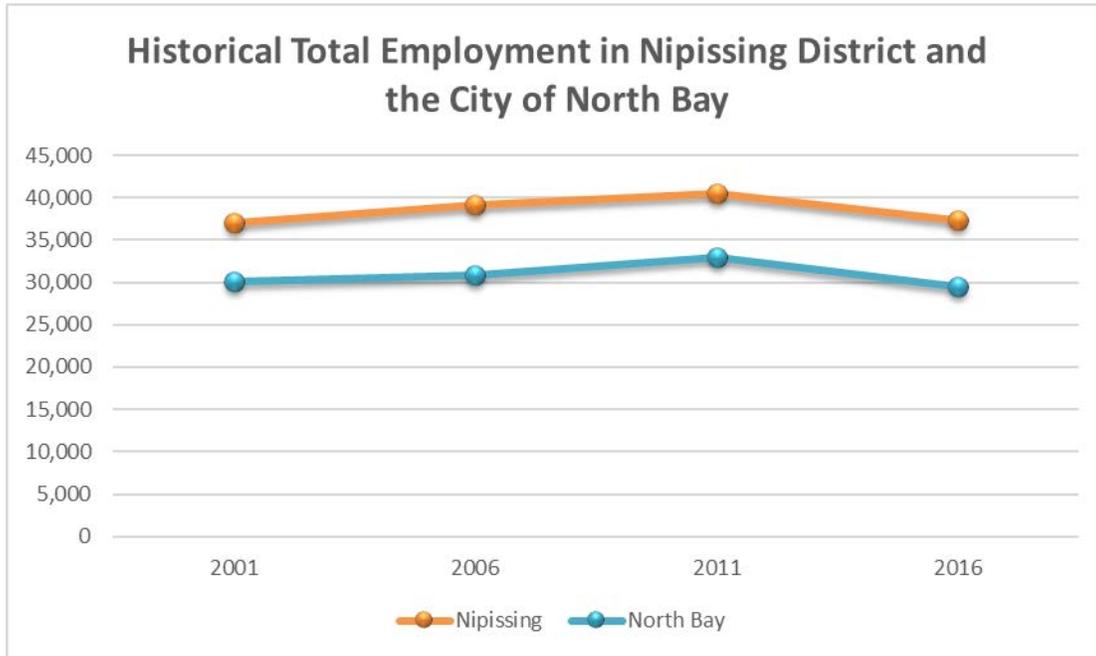


About 19,600 North Bay residents have a fixed place of work outside their home, of which about 1,680 commute to jobs outside the City and about 7,280 people living outside the City commute to work in North Bay. As such, the City experiences "net in commuting" of approximately 5,600 jobs (Figure 5).

**Figure 5**

| Commuting Patterns to the City of North Bay, 2016 | |
| --- | --- |
| **Origin of People who Work in North Bay** | **Usual Place of Work Employment** |
| North Bay | 17,955 |
| East Ferris | 1,545 |
| Callander | 1,210 |
| West Nipissing | 835 |
| Powassan | 590 |
| Bonfield | 505 |
| Nipissing, TP | 315 |
| Chisholm | 245 |
| Mattawa | 115 |
| Papineau-Cameron | 90 |
| Greater Sudbury | 80 |
| Calvin | 65 |

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Table 3 shows the changes in employment in North Bay by economic sector over the past two Census periods. The 2006-2011 period includes the 2008-09 recession and the following years; in most other urban centres in Ontario the years of 2011-2016 represent a period of economic recovery. The economic cycle explains the decline and recovery in manufacturing and finance, insurance and real estate between the periods. Other sectors follow their own cycles. In particular, recent declines in retail trade are related to the rise in e-retail and restructuring among some Canadian retailers. As well, the decline in population undoubtedly affected retail sales during this period. Public sector activities of education and health care and public administration show a pattern counter to the economic cycles. While the forces behind this change are not entirely clear, a similar pattern has been observed in many other Ontario communities.

**Table 3**

| Distribution of Total Employment by NAICS Sector City of North Bay, 2006 - 2016 | | | | | | |
|---|---|---|---|---|---|---|
| NAICS Sector | 2006 | 2011 | 2016 | 2006-11 | 2011-16 | 2006-16 |
| Primary | 810 | 1,330 | 1,050 | 520 | (280) | 240 |
| Construction | 1,600 | 2,120 | 1,650 | 520 | (470) | 50 |
| Manufacturing | 1,920 | 1,250 | 1,290 | (670) | 40 | (630) |
| Trade | 5,330 | 6,060 | 4,850 | 730 | (1,210) | (480) |
| Transportation and warehousing | 2,290 | 2,000 | 1,640 | (290) | (360) | (650) |
| Finance, Insurance; Real Estate | 1,410 | 1,160 | 1,300 | (250) | 140 | (110) |
| Professional Services | 2,030 | 1,860 | 1,750 | (170) | (110) | (280) |
| Admin. Support & Other Services | 3,200 | 2,840 | 2,560 | (360) | (280) | (640) |
| Education and Health Care | 6,940 | 8,370 | 7,890 | 1,430 | (480) | 950 |
| Arts & Rec.; Accommodation, food | 2,600 | 2,600 | 2,720 | 0 | 120 | 120 |
| Public administration | 2,710 | 3,370 | 2,760 | 660 | (610) | 50 |
| Total Employment | 30,840 | 32,960 | 29,460 | 2,120 | (3,500) | (1,380) |

## B.   KEY FACTORS AFFECTING GROWTH IN NORTH BAY

Two key factors are shaping the growth outlook for North Bay:

1.   The age structure of the population will have a major range of influence on how North Bay grows and will largely dictate changes in population through births and deaths.

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2.  Economic prospects will be influenced by the structure of the local economy and the stability of the City's regional service centre role, which will in turn, influence migration levels and employment.

Growth continues to be tied in large part to the City's central place and regional centre function, while also being strongly influenced by its longstanding role in national defence, aviation, and mining supply and service activities, and its increasingly important role as a tourist attraction and location for arts, culture, and digital industries. The diverse economy adds stability to the long-term outlook provided the key industries centred on the military base and industrial parks remain intact. Demographic factors suggest that the regional service functions will continue and possibly grow in importance, though there is little growth anticipated within that regional service area.

The variability in the forecast will arise from the extent to which the City can continue to develop economic activities such as arts, culture and creative industries, the digital economy, mining supply and services, and transportation, aviation, and aerospace industries. Significant investment in major infrastructure by senior levels of government, the development of key "one-off" employment drivers such as the casino, and the success of City Council initiatives to pursue an aggressive growth strategy, will also influence the range of forecast possibilities.

While development of local economic sectors continues to be the most important economic factor affecting the growth outlook for North Bay, the most predominant demographic consideration continues to be the age-structure of the population. An aging population trend has resulted in an increasingly high proportion of older-aged adults in North Bay. This continued shift over the 2001 to 2016 period is illustrated in the population age structure in Figure 6.

**Figure 6 – Historical Population Age Structure**
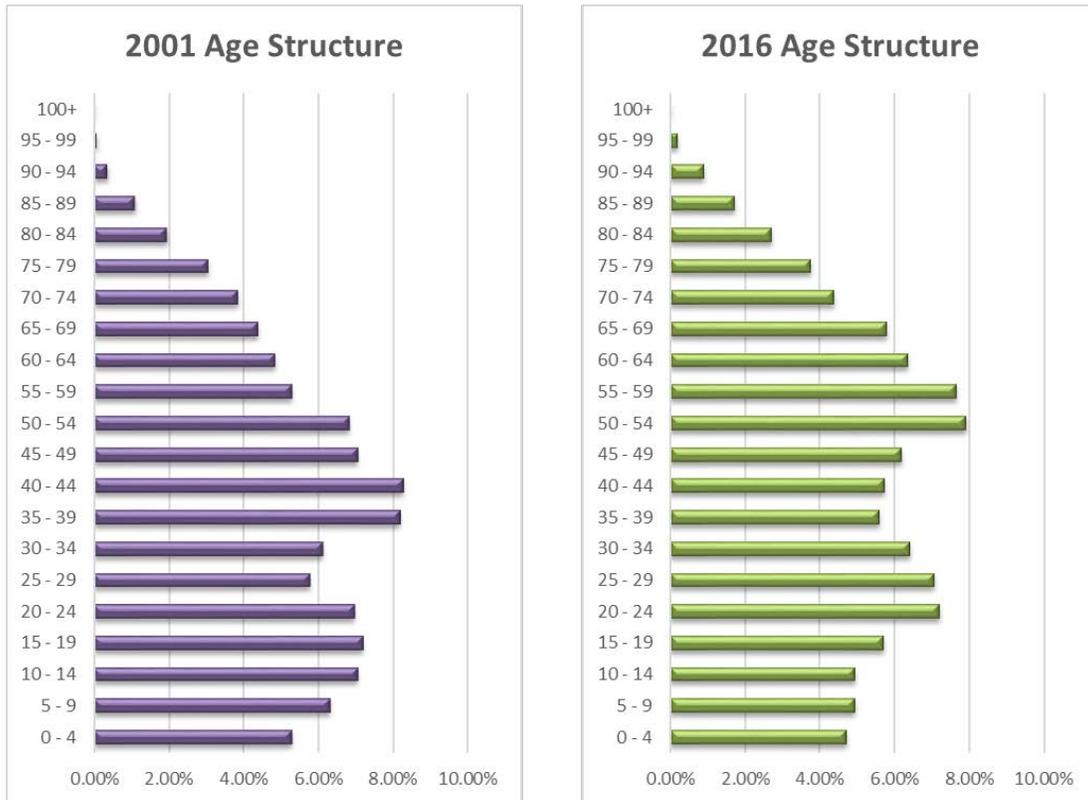


The "bulge" in the population of those in their 50s is the baby-boom population, who will be retiring in large numbers over the coming decade and, following that, will enter into the age of rising mortality rates. The baby-boomers' children, generally referred to as millennials, are shown in the 2016 age structure in their 20s.

This aging population trend in North Bay was initially hastened (relative to other parts of the Province) by historically high levels of out-migration of younger-aged adults to employment and education opportunities elsewhere. The reduced population of those in their 30s and 40s relative to age groups older and younger is largely the result of the out-migration of young adults, mostly leaving in their 20s, over the past 20 years. The fewer adults in these age groups results in the reduced number of children at the bottom of the age "pyramid": fewer women in their 20s and 30s simply means fewer children. All of these factors contribute to an older average age relative to the Provincial average and to other communities in Ontario that have had more growth and been the recipients of the out-migrating young adults from Northern Ontario. An older population has numerous effects on housing demand,

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labour force and residential and employment growth prospects that affect the long-term outlook for North Bay.

The out-migration from of 25–29 and 30–34 age cohorts during the 2011 – 2016 period is the main cause of the recent population decline (see Figure 7). For those in their early 20s, the temptation for out-migration is reduced by post-secondary opportunities in North Bay, as well as the balancing effect of in-migrants taking up educational opportunities. This out-migration pattern is significant as the migration patterns of young adults are a good indicator of perceived confidence in the economic opportunity in the community. In addition, the more young adults that stay in the City will lead to a higher number of births, thus adding to growth.

**Figure 7**

Net Migration by Age, 2011 - 2016
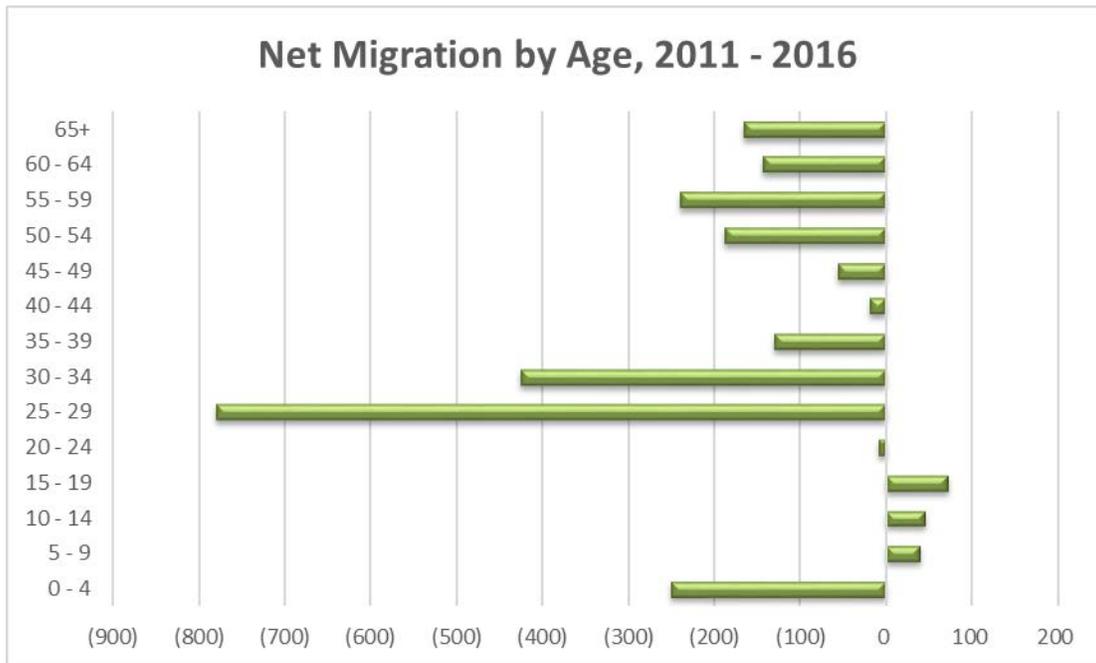
The next section of the report contains a summary of the forecast method and assumptions.

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## II  POPULATION AND EMPLOYMENT FORECAST METHOD AND KEY ASSUMPTIONS

The forecasts prepared for North Bay have been developed consistent with the well-established method used in prior forecasts for the City and those prepared by Hemson for municipalities throughout and for the Province.

### A.  FORECAST METHOD IS WELL ESTABLISHED

The forecast methodology is displayed graphically in Figure 8.

**Figure 8**
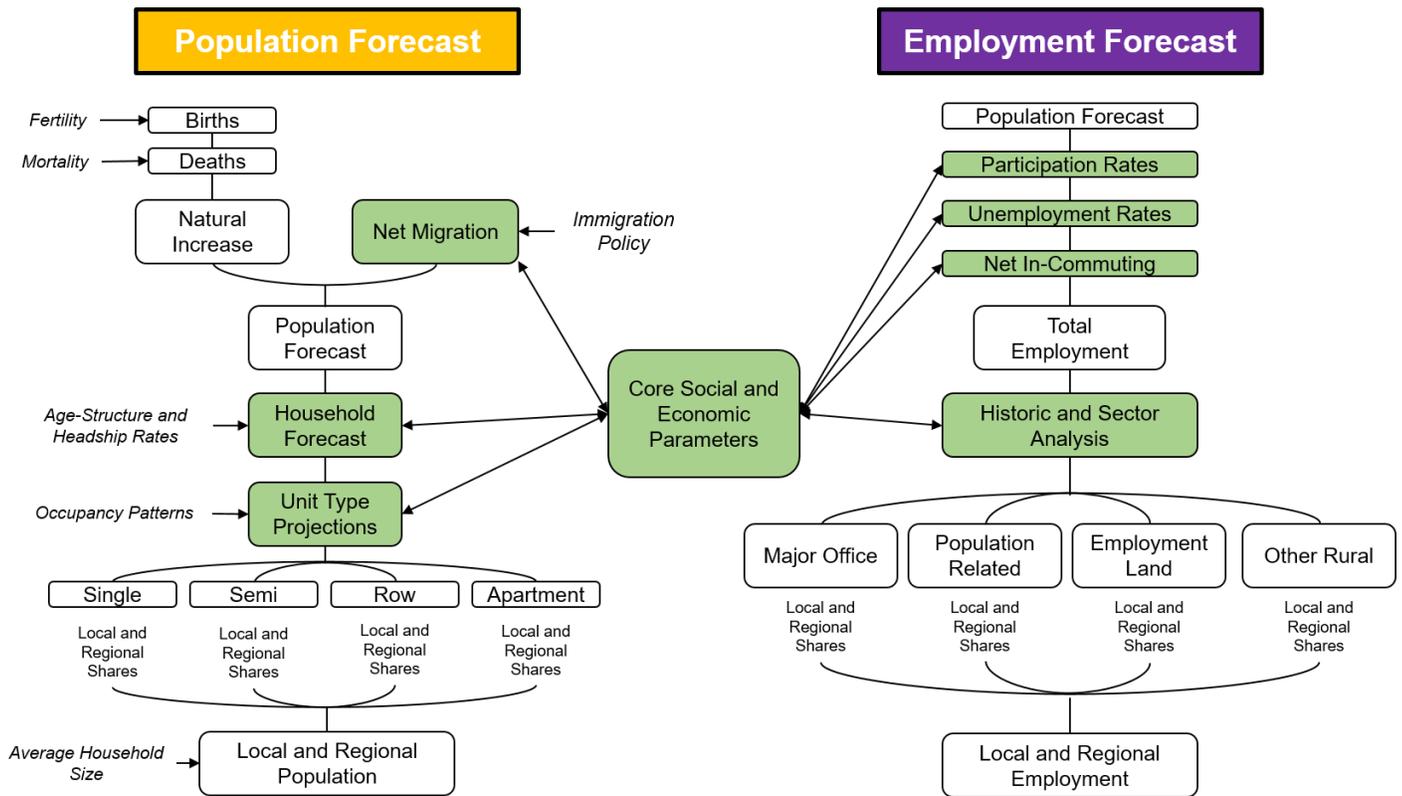


The population forecast is based on a standard cohort-survival model that incorporates assumptions about fertility, mortality and migration. The population change results from two processes: natural increase and net migration.

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The cohort survival model is structured using five-year age groups (cohorts) from 0-4 to 95-100 and 100+. Age and sex-specific fertility, mortality and migration rates are then applied to the 2016 base population cohorts in five-year increments corresponding to Census years out to 2046 to generate results.

Population figures in the forecasts include Census net undercoverage.[3]

The employment forecast is driven by the population forecast, by applying age-specific labour force participation rates to the population forecast and adjusting for unemployment. The core economic and social parameters, visualized in the centre of the forecast method graphic above, encapsulate a range of forecast assumptions discussed in the previous section, which underpin the long-range expectations for growth in North Bay.

## 1. Natural Increase

Natural increase is the difference between the number of births and the number of deaths in a population over a forecast period. To project the number of births and deaths, assumptions about future fertility rates by age of mother and mortality by age and sex are applied to yield the number of births and deaths in each cohort.

- Fertility rates measure the average number of children born per woman by the age of mother in a given year. They are usually expressed as the total fertility rate, which represents the average number of children to be born to a woman if current fertility rates prevail over her reproductive life. A slight increase in fertility rates over time is assumed for North Bay. This is consistent with the recent Ontario trend.

- Life expectancy has risen more rapidly than anticipated and the life expectancy gap between men and women is narrowing. The increase in life expectancy is largely attributable to seniors becoming healthier and to improved medical treatment. In line with the recent national and provincial trends, life expectancy is forecast to increase slightly over the period to 2046 and will contribute to higher population.

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[3] Two types of error can occur when conducting the Census. Some people who should be enumerated might be missed (undercoverage), while some others may be counted more than once (overcoverage). The former is, by and large, the larger error, and hence the difference between these two errors is called "net undercoverage". At some point after the release of Census data, Statistics Canada will release an estimate of the rate of net undercoverage. Applying this rate to the Census Population as released yields an estimate of the Total Population.

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## 2. Migration

Net migration represents the cumulative result of all migration movements in and out of an area. Net migration is the key component of the forecasts as most growth in North Bay arises from migration and there is a close correlation between migration and employment opportunity. The three major components of migration are international, inter-provincial, and intra-provincial.

- International migration is the movement of people between Canada and other countries. International migration comprises: permanent immigration, or those people migrating from other countries with the intention of settling permanently in Canada; emigration, or those people leaving Canada with the intention of permanently settling in another country or temporarily living abroad (these statistics deduct Canadians who previously emigrated and then have moved back to Canada); and non-permanent residents, or those people who have come to Canada with a status other than as landed immigrants (those on student, work or other special visas and refugee claimants awaiting a hearing on their status). There is little net international migration to North Bay.

- Inter-provincial migration is the movement of people between Canadian provinces. Inter-provincial migration has two components: those leaving Ontario to live in another province; and those entering from another province to live in Ontario. There was significant net inter-provincial out-migration from parts of Ontario from just before the 2008-09 recession until 2016, mainly to western Canada. Declines in the oil sector are the primary reason for the recent reversal of the trend.

- Intra-provincial migration is defined as the movement of people within Ontario between Census Divisions. Intra-provincial migration also has two components: an in-migration movement to North Bay and an out-migration movement from the City. There is a longstanding pattern of movement from rural areas in northern Ontario to urban centres that is expected to continue to be a steady source of population growth in North Bay over the forecast period.

The reference forecast scenario is predicated on a shift to net in-migration to the City, reversing the significant net out-migration of the 2011 to 2016 period of about 400 per year. The reference forecast is based on annual net in migration averaging about 150 persons per year. This assumption is supported by recent trends—annual net in-migration for the District of Nipissing has been 1,000 for the year 2016-2017 and 560 for the year 2017-2018. Importantly, more than half of the net in-migration in the last two years has been intra-provincial.

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The age structure of the migrant population is shown below in Figure 9. While net out-migration of young adults is still shown, it is at much lower rates than has been the case over the past 25 years. The pattern of some net out-migration of these age groups from nearly all of Ontario, mainly to the Toronto and Ottawa areas, is likely too entrenched to be fully reversed. The relatively higher number of young adults and their children will be the main driver behind future population growth in North Bay.

**Figure 9**



Net Migration by Age, 2016 - 2046 (annual)
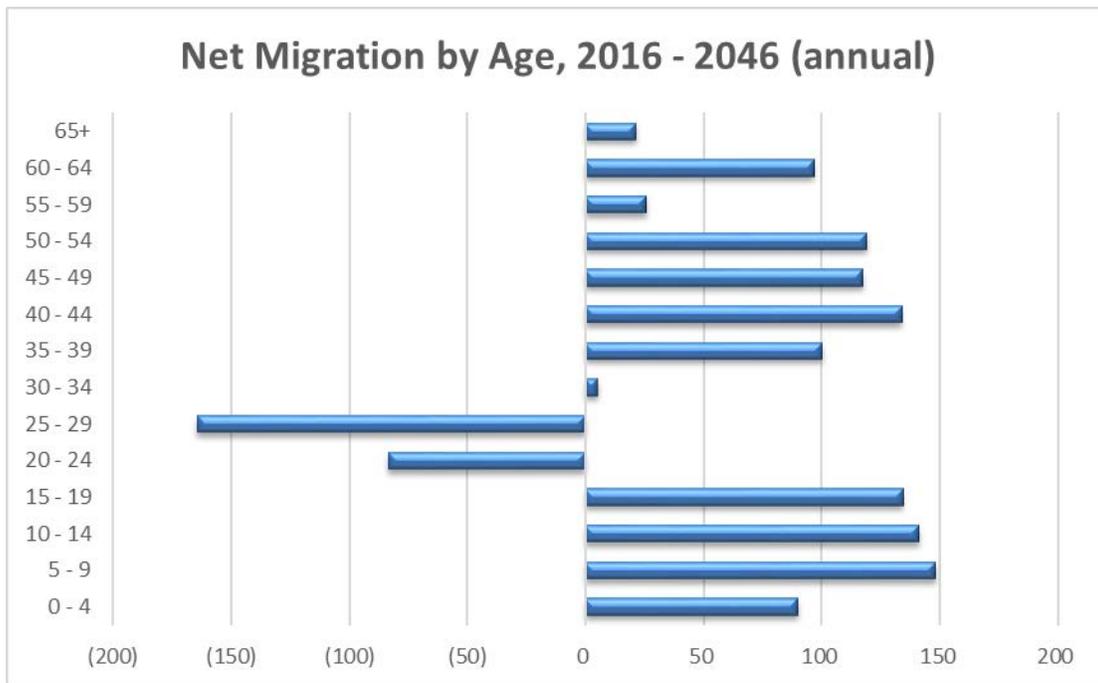
The resulting forecast populations for each of the reference, low and high forecasts are provided in the next chapter of the report.

## 3.   Age Structure and Housing Demand

The forecast age structure of the population is an important driver for the housing and the employment forecasts. The 2046 age structure for the reference scenario is shown in Figure 10. The pyramid indicates how the population is aging. Compared to 2016, the large age group in its 50s is now in its 80s, with many more elderly people than in 2016. At the same time, millennials in their 20s in 2016 are now the peak population age group in their 50s. The relatively smoother structure of the population under 50 is the result of the forecast of migration over the period to 2046.

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**Figure 10 – Reference Forecast Population Age Structure**
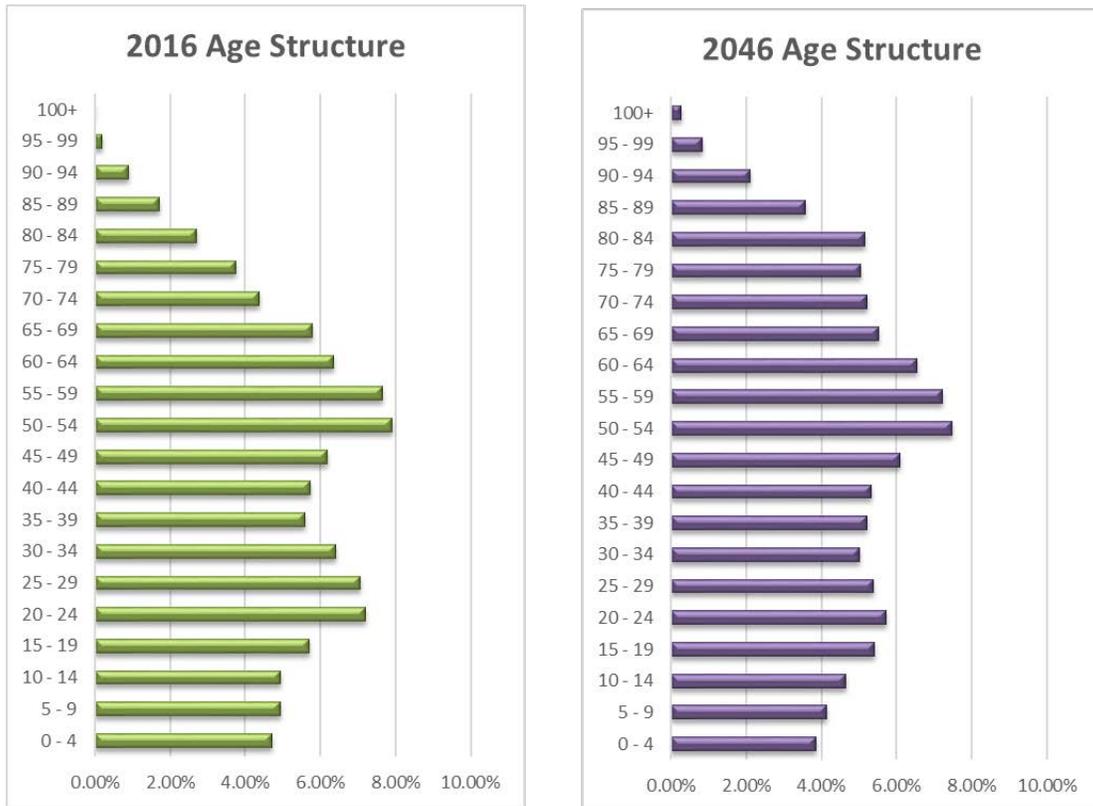


In the next step in the forecast method, the City's population forecast is translated into a forecast of households. The household forecast is then converted into a forecast of housing units by type based on unit type preference by age of primary household maintainer. Four unit types are used—single-detached, semi-detached, rowhouse, and apartment—based on Census definitions.

The outlook for housing continues to be strongly tied to this aging population trend. An older population results in declining household size (persons per unit), which affects housing demand as more units are required to house fewer residents over time. The result is that housing growth will out-pace population growth over the forecast horizon, a pattern that is already occurring in North Bay and other Ontario municipalities.

- The 2011-2016 period witnessed a small increase in the overall rate of household formation in North Bay tied to the aging of the population. It is assumed that household formation will continue to increase over the forecast period in small increments as the population ages.

- As discussed in the previous section, historically the North Bay real estate market has been dominated by a preference for "ground related" housing

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units, mainly single-detached homes, rather than apartments. Based on this longstanding trend and future demographic trends (to the extent that housing preferences are driven in part by age), it is anticipated that the overall preference for ground related housing will continue (see Figure 11).

- The demand for apartments is forecast to remain steady over the period at between 35% and 40% of all housing growth (somewhat higher than the recent trend, recognizing the increasing demand for apartments).

**Figure 11 – Reference Forecast Housing Growth**
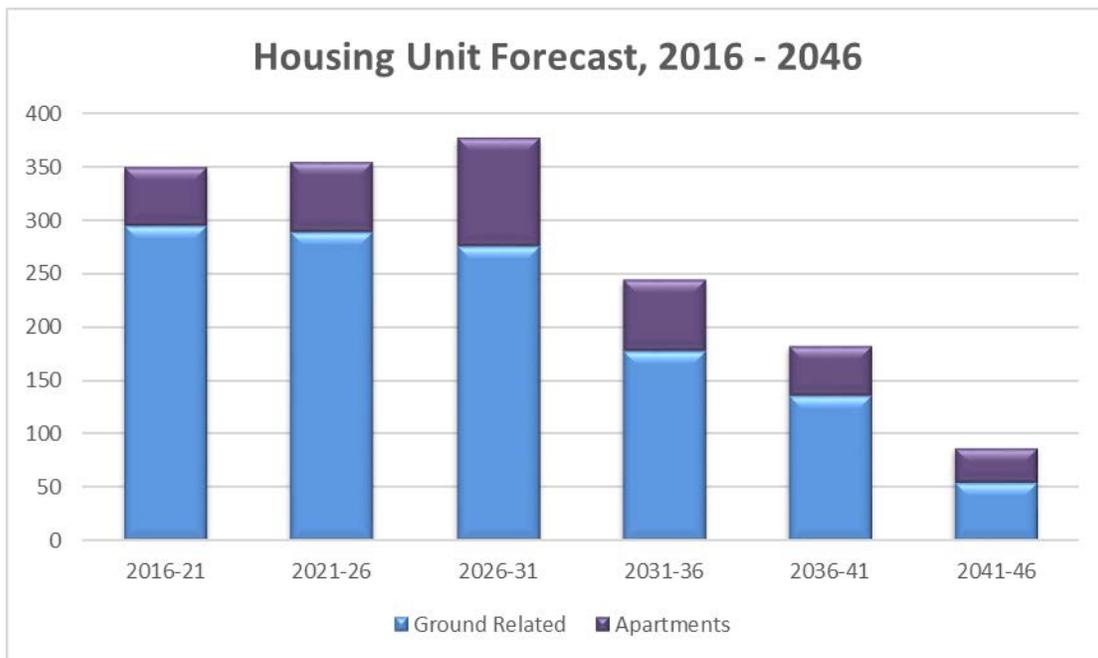


The resulting housing forecasts for each of the reference, low and high forecasts are provided in the next chapter.

## 4. Labour Force and Employment

The forecast method applies three factors to generate the employment forecast from the population forecast:

- participation rates, to derive the labour force from the resident population;

- unemployment rates, to determine what proportion of the resident labour force is employed; and

- net in-commuting, to determine the number of jobs occupied by non-residents through in-commuting and the number of jobs that are lost to other areas through out-commuting.

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The result is a forecast of total employment for the City.

- Participation rates are the share of the total working age population that participates in the labour force (either employed or seeking employment). Labour force participation rates by age are forecast to remain relatively stable except for some increase anticipated among older workers who decide to remain in the work force past what, in the past, had been normal retirement age (Figures 12 and 13). Applying participation rates to the population forecast results in the total labour pool available to fill jobs in the future.

- The aging population trend affects labour force participation, as an older population has relatively fewer working aged residents, which in turn affects the employment growth outlook. The change in overall labour force participation in North Bay between 2011 and 2016—from 59.1% to 56.3%—reflected both the aging population and the reduced job prospects for much of that period. The overall labour force participation will continue to decrease very slowly over the forecast period due to a more elderly population and reduced proportions of population of regular working age.

**Figure 12**



2016 Employed Labour Force Participation Rates

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**Figure 13**



2046 Employed Labour Force Participation Rates
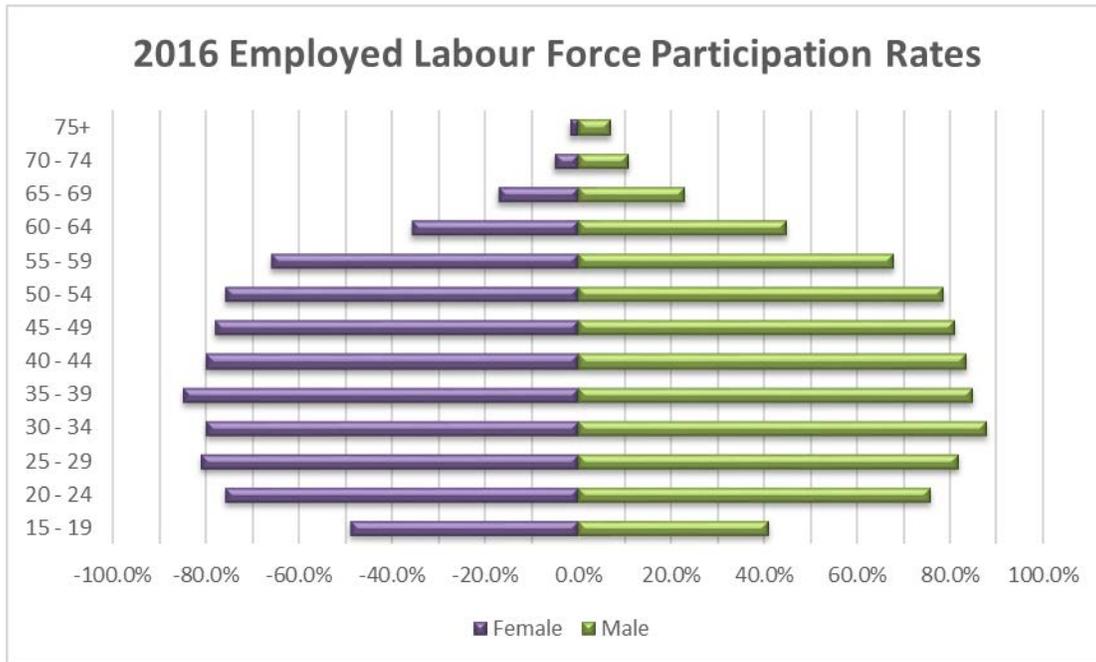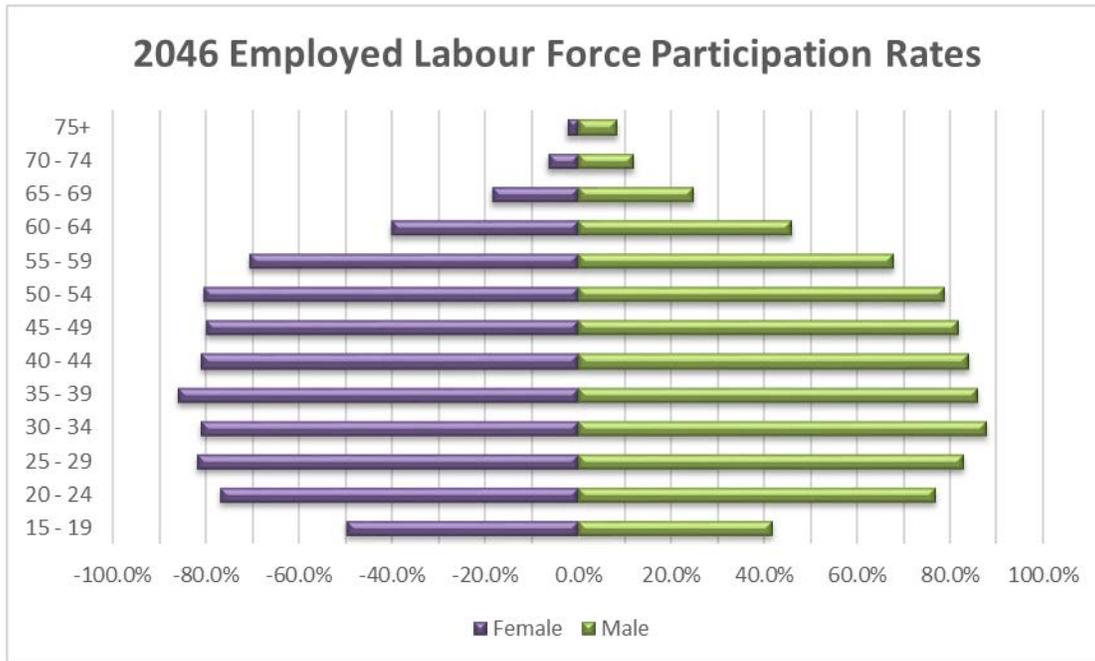
- Unemployment rates account for the portion of the labour force that is not working.[4] Due to definitional differences, the Census unemployment rate used in the forecasts is slightly different from the monthly Labour Force Survey unemployment rate which is more widely reported.[5] The Census unemployment rate in North Bay rose from 8.6% in 2011 to 9.5% in 2016. A steadily decreasing unemployment rate to 5% by 2046 is assumed under the reference scenario.

- Net in-commuting is the number of employees who commute into an area less the number of employees who commute out of that area. It is assumed that the rate of net in-commuting in North Bay (already a very small component of employment) will grow at the same rate as overall employment.

Overall, the City's activity rate (employees divided by population), presently at 57.2%, is anticipated to remain relatively stable over the forecast period, with a small decline to 56.7% by 2046 under the reference scenario. Labour shortages are not expected with employment increasing at a similar rate as population growth.

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[4] Unemployment records those people who report that they are in the labour force but who do not have jobs.

[5] The Labour Force Survey shows that the unemployment rate for the North Bay Census Agglomeration rose from 8.1% in 2011 to 9.4% in 2013, before falling to 6.0% in 2018.

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**5.   Types of Employment**

The employment forecast separates employment into three types:

- Population-related employment is employment that primarily serves a resident population. This category includes retail, education, health care, local government and work-at-home employment and includes the majority of employment in North Bay (about 66% in 2016). The 200 net new jobs associated with the casino are included in this category.

- Employment land employment refers to employment accommodated primarily in low-rise industrial-type buildings, the vast majority of which are located within the City's business parks and industrial areas.

- Rural-based employment refers to agricultural or industrial-type activities scattered throughout the City, but not located on urban land designated for industrial or commercial use. It is not expected to change during the forecast period.

Overall, the forecast assumes stability in the shares of the three types within North Bay.

The resulting housing forecasts for each of the reference, low and high forecasts are provided in the next chapter.

# III THREE FORECAST SCENARIOS HAVE BEEN PREPARED

Analysis of the key social and economic trends underlying the forecasts help to inform the preparation of three forecast scenarios – a low, reference and high – for consideration by City staff. It is our view that the reference scenario represents the most likely outcome considering local and broader demographic and economic factors. As such, it should form the basis of the Development Charges Background Study.

The low and high scenarios are included here to illustrate the sensitivity of long-term growth prospects to changing economic conditions and migration trends. These scenarios are not intended to represent extreme cases of severe economic decline or unprecedented high growth, but rather illustrate growth prospects possible under a set of deliberately aggressive and conservative assumptions about the future economic outlook.

## A.   REFERENCE SCENARIO SHOWS GENERALLY STABLE POPULATION OVER THE FORECAST PERIOD

The reference scenario reflects more recent trends indicating a mitigation of the out-migration of young people, the influence of municipal economic development initiatives, known development proposals (e.g. the casino), and some increase in the service / administrative functions that the City provides the broader region. The key assumptions are:

- Growth will generally follow historical trends, except for the net migration.

- Accounts for recent building permit activity or housing completions or conversions.

- Migration levels rise from the longer term trend and reverse the significant out-migration experienced from 2011 to 2016. In this scenario, there is total net in-migration of about 150 people per year. However, within the age structure of migrants, as noted in the previous section, there is still anticipated to be some net out-migration of young adults.

- Aging population is somewhat balanced by the reduced departure of young adults.

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- 200 net new jobs are assumed for the casino during the 2021-2026 period over and above the initial forecast of jobs based on participation rates, unemployment rates and net in-commuting.

The following tables provide the population, housing and employment forecasts for North Bay under the reference scenario.

**Table 4a**

| North Bay City-wide Population, Housing and Employment Reference Scenario | | | |
|---|---|---|---|
| Year | Population | Housing | Employment |
| 2001 | 54,770 | 21,400 | 30,110 |
| 2006 | 55,910 | 22,590 | 30,850 |
| 2011 | 55,440 | 23,250 | 32,950 |
| 2016 | 53,300 | 22,590 | 29,480 |
| 2021 | 53,610 | 22,940 | 29,570 |
| 2026 | 53,820 | 23,290 | 29,590 |
| 2031 | 53,870 | 23,670 | 29,480 |
| 2036 | 53,790 | 23,920 | 29,460 |
| 2041 | 53,340 | 24,100 | 29,310 |
| 2046 | 52,620 | 24,190 | 29,070 |
| *Growth* | | | |
| *2016-31* | 570 | 1,080 | 0 |
| *2016-46* | -680 | 1,600 | -410 |

**Table 4b**

| *5-Year Growth* | | | |
|---|---|---|---|
| Year | Population | Housing | Employment |
| 2001–2006 | 1,140 | 1,190 | 740 |
| 2006–2011 | -470 | 660 | 2,100 |
| 2011–2016 | -2,140 | -660 | -3,470 |
| 2016–2021 | 310 | 350 | 90 |
| 2021–2026 | 210 | 350 | 20 |
| 2026–2031 | 50 | 380 | -110 |
| 2031–2036 | -80 | 250 | -20 |
| 2036–2041 | -450 | 180 | -150 |
| 2041–2046 | -720 | 90 | -240 |

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**Table 4c**

| North Bay City-wide Housing by Type Forecast Reference Scenario | | | | |
|---|---|---|---|---|
| Year | Single/Semi | Rowhouses | Apartments | Total Housing |
| 2011 | 13,520 | 1,890 | 7,850 | 23,250 |
| 2016 | 13,420 | 1,790 | 7,420 | 22,590 |
| 2021 | 13,670 | 1,840 | 7,470 | 22,940 |
| 2026 | 13,900 | 1,890 | 7,530 | 23,290 |
| 2031 | 14,130 | 1,940 | 7,640 | 23,670 |
| 2036 | 14,280 | 1,970 | 7,700 | 23,920 |
| 2041 | 14,390 | 1,990 | 7,750 | 24,100 |
| 2046 | 14,440 | 2,000 | 7,780 | 24,190 |
| *Growth* | | | | |
| *2016-31* | 710 | 150 | 220 | 1,080 |
| *2016-46* | 1,020 | 210 | 360 | 1,600 |

**Table 4d**

| North Bay City-wide Employment by Type Forecast Reference Scenario | | | | |
|---|---|---|---|---|
| Year | Population-Related | Employment Land | Other Rural | Total Employment |
| 2011 | 20,110 | 9,080 | 3,760 | 32,950 |
| 2016 | 19,380 | 8,700 | 1,400 | 29,480 |
| 2021 | 19,450 | 8,720 | 1,400 | 29,570 |
| 2026 | 19,630 | 8,560 | 1,400 | 29,590 |
| 2031 | 19,620 | 8,460 | 1,400 | 29,480 |
| 2036 | 19,610 | 8,460 | 1,400 | 29,470 |
| 2041 | 19,510 | 8,400 | 1,400 | 29,310 |
| 2046 | 19,370 | 8,290 | 1,400 | 29,060 |
| *Growth* | | | | |
| *2016-31* | 240 | -240 | 0 | 0 |
| *2016-46* | -10 | -410 | 0 | -420 |

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**B.   LOW SCENARIO SUGGESTS SMALL DECLINES IN POPULATION TO 2036 AND THEN MORE SIGNIFICANT DECLINES TO 2046 DUE TO AGING POPULATION**

The low scenario illustrates the result for the City of maintaining an essentially flat overall net migration for the forecast period. Near zero net migration still represents a reversal of the 2011-2016 period of significant net out migration. However, given the purpose of these forecasts is to inform long-term planning and growth management, a scenario predicated on substantial population decline and corresponding housing vacancies is, for now, premature.

All other assumptions in the low forecast scenario have been held the same. The result is small declines in the population for the first 20 years, followed by a more rapid decline as the baby boom population reaches high mortality age groups in the 2030s and 2040s. Overall, the low scenario results in similar population decline over the next 30 years that has been seen over the last 30 years.

As part of the low scenario, we have not included 200 net new jobs that have been assumed for the casino in the other scenarios.

The following tables provide the population, housing and employment forecasts for North Bay under the low scenario.

**Table 5a**

| North Bay City-wide Population, Housing and Employment Low Scenario | | | |
|---|---|---|---|
| Year | Population | Housing | Employment |
| 2001 | 54,770 | 21,400 | 30,110 |
| 2006 | 55,910 | 22,590 | 30,850 |
| 2011 | 55,440 | 23,250 | 32,950 |
| 2016 | 53,300 | 22,590 | 29,480 |
| 2021 | 53,290 | 22,800 | 29,320 |
| 2026 | 52,990 | 22,910 | 28,880 |
| 2031 | 52,340 | 22,990 | 28,510 |
| 2036 | 51,370 | 23,040 | 28,170 |
| 2041 | 50,030 | 22,940 | 27,680 |
| 2046 | 48,410 | 22,670 | 27,090 |
| *Growth* | | | |
| *2016-31* | -960 | 400 | -970 |
| *2016-46* | -4,890 | 80 | -2,390 |

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**Table 5b**

| 5-Year Growth | | | |
|---|---|---|---|
| Year | Population | Housing | Employment |
| 2001–2006 | 1,140 | 1,190 | 740 |
| 2006–2011 | -470 | 660 | 2,100 |
| 2011–2016 | -2,140 | -660 | -3,470 |
| 2016–2021 | -10 | 210 | -160 |
| 2021–2026 | -300 | 110 | -440 |
| 2026–2031 | -650 | 80 | -370 |
| 2031–2036 | -970 | 50 | -340 |
| 2036-2041 | -1,340 | -100 | -490 |
| 2041-2046 | -1,620 | -270 | -590 |

**Table 5c**

| North Bay City-wide Housing by Type Forecast Low Scenario | | | | |
|---|---|---|---|---|
| Year | Single/Semi | Rowhouses | Apartments | Total Housing |
| 2011 | 13,520 | 1,890 | 7,850 | 23,250 |
| 2016 | 13,420 | 1,790 | 7,420 | 22,590 |
| 2021 | 13,510 | 1,810 | 7,510 | 22,800 |
| 2026 | 13,560 | 1,820 | 7,560 | 22,910 |
| 2031 | 13,600 | 1,830 | 7,590 | 22,990 |
| 2036 | 13,620 | 1,840 | 7,620 | 23,040 |
| 2041 | 13,520 | 1,830 | 7,620 | 22,940 |
| 2046 | 13,340 | 1,810 | 7,550 | 22,670 |
| *Growth* | | | | |
| *2016-31* | 180 | 40 | 170 | 400 |
| *2016-46* | -80 | 20 | 130 | 80 |

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| North Bay City-wide Employment by Type Forecast<br>Low Scenario | | | | |
|---|---|---|---|---|
| Year | Population-<br>Related | Employment<br>Land | Other<br>Rural | Total<br>Employment |
| 2011 | 20,110 | 9,080 | 3,760 | 32,950 |
| 2016 | 19,380 | 8,700 | 1,400 | 29,480 |
| 2021 | 19,330 | 8,590 | 1,400 | 29,320 |
| 2026 | 19,200 | 8,280 | 1,400 | 28,880 |
| 2031 | 19,030 | 8,080 | 1,400 | 28,510 |
| 2036 | 18,820 | 7,950 | 1,400 | 28,170 |
| 2041 | 18,540 | 7,740 | 1,400 | 27,680 |
| 2046 | 18,200 | 7,490 | 1,400 | 27,090 |
| *Growth* | | | | |
| *2016-31* | -350 | -620 | 0 | -970 |
| *2016-46* | -1,180 | -1,210 | 0 | -2,390 |

## C.   HIGH SCENARIO RESULTS IN GROWTH TO 56,000 POPULATION BY 2046

The high scenario was developed to test the effects of significant changes to economic opportunities, which would lead to reduced out-migration of young adults and higher in-migration for most other ages. Greater economic opportunity in North Bay would arise from:

- Some success of City Council initiatives to pursue growth initiatives;

- Continued development of economic activity such as arts, culture and creative industries, the digital economy, mining supply and services, and transportation, aviation, and aerospace industries;

- Investment in major infrastructure by senior levels of government;

- Development of key "one-off" employment drivers. Net in-migration of about 250 people per year over the forecast is applied in this scenario, resulting in population growth of about 3,000 by 2046; and

- 200 net new jobs are assumed for the casino during the 2021-2026 period over and above the initial forecast of jobs based on participation rates, unemployment rates and net in-commuting.

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The following tables provide the population, housing and employment forecasts for North Bay under the high scenario.

**Table 6a**

| North Bay City-wide Population, Housing and Employment High Scenario | | | |
|---|---|---|---|
| **Year** | **Population** | **Housing** | **Employment** |
| 2001 | 54,770 | 21,400 | 30,110 |
| 2006 | 55,910 | 22,590 | 30,850 |
| 2011 | 55,440 | 23,250 | 32,950 |
| 2016 | 53,300 | 22,590 | 29,480 |
| 2021 | 54,140 | 23,210 | 29,820 |
| 2026 | 54,980 | 23,820 | 30,160 |
| 2031 | 55,670 | 24,340 | 30,340 |
| 2036 | 56,110 | 24,730 | 30,580 |
| 2041 | 56,200 | 24,890 | 30,660 |
| 2046 | 56,040 | 25,010 | 30,670 |
| *Growth* | | | |
| *2016-31* | 2,370 | 1,750 | 860 |
| *2016-46* | 2,740 | 2,420 | 1,190 |

**Table 6b**

| *5-Year Growth* | | | |
|---|---|---|---|
| **Year** | **Population** | **Housing** | **Employment** |
| 2001–2006 | 1,140 | 1,190 | 740 |
| 2006–2011 | -470 | 660 | 2,100 |
| 2011–2016 | -2,140 | -660 | -3,470 |
| 2016–2021 | 840 | 620 | 340 |
| 2021–2026 | 840 | 610 | 340 |
| 2026–2031 | 690 | 520 | 180 |
| 2031–2036 | 440 | 390 | 240 |
| 2036–2041 | 90 | 160 | 80 |
| 2041–2046 | -160 | 120 | 10 |

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**Table 6c**

| North Bay City-wide Housing by Type Forecast<br>High Scenario | | | | |
|---|---|---|---|---|
| Year | Single/Semi | Rowhouses | Apartments | Total Housing |
| 2011 | 13,520 | 1,890 | 7,850 | 23,250 |
| 2016 | 13,420 | 1,790 | 7,420 | 22,590 |
| 2021 | 13,800 | 1,870 | 7,580 | 23,210 |
| 2026 | 14,170 | 1,950 | 7,730 | 23,820 |
| 2031 | 14,480 | 2,020 | 7,870 | 24,340 |
| 2036 | 14,700 | 2,070 | 7,990 | 24,730 |
| 2041 | 14,810 | 2,090 | 8,020 | 24,890 |
| 2046 | 14,880 | 2,100 | 8,060 | 25,010 |
| *Growth* | | | | |
| *2016-31* | 1,060 | 230 | 450 | 1,750 |
| *2016-46* | 1,460 | 310 | 640 | 2,420 |

**Table 6d**

| North Bay City-wide Employment by Type Forecast<br>High Scenario | | | | |
|---|---|---|---|---|
| Year | Population-Related | Employment Land | Other Rural | Total Employment |
| 2011 | 20,110 | 9,080 | 3,760 | 32,950 |
| 2016 | 19,380 | 8,700 | 1,400 | 29,480 |
| 2021 | 19,580 | 8,840 | 1,400 | 29,820 |
| 2026 | 19,910 | 8,850 | 1,400 | 30,160 |
| 2031 | 20,040 | 8,900 | 1,400 | 30,340 |
| 2036 | 20,150 | 9,020 | 1,400 | 30,570 |
| 2041 | 20,180 | 9,080 | 1,400 | 30,660 |
| 2046 | 20,160 | 9,110 | 1,400 | 30,670 |
| *Growth* | | | | |
| *2016-31* | 660 | 200 | 0 | 860 |
| *2016-46* | 780 | 410 | 0 | 1,190 |

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