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For Information Only

Population, Household and Employment Land Projections for the City of Greater Sudbury

Recommendation

For information only.

Background:

The City of Greater Sudbury is conducting a five year review of its Official Plan (the review), as required by the *Planning Act*. The review was launched in January, 2012.

Several key background studies have been initiated to support the review, including a Population, Household and Employment Forecast. The City of Greater Sudbury retained Hemson Consulting Ltd. to assist with this work.

Discussion:

The draft Population, Household and Employment Forecast (the draft forecast) examines how we may grow and change from 2011 to 2036 at a city-wide and community level.

The draft forecast is rooted in a positive growth outlook for Greater Sudbury and based on three factors that will influence how we grow and change in the next 25 years.

1. While the central place functions provide economic stability, future variability in growth will still be tied to the mining sector.
2. Shifting patterns of fertility and mortality rates in Ontario will effect growth in Greater Sudbury.
3. The age structure of the population will have a wide range of effects on how Greater Sudbury grows.

The draft forecast provides two scenarios: one of a relatively stable employment base supported by modest growth in new opportunities, similar to the past decade; and, a more optimistic outlook based on expansion in the mining sector in Northern Ontario, supported by the service and industrial base in Greater Sudbury.

These scenarios are fully described in the report from Hemson Consulting, which is included in Attachment A and Attachment B.

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Conclusion and Next Steps:

The draft forecast provides a reasonable range of potential growth for the purposes of the review. The draft forecast will be considered in the next stage of analysis associated with the growth and settlement component of the review. It is anticipated that the result of this next stage will be presented to the Planning Committee in June.

GROWTH OUTLOOK TO 2036

City of Greater Sudbury

DRAFT

HEMSON Consulting Ltd.

May 2013

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EXECUTIVE SUMMARY

In the next 25 years, the City of Greater Sudbury is expected to continue to see growth in its population. The amount of the population growth, however, will depend on the level of economic growth and its related employment growth. Based on renewed investment in Northern Ontario's extractive industries and related services, the forecast provides two scenarios: one of a relatively stable employment base supported by modest growth in new opportunities, similar to the past decade, and a more optimistic outlook based on expansion in the mining sector in Northern Ontario, supported by the service and industrial base in Greater Sudbury. The two scenarios were prepared to provide the City with a reasonable range of potential growth. One or the other of the scenarios may be used for analysis or policy making depending on the purpose, though applications of the forecast with financial implications and financial planning itself would typically be best served with a more conservative forecast.

This growth forecast prepared by Hemson Consulting Ltd. is input to the review of the official plan and projects the number of people and jobs to be expected over the 25-year period from the Census year base of 2011 to the planning horizon of 2036. The forecasts also estimate much housing might be required to accommodate those people as well as the number of jobs that may need to be accommodated in employment areas.

A summary of the results of the two forecast scenarios is provided in Table 1. In both scenarios Greater Sudbury is forecast, by the earlier 2020s, to return to its historic high population of nearly 174,000¹ reached in 1971.

¹ All population figures in this report are shown as total population including Census net under-coverage. Census net under-coverage (the people missed by the Census) has varied between 2.5% and 3.6% of the population over the past 25 years. In comparing population figures between any two sources, the reader needs to be aware of whether the population includes the Census net under-coverage or not. The 174,000 peak population figure for 1971 is based on a Census population of 169,600 plus a 2.5% net under-coverage.

Table 1

City of Greater Sudbury Forecast Population and Employment				
	Reference Scenario		High Scenario	
	Population	Employment	Population	Employment
2001	161,100	71,300	161,100	71,300
2006	163,800	76,900	163,800	76,900
2011	166,300	80,700	166,300	80,700
2016	169,000	81,900	170,600	82,700
2021	171,800	82,100	175,700	84,400
2026	174,400	82,400	180,500	85,800
2031	175,900	82,600	185,000	87,800
2036	176,800	82,900	188,300	89,300
Growth 2011-2036	10,500	2,200	22,000	8,600
Growth 2011-2036 (%)	6.3%	2.7%	13.2%	10.7%

One of the key features of Greater Sudbury's demographics is that there is a disproportionately large population of people between 45 and 65. As these people retire over the next 20 years, there are insufficient numbers of younger people to replace them in the labour force. This means that the City will need to attract new migrants of working age just to maintain the current level of employment. And, the new migrants will contribute to population growth. It is for this reason that in the following table population is growing at a much faster rate than employment. Greater Sudbury's unique population age structure will also affect the housing market in the City in coming decades resulting in increased demand for medium- and higher-density housing units compared to recent decades.

I INTRODUCTION AND PURPOSE

The City of Greater Sudbury is in the process of reviewing and updating its official plan. One of the key components of the review is an update of the long-term growth outlook as summarized in this report.

This comprehensive review and examination of the long-term growth outlook are required to ensure that the municipality can respond to future demands on services and proactively plan to direct and design new development to best support the character and identity of its unique communities. The forecasts are a critical foundation for the City's long-term infrastructure planning and financing work, including the upcoming development charges review. In this report, we address the questions of: How many people will live in the city? How old will they be? What parts of the city will they live in? and, What types of housing will they need? The official plan will establish a vision for the City for the next 20+ years and this forecast supports the creation of that vision.

Following this introduction, the report is organized in two sections: the first describes the basis for the forecast from an economic and demographic perspective and the second provides the key assumptions and results for the two forecast scenarios.

II POSITIVE GROWTH OUTLOOK FOR GREATER SUDBURY

This chapter provides the growth outlook for Greater Sudbury as the foundation for the specific forecast assumptions described in the next chapter. It begins with a discussion of the basic economic outlook for the City and is followed by a description of some key economic and demographic factors that need to be considered in preparing the specific forecast.

A. GREATER SUDBURY'S "CENTRAL PLACE" ROLE IN NORTHERN ONTARIO AS WELL AS THE RESOURCE ECONOMY IS BASIS FOR FUTURE GROWTH

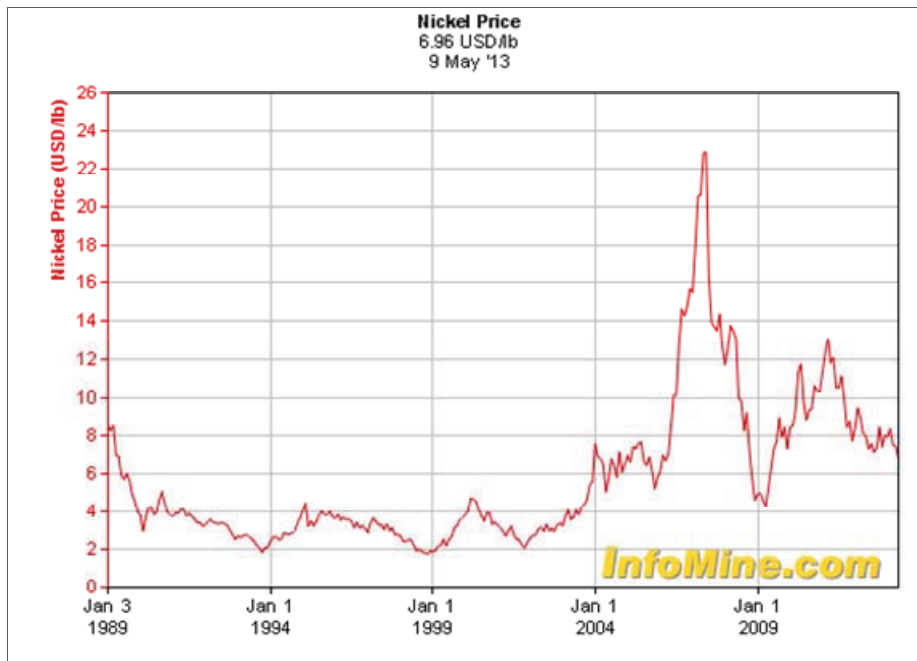
From its beginnings as a railway town, the foundations of the City of Greater Sudbury are literally the enormous nickel deposits lying beneath the community which in turn led to the establishment of the City's mining and smelting industry. Two companies, INCO and Falconbridge, employed tens of thousands of the City's residents and their activities supported many thousands of other jobs. This drew residents to the City and the surrounding district such that in the late 1960s the population of what is now the City of Greater Sudbury reached nearly 175,000 people. This peak was followed by a period of about 30 years during which employment in the mining and smelting industry steadily declined as technologies changed and nickel prices stayed low. The population of the City declined by about 20,000 people from 1971 until its 1986 low point. While this change was underway in Greater Sudbury, Ontario's population grew by about 48% between 1971 and 2001.

Over the same period, Sudbury's economy underwent a considerable change as the City's civic leadership worked to reduce dependency on the mining industry. Today, mining still remains a crucial part of the economy accounting for about 6,000 jobs directly with the mining companies and about 10,000 additional jobs in mining-related services supporting both the Greater Sudbury area and the hard-rock mining sector of Northern Ontario and beyond. In recent decades, Sudbury has also become the regional hub for Northeastern Ontario and its economy is now far more stable

with its large role in health, education and public administration. It is also a centre for commercial and retail activities. The City continues to build this role with much improved transportation links as a result of four-lane work on Highway 69 and additional airline service.

The long period of little or no population growth ended in the early 2000s with the City adding over 5,000 population from 2001 to 2011. This change coincided with the turnaround in commodity prices that was spurred especially by growth in China. Exhibit 1 shows the effect on nickel prices. While conditions in the nickel mining industry will no doubt ebb and flow over the coming years as global demand, supply and prices fluctuate, as long as the Chinese and Indian economies continue to grow there is good reason to anticipate that Sudbury will do well.

Exhibit 1



More generally, there are additional growth prospects for Sudbury emanating from the mineral potential of the so-called Ring of Fire west of James Bay. Even when economic and mining conditions are favourable, shutdowns or consolidations may occur in response to operational factors. It is for reasons such as this that the forecasts and planning responses to this exercise must be flexible.

Aside from the economic factors discussed above, changing demographic conditions are likely to have an important influence on Greater Sudbury's population, especially in the next decade or two as the baby boom generation enters the retirement phase. A number of competing factors will be at work. Perhaps the most significant of these is the influence of population growth likely to occur as companies attract new employees to replace those who are retiring. Assuming, as is reasonable, that most retirees will remain in Sudbury, there will be some population growth. A third factor which could also affect growth is the ongoing substitution of labour with capital in the form of smart manufacturing equipment. This and other productivity measures could absorb some of the employment opportunities that otherwise have arisen. One final factor to be considered is the increase in demand for services, particularly in the healthcare sector that will arise given the City's aging population and its provision of specialized health services to all of Northeastern Ontario.

It is with economic and demographic factors discussed above in mind that the forecast has been prepared.

B. KEY FACTORS THAT SHAPE GREATER SUDBURY'S GROWTH OUTLOOK

With the general economic and demographic outlook established above, there are three more specific factors that need to be understood in considering the growth in Greater Sudbury over the next 25 years.

1. While the Central Place Functions Provide Economic Stability, Future Variability in Growth Will Still Be Tied to the Mining Sector

The central place functions of the increasingly well-established Greater Sudbury economy, coupled with the resurgence in mining, have led to a growth of about 13% in employment over the decade from 2001 to 2011. Reversing the declines in employment of the previous 25 years is an important step forward for the City's

economic health. What is also interesting is that labour force growth mostly came from increased labour force participation in the existing population.

During the same period that employment grew by 13%, the population only grew by just over 3%. The reason this was possible is that there was a significant potential for employment growth out of the existing population due to relatively low rates of labour force participation and relatively high rates of unemployment. During the 2000s, the growth in labour force was able to be provided out of the existing population. However, now that labour force participation and unemployment have returned to more normal levels, future growth in employment will not be able to be provided so easily from the existing population. This means that growth in employment from now on will increasingly generate net in-migration to Greater Sudbury. That is, future job growth in Greater Sudbury will need to attract new population to the community. This is a significant change in the economic life of the City compared to recent decades.

With the population growth outlook now more closely tied to the growth in employment opportunities in the City, the prospects for the City's two primary economic drivers are the drivers for population growth. As noted above, the central place functions in Greater Sudbury's economy have provided a welcome stability to the employment base. But, in being stable, these sectors will not be the source of rapid employment growth at any time. As a result, the variable element of Greater Sudbury's economic outlook rests with the mining sector. The two scenarios of growth described in the following chapter are essentially the result of a conservative outlook for employment in the mining-related sectors versus a more aggressive growth outlook.

2. Shifting Patterns in Fertility and Mortality Rates in Ontario Will Effect Growth in Greater Sudbury

Until recently, demographic forecasts in Ontario and elsewhere had been founded on two notions related to fertility and mortality: fertility rates would remain low and stable into the future and the rapid declines in mortality rates experienced in recent decades would moderate significantly in the future. These outlooks have now been revised by most forecasters including the Ontario Ministry of Finance and Hemson. The apparent decline in fertility rates in the late 1990s and early 2000s turned out to not be an overall decline but rather the statistical effect of women delaying the age of childbirth. It also appears that there has been a small increase in overall fertility as well. As a result, fertility rates have been revised upwards from previous expectations meaning more births and more children over the forecast period.

Mortality rates have been in steady decline for decades as a result of better public health and safety and continued advances in medical care. Forecasts prepared over the past 25 years had almost always assumed that the rapid declines of previous periods would moderate on the general premise that life expectancy could not just keep rising. However, the change has continued and most forecasts prepared in the past have, as a result, underestimated the senior population. Recent forecasts are now expecting continued declines in mortality rates more in line with the changes of recent decades.

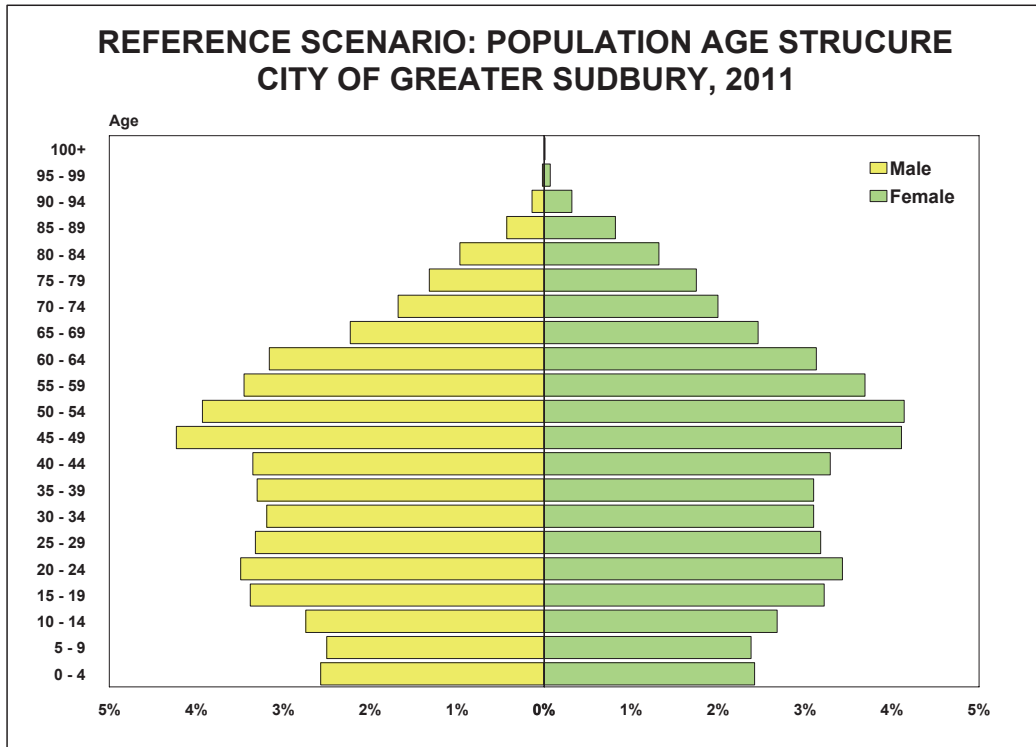
Both of these shifts affect the growth outlook for Greater Sudbury. These forecasts apply a future fertility and mortality pattern similar to that now used by the Ontario Ministry of Finance demographic forecasts.

3. Age Structure of the Population Will Have a Wide Range of Effects on How Greater Sudbury Grows

Today, the demographic character of the city has been shaped by the long period of out-migration of the younger population, particularly in the 1980s and 1990s as people left the city and communities of Greater Sudbury to find educational and employment opportunities elsewhere, many after high school graduation. The out-migration of people in the young age groups created a secondary effect of reducing the population of child-bearing age over the following years, bringing down the actual number of births, notwithstanding stable age-specific *rates* of fertility. The population profile of the City is “top heavy” with a proportionally large number of people near or past retirement age relative to the rest of Ontario and Canada.

Exhibit 2 shows the population age structure of the city from the 2011 Census. The age pyramid clearly shows the population bulge of those in the 45+ age groups that will reach retirement age within the forecast period. Below 45 in the age pyramid are those age groups that were depleted by the out-migration of the 1980s and 1990s and the reduced number of young children because of the out-migration of the child bearing age groups. The first effects of the turnaround of the last decade can be seen in the slightly larger 20-24 population arising from recent reduced out-migration and the first effect on the number of children with the small increase in the 0-4 age group compared to the 5-9 age group.

The effects of the current age structure will be moderated over time as new jobs in mining and related industries attract young adults and their families. The full demographic effect of the historic out-migration and the coming period of renewed in-migration will take decades to work their way through the population age structure.



Source: Hemson Consulting Ltd. based on Statistics Canada data

Based on these key factors, the two scenarios for population and employment growth to 2036 are described in the following chapter.

III TWO FORECAST SCENARIOS BASED ON VARIATION IN THE ECONOMIC OUTLOOK

The economic outlook for Greater Sudbury is for steady growth in the forecast period. The population and employment forecasts are based on a methodology that considers past, present and future trends and how they may affect the outlook for the area. Because less predictable global trends in the economy are important to Sudbury's outlook, two forecast scenarios are presented based largely on two different outlooks for the mining-related sectors.

A. ECONOMIC OUTLOOK IS FOR STEADY GROWTH OVER THE NEXT 20 YEARS

For this forecast we are considering two scenarios. The difference between them is largely based on differing outlooks for the broader global commodities outlook. In the last decade, Greater Sudbury has emerged from a very slow growth period but now, even at the low end, employment shows steady growth. At the high end of the forecast, the analysis shows significant employment growth is possible.

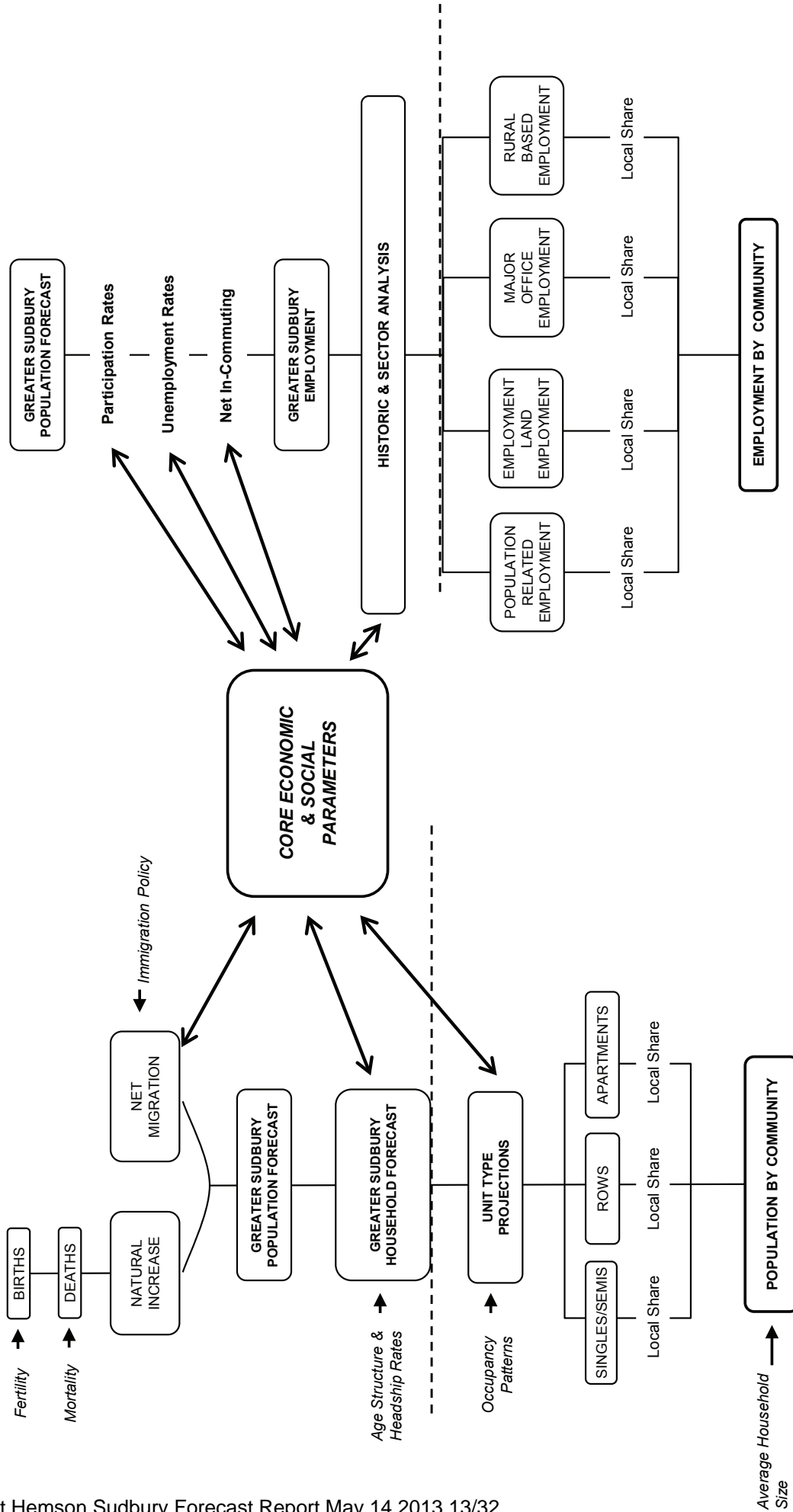
1. Forecast Is Based on Historic, Current and Future Trends and a Well-Established Forecast Method

The population forecast for Greater Sudbury is prepared using the well-established cohort survival model, which accounts for: births by age of mother, deaths by age and sex, and migration (broken down into seven components, each also by age and sex), at both Provincial and local levels. The forecast takes into account information from the 2006 Census and the available data from the 2011 Census.

Exhibit 3 provides a chart summarizing the forecast method. The core economic and demographic parameters in the middle of the chart are the economic basis and demographic factors described in the previous chapter. The top parts of the chart, for both population and employment, provide the steps in preparing the City-wide forecasts described at the beginning of this chapter. The lower parts of the chart show the method for distributing growth among the communities within the City of Greater Sudbury. The method shown in the chart has evolved over time, but is the same approach long-used by Hemson for forecasts for municipal governments and the Province for long-term planning purposes.

POPULATION FORECAST METHOD

EMPLOYMENT FORECAST METHOD



The cohort survival model, used for the City-wide forecast, operates by taking a five-year age group (e.g. 20 to 24 year olds in 2011), ages them by five years (they become 24 to 29 in 2016), deducts deaths in that age group (resulting in the “natural increase”) and, finally, adds net migration for that age group. Births during the five-year period produced by this age group are then added to the 0 to 4 year age group.

The employment forecast is driven by the population forecast, prepared by applying age-specific labour force participation rates to the population forecast and adjusting for unemployment.

A Reference and High Forecast have been prepared for population, employment and households.

- **Reference Forecast:** In considering scenarios for this assignment, there were two approaches considered at the lower end: one based on adopting migration assumptions similar to the Ontario Ministry of Finance’s for Greater Sudbury and one based on moderate employment growth over the forecast period. In undertaking the analysis, it turned out that these two different perspectives had essentially the same assumptions and results. Consequently, this forms the basis of the Reference Forecast.
- **High Forecast:** The High Forecast incorporates deliberately optimistic assumptions, mainly related to the amount and growth of mining-related industries. A review of the potential new mining-related projects in the City (which is, of course, always a moving target) indicated potential growth in employment in the 4,000 to 4,500 range. Some of these projects may not occur though others may appear over the period. With this range, a direct local multiplier effect of these jobs plus the growth in the central place functions of the City, a reasonable range for a High Forecast employment over 25 years was determined to be about double this level, a growth of about 8,000 to 9,000 jobs overall. Based on this approach, a migration forecast was established which would result in this level of employment.

While the forecasts provide a range of growth, for most municipal purposes — especially those requiring capital expenditures — the more conservative forecast is, in our view, most appropriate. The City of Greater Sudbury can, through future policy reviews, adapt to the higher forecast should economic conditions shift in a way that make the higher growth levels more likely.

2. Population Change Arising from 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 in the future, 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 Greater Sudbury. This is consistent with national and provincial trends.
- Life expectancy has risen more rapidly than anticipated. Nationally, life expectancy at birth has increased by approximately 2.3 years over the past decade, with that of men increasing at a faster pace than women. As a result, 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 public health and medical treatment. In line with the recent national and Ontario trends, life expectancy is forecast to increase slightly over the period to 2036 and will contribute to higher population under all growth scenarios.

While referred to as natural increase, in the case of Greater Sudbury, the age structure of the existing population would result in “natural decrease” as deaths would outnumber births over the forecast period if no net in-migration occurs. The effect of births from the in-migrant population, however, does result in natural increase over the forecast period in both growth scenarios. The migration assumptions are critical to the growth outlook for the City.

3. Migration Will Drive Population Growth in Greater Sudbury

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 Greater Sudbury 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).

Both scenarios assume that Canada's annual immigration will increase moderately over the forecast period from about 260,000 annually today to about 320,000 annually by the 2030s. Ontario's share of Canadian immigration, which fell in response to the recent recession to just over 40% of all Canada will return to about 48% of Canada, a level still lower than the longer-term historic share.

Emigration is very small relative to immigration and has been held fairly constant over the forecast period. On the other hand, non-permanent resident counts are highly volatile and unpredictable, so for forecast purposes, the levels have been held to a moderate increase. Both emigration and non-permanent residents are very small components of Greater Sudbury migration.

The overall assumption then for net international migration is about 100 per year over the period in the Reference Forecast, which is consistent with the historic average. The High Forecast is about triple this level at 300 per year and would be the source of most migration in this scenario.

- 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. Inter-provincial migration is somewhat volatile and is closely linked to the relative economic prospects between the provinces. However, over the long term Ontario is on average near zero in inter-provincial migration as ongoing out-migration of western Canada is balanced by ongoing in-migration from Atlantic Canada and Quebec to Ontario.

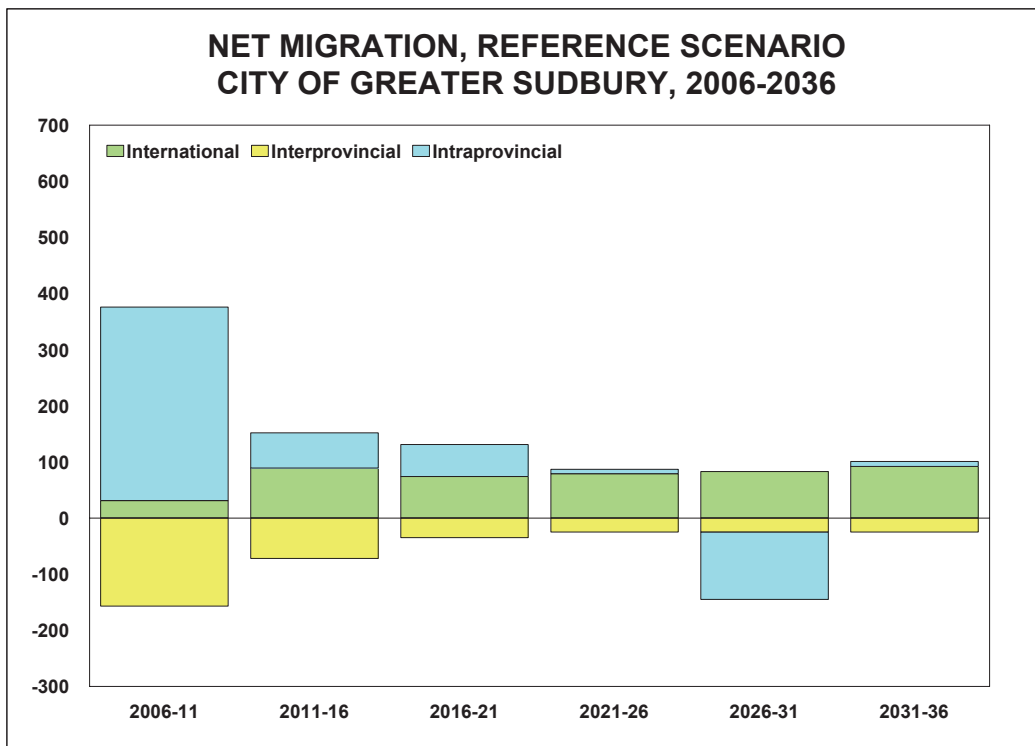
There has been continuous net inter-provincial out-migration from Greater Sudbury for over 20 years which peaked during the recent recession. The Reference Forecast returns the level to almost negligible out-migration through the forecast average of 25 per year. The High Forecast has more significant in-

migration owing to the job prospects which underlie this scenario, averaging a net 100 in-migrants annually.

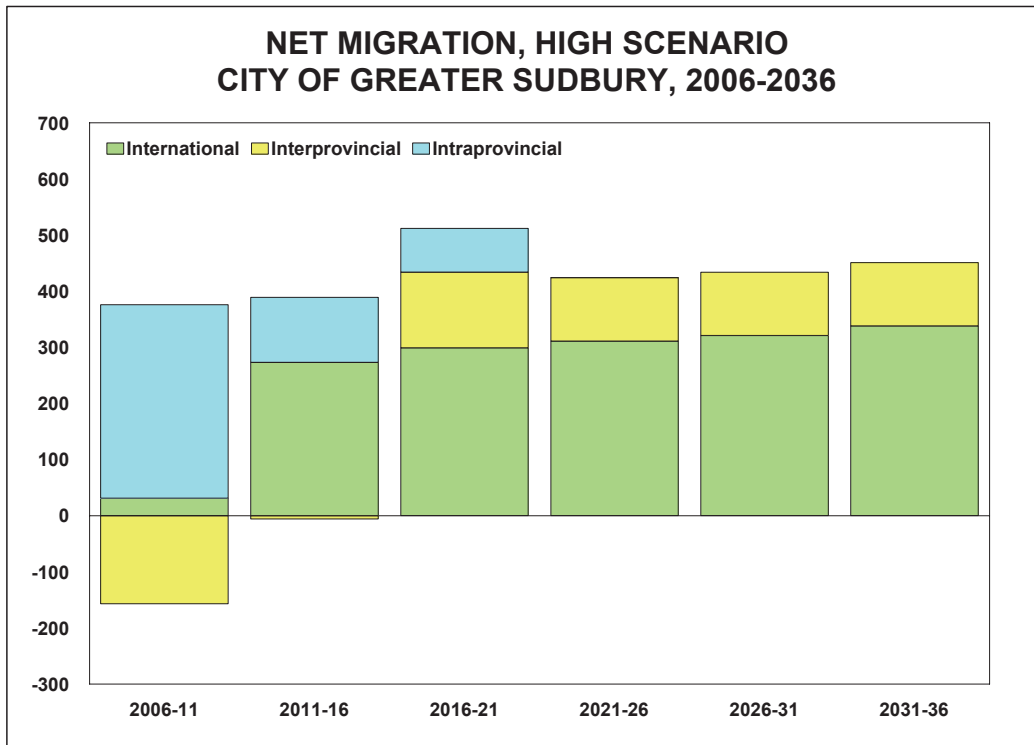
- Intra-provincial migration is defined as the movement of people within Ontario between Census Divisions. Intra-provincial migration also has two components: an in-migration movement to Greater Sudbury and an out-migration movement from Greater Sudbury to other parts of Ontario. In the past 25 years, intra-provincial migration is the component of migration that has had the largest effect on Greater Sudbury’s growth. The high levels of out-migration in the 1990s peaked at net out-migration of 2,400 in 1998-99. This returned to a net in-migration of over 800 by 2005-06, though it has turned negative again since the 2008-09 recession. For both forecast scenarios, the assumption is of little reliance on intra-provincial migration over the long term to fuel growth.

The outlook for migration of all three types is shown in the following Exhibits 4 and 5.

Exhibit 4



Source: Hemson Consulting Ltd. based on Statistics Canada data



Source: Hemson Consulting Ltd. based on Statistics Canada data

4. Population Is Expected to Grow to a Range of 176,800 to 188,300 by 2036

As shown in Table 2 and Exhibit 6, under the Hemson Reference Scenario, the total population of the City is forecast to grow to approximately 176,800 by 2036. In the High Scenario the City would reach 188,400 by 2036.

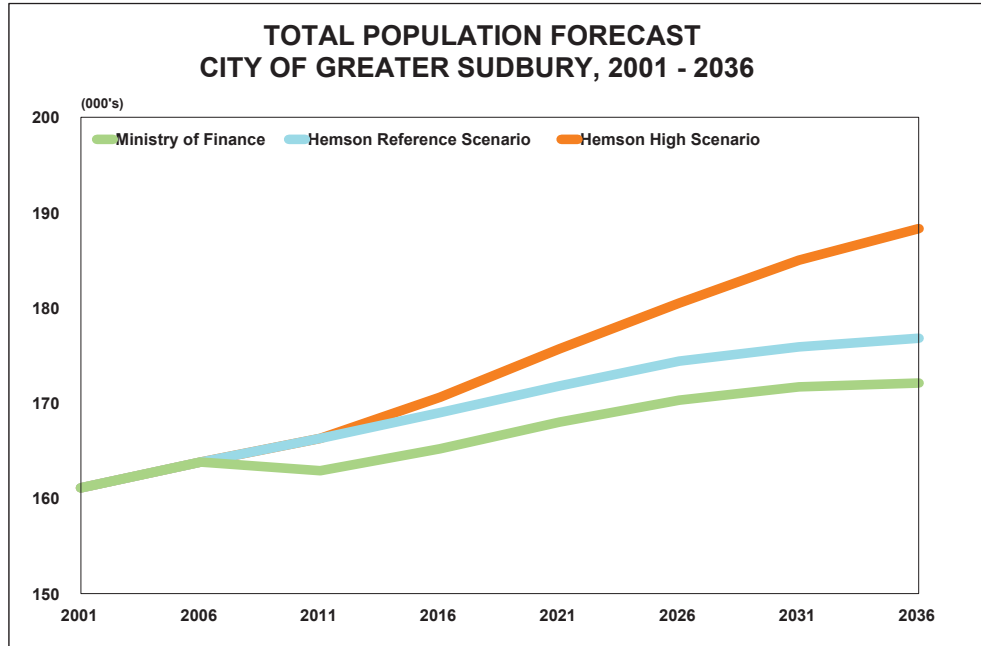
The table also provides a comparison to the Ministry of Finance's forecasts prepared in 2012. The Ministry's forecasts did not take full account of the 2011 Census, so it needs to be noted that the difference between the Ministry forecast and the Reference Scenario is almost entirely the difference in the 2011 base information and the growth increment is very close.

The figures shown are for total population including a net under-coverage factor of approximately 3.5%. This is different than the figures shown in City's 2006 official plan, which are Census figures not including the net under-coverage; however, the overall growth increment is similar.

Table 2

Population and Population Growth			
	Ministry of Finance 2012 Forecast	Reference Scenario	High Scenario
Population			
2001	161,100	161,100	161,100
2006	163,800	163,800	163,800
2011	162,900	166,300	166,300
2016	165,200	169,000	170,600
2021	168,000	171,800	175,700
2026	170,300	174,400	180,500
2031	171,700	175,900	185,000
2036	172,100	176,800	188,300
Growth 2011-2036	9,200	10,500	22,000
Growth 2011-2036 (%)	5.6%	6.3%	13.2%

Exhibit 6



Source: Hemson Consulting Ltd. based on Statistics Canada data

B. AGE STRUCTURE DRIVES DEMAND FOR HOUSING AND LABOUR FORCE PARTICIPATION

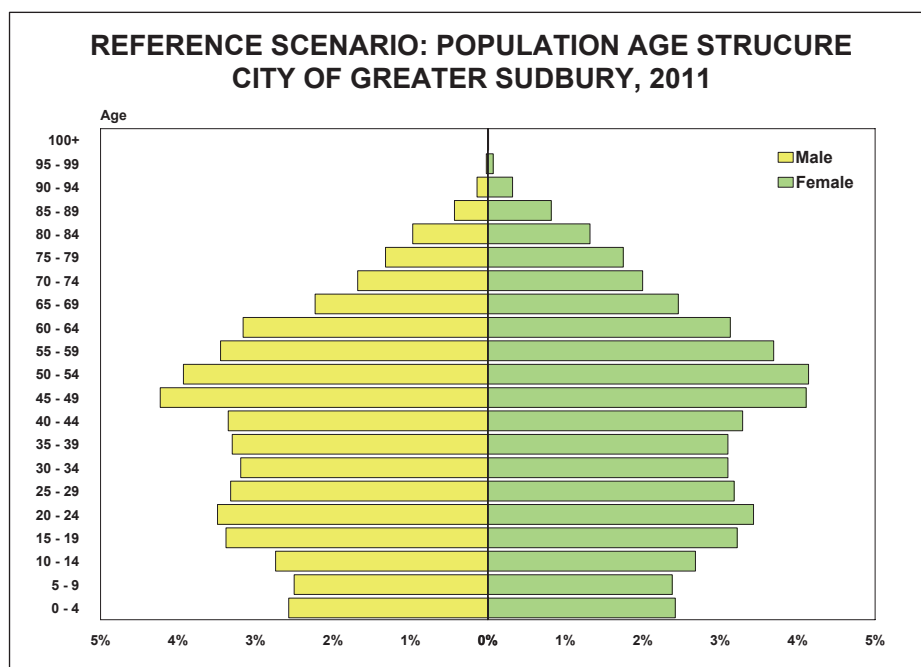
The long-term demand for housing and the participation in the labour force are both driven in large measure by age structure of the population. The age structure forecast is therefore a critical element of the overall planning outlook for the City.

1. Population Ages in Both Scenarios

Based on the assumptions of fertility, mortality and migration already described, the forecast for the overall City totals is prepared along with the forecast by age. These are summarized in the following graphs with tabular information provided in the Appendix.

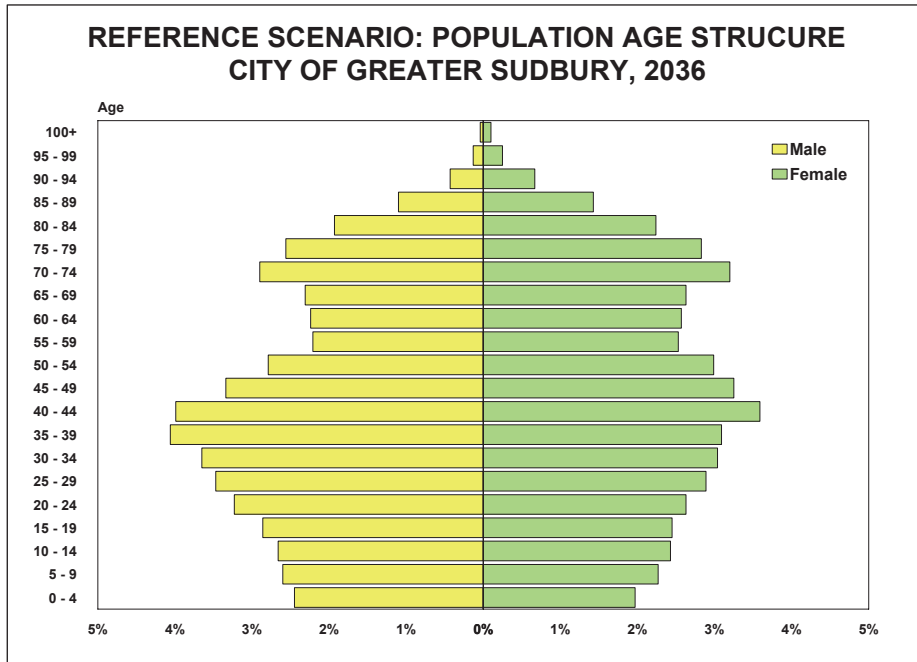
Exhibit 7 shows the existing 2011 population age structure. Exhibit 8 provides the forecast to 2036 for the Reference Scenario and the Exhibit 9 for the High Scenario. The unusual age structure in Greater Sudbury today continues to show its effects through the forecast, with major bulges in the graph showing an aging of the current pattern by 25 years. The major difference in the graphs is the result of the migrant population which is highly concentrated among those in their 20s and early 30s.

Exhibit 7



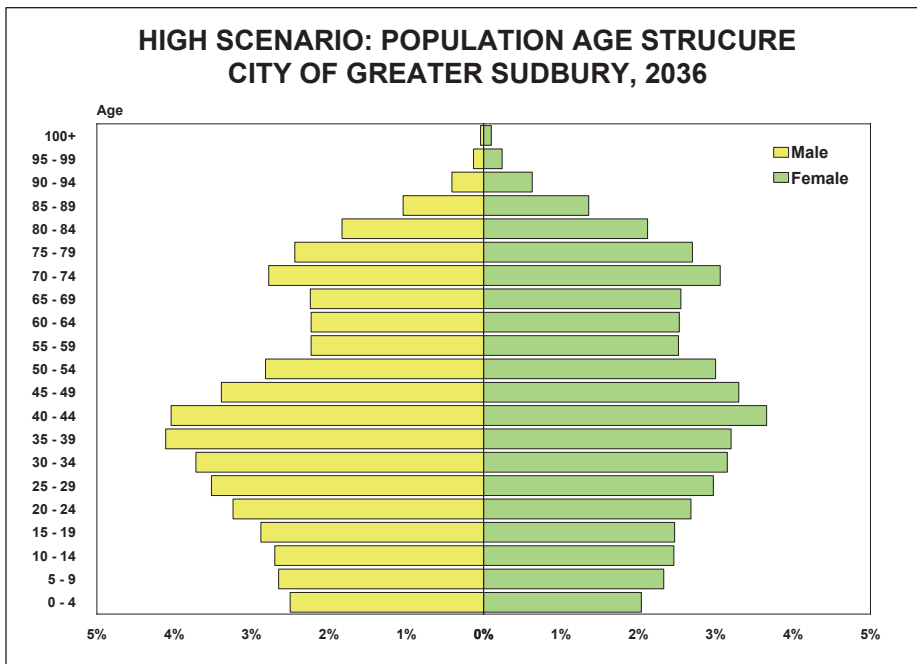
Source: Hemson Consulting Ltd. based on Statistics Canada data

Exhibit 8



Source: Hemson Consulting Ltd. based on Statistics Canada data

Exhibit 9



Source: Hemson Consulting Ltd. based on Statistics Canada data

2. Household Growth Will See Continued Declines in Average Household Size and Housing Growth Will Shift Back to a More “Normal” Housing Mix

In the next step in the forecast method, Greater Sudbury’s population forecast is translated into a forecast of households. Then, the household forecast is converted into a forecast of housing units by type.

- The City’s overall average household size in 2011 was 2.33. The 2006 to 2011 period witnessed a stable rate of household formation. It is assumed that household formation will remain at stable age-specific rates over the forecast period, which is a similar expectation for most parts of Ontario. The ageing population, however, will still mean further declines in average household size over the forecast period because older households are, on average, smaller, that is, there are more empty nesters in the population and, eventually, more single-person households both through divorce and death.

The result is that the average household size in Greater Sudbury is forecast to decline from the current 2.33 to 2.18 in the Reference Scenario by 2036. In the High Scenario, it will be a marginally higher 2.21 owing to the higher number of younger in-migrants.

- Although historically Greater Sudbury’s real estate market has been long-dominated by a preference for single-detached housing units, there have been signs of a shift towards row and apartment unit construction in recent years. Based on these recent market shifts and future demographic trends (to the extent that housing preferences are driven in part by the population age structure), it is anticipated that the overall preference for ground-oriented housing (i.e. singles, semis, and rows) will continue, though there will be a continued gradual shift towards apartment units as a result both of market conditions and an ageing population.

The Greater Sudbury household and housing forecast is shown in Table 3.

Table 3

Housing and Housing Growth by Type										
	Reference Scenario					High Scenario				
	Housing Growth									
	Single	Semi	Row	Apt.	Total	Single	Semi	Row	Apt.	Total
2006-11	2,630	90	100	(140)	2,680	2,630	90	100	(140)	2,680
2011-16	1,430	80	170	850	2,540	1,750	110	200	1,020	3,090
2016-21	1,350	90	150	810	2,400	1,860	130	200	1,060	3,240
2021-26	1,080	60	120	660	1,920	1,600	110	160	870	2,750
2026-31	670	30	90	400	1,190	1,380	80	160	710	2,320
2031-36	400	20	50	290	760	1,010	80	90	580	1,770
Total 2011-2036	4,930	280	580	3,010	8,810	7,600	510	810	4,240	13,170

Note: Census housing counts are based on occupied units. The decline in apartment units in the 2006-11 period represents an increase in vacancy rather than a reduction in the total number of units in the City.

3. Employment Growth Is Related to Population Growth by Labour Force Participation

As described in the previous chapter, the basis of the forecast scenarios is in the economic outlook and the related employment growth. The forecast method provides the linkage between the population outlook and the employment growth so that the migration and the population forecast are sufficient to provide the labour force to support the employment growth.

The forecast method applies three factors to link the employment forecast and the population forecast:

- Labour force participation rates are the most critical assumption used to derive the employment. As shown in Table 4, labour force participation varies with age. Greater Sudbury's ageing population means that there are proportionately fewer people in the primary working age groups. The key change in participation is expected to be continued increases in participation among late middle-aged women as those currently younger women with higher participation are expected to remain in the labour force. Despite much discussion in the media about delayed age of retirement, there are few signs of a major shift in the pattern of retirement. We have taken a conservative approach to future changes in participation of those over 65.

Table 4

Greater Sudbury Forecast Labour Force Participation Rates								
Age	2006		2011		2021		2031	
	Male	Female	Male	Female	Male	Female	Male	Female
15 - 19	58.1%	58.3%	58.1%	58.3%	58.8%	58.9%	58.8%	58.9%
20 - 24	84.4%	80.2%	85.0%	81.0%	87.2%	81.0%	87.2%	81.0%
25 - 29	89.6%	79.3%	91.0%	80.0%	92.0%	80.0%	92.0%	80.0%
30 - 34	92.6%	83.8%	92.5%	84.0%	93.5%	84.0%	93.5%	84.0%
35 - 39	91.8%	84.7%	92.5%	85.0%	93.0%	85.0%	93.0%	85.0%
40 - 44	88.9%	83.0%	91.5%	83.0%	93.0%	83.0%	93.0%	83.0%
45 - 49	87.0%	80.7%	90.5%	81.0%	92.0%	84.5%	92.0%	87.5%
50 - 54	82.1%	70.0%	86.0%	77.0%	87.5%	81.9%	87.5%	85.9%
55 - 59	62.1%	52.8%	70.0%	64.0%	70.9%	68.7%	70.9%	72.5%
60 - 64	36.9%	26.8%	48.0%	40.0%	49.5%	48.2%	49.5%	50.6%
65 - 69	19.9%	8.1%	24.0%	12.0%	25.5%	13.5%	27.1%	15.1%
70 - 74	8.8%	3.3%	9.0%	4.0%	9.6%	4.6%	9.9%	4.9%
75+	2.2%	1.1%	3.0%	1.2%	3.0%	1.2%	3.0%	1.2%

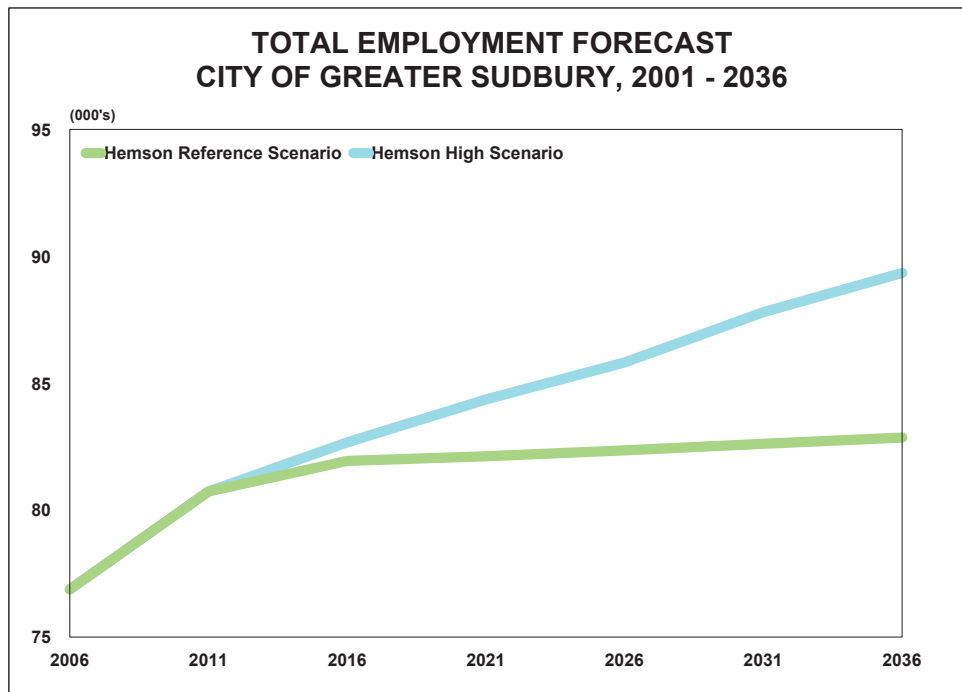
- As a relative labour shortage sets in due to the high numbers of retirees in the coming years, we have forecast a gradual decline in unemployment rates from an estimated 8.5% in 2011 down to a low of about 5.0% by the early 2030s. This is consistent with changes expected elsewhere in Ontario.
- Net in-commuting to Greater Sudbury, or those coming to work in the City from surrounding areas, was about 1,700 in the 2006 Census. Because there is no significantly growing population in the reasonable vicinity of the City, we have forecast very modest growth in net in-commuting to 1,800 in the Reference Scenario and to 1,900 in the High Scenario.

The result is a forecast of total employment for the Greater Sudbury as shown in Table 5 and on Exhibit 10.

Table 5

Greater Sudbury Forecast Employment and Employment Growth		
	Reference Forecast	High Scenario
Employment		
2001	71,300	71,300
2006	76,900	76,900
2011	80,700	80,700
2016	81,900	82,700
2021	82,100	84,400
2026	82,400	85,800
2031	82,600	87,800
2036	82,900	89,300
Growth 2011-2036	2,200	8,600
Growth 2011-2036 (%)	2.7%	10.7%

Exhibit 10



Source: Hemson Consulting Ltd. based on Statistics Canada data

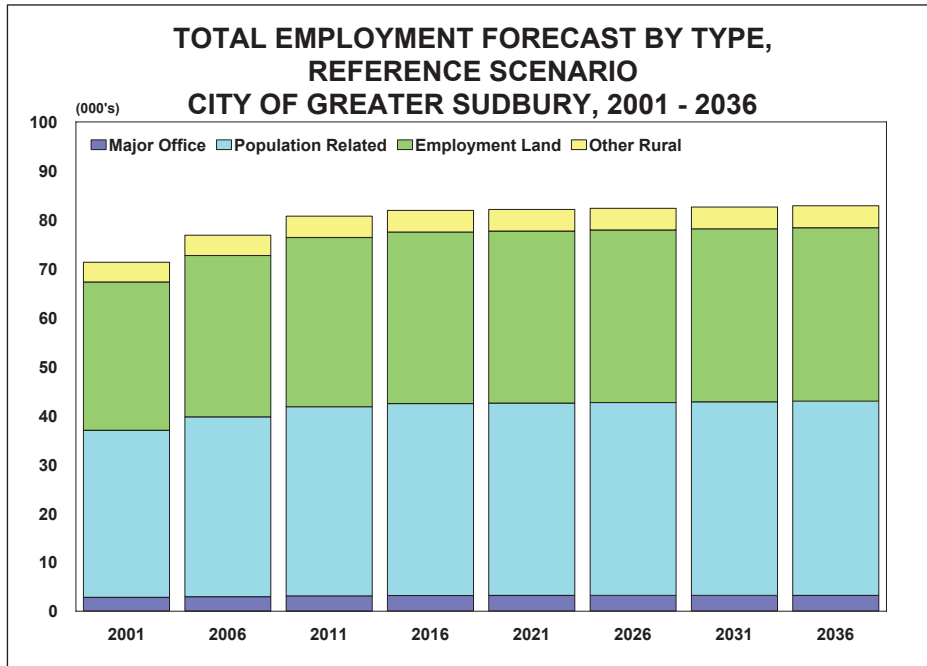
4. Employment Is Categorised into Land-Use Based Categories to Consider Where Employment Growth Will Occur

In order to understand the demands for different types of land to accommodate employment growth in Greater Sudbury, the employment forecast has been disaggregated by standard method to land use type, as follows:

- **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. This follows a standard ratio to population of about 1 job for every 5 in the community. In Greater Sudbury this is about 1 job for every 4.2 persons because health and education services and some commercial services are being provided to a much larger market area than the City itself.
- **Major office employment** refers to office-type employment contained within free-standing buildings more than 20,000 net square feet (1,858 m²) in size, based on the threshold where most data collection of office building information occurs. This is a very small category of employment in Greater Sudbury and is not anticipated to accommodate a significant share of growth.
- **Employment land employment** in most communities refers to employment accommodated primarily in low-rise industrial-type buildings, the vast majority of which are located within business parks and industrial areas. In Greater Sudbury this also includes the mines and associated processing and transportation activities.
- **Rural-based employment** refers to jobs scattered throughout rural areas and includes agriculture and some uses typically found in urban employment areas, but not located on urban land designated for industrial or commercial use. These uses would include agriculture-related uses such as feed or fertilizer facilities, small-scale manufacturing or construction businesses run from rural and farm properties, and some scattered retail or service users. This category is quite small in Greater Sudbury due to the limited agricultural sector.

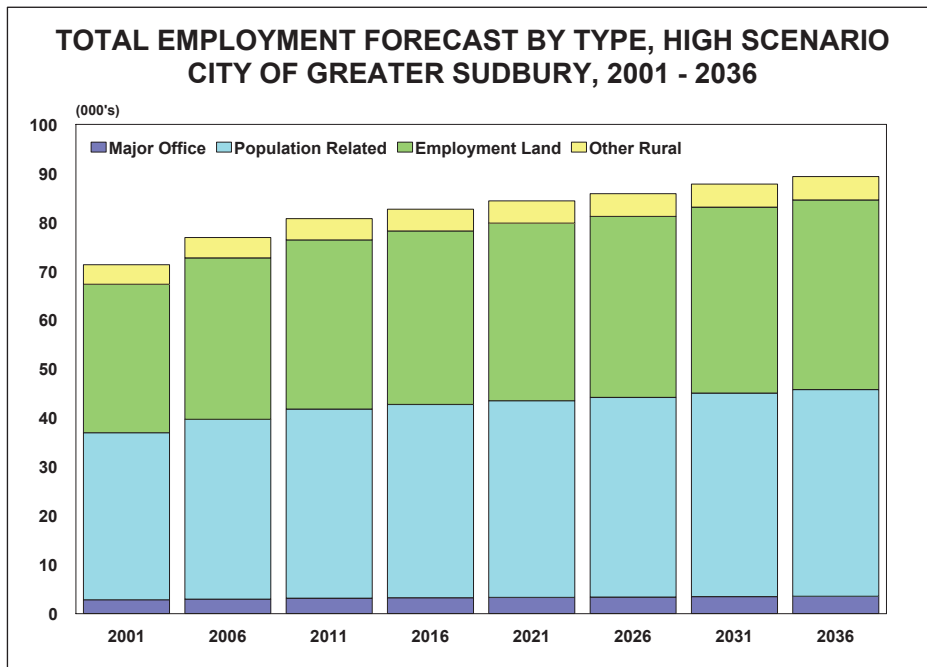
The categorized employment is summarized in Exhibits 11 and 12 for the Reference and High Forecasts. In both cases, the forecasts provide for a relatively constant share between the two large categories.

Exhibit 11



Source: Hemson Consulting Ltd. based on Statistics Canada data

Exhibit 12



Source: Hemson Consulting Ltd. based on Statistics Canada data

C. DISTRIBUTION OF HOUSING AND JOBS IN GREATER SUDBURY NOT FORECAST TO CHANGE SIGNIFICANTLY

The forecasts have also been distributed to the communities within Greater Sudbury. For both population and employment this part of the forecast is undertaken as a share analysis. One aspect of assigning the growth shares is the ability of each community to accommodate growth. In this case there are few limits to growth accommodation within the range of the forecast.

1. Population Growth Will Continue to Be Concentrated in the Former City of Sudbury

For the purposes of the local distribution of the population forecast, the City is divided into the urban service areas of each of the former municipalities in Greater Sudbury. The rural portions of all of Greater Sudbury are placed in a single geographic category.

The population forecast is prepared by allocating growth in housing units by housing unit type to each of the communities. The allocation of forecast housing growth is based on observation of recent market shares, proposed development and expectations of the planning department. The summary of the forecast shares is shown in Table 6. Tables 7 and 8 provide the forecast housing growth by community and housing unit type for each Scenario.

Table 6

Share of Housing Growth for the City of Greater Sudbury by Community						
	Total Households					
	2006-11	2011-16	2016-21	2021-26	2026-31	2031-36
Sudbury	32.4%	48.5%	48.8%	48.8%	48.8%	50.5%
Capreol	0.2%	1.2%	1.2%	1.2%	1.2%	1.3%
Nickle Centre	9.6%	7.8%	7.8%	7.8%	7.8%	7.6%
Onaping Falls	3.0%	2.5%	2.5%	2.5%	2.4%	2.4%
Rayside Balfour	4.2%	8.7%	8.6%	8.7%	8.8%	8.5%
Walden	15.7%	9.6%	9.6%	9.5%	9.4%	9.1%
Valley East	22.6%	13.7%	13.7%	13.6%	13.6%	13.2%
Rural (All)	12.5%	7.9%	7.9%	7.8%	7.9%	7.5%
City of Greater Sudbury	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 7

Share of Housing Growth for the City of Greater Sudbury by Community, Reference Scenario								
Reference Scenario	Sudbury	Capreol	Nickle Centre	Onaping Falls	Rayside Balfour	Walden	Valley East	Rural
Single/Semi								
2011 Total	21,468	1,187	3,291	1,355	3,445	2,683	6,536	5,886
2011-2036 Growth	1,610	49	448	177	498	759	992	691
2036 Total	23,078	1,236	3,740	1,532	3,942	3,442	7,528	6,577
Rows								
2011 Total	2,271	0	147	20	310	15	102	-
2011-2036 Growth	291	-	87	12	116	17	58	-
2036 Total	2,562	0	235	32	426	33	160	-
Apartments								
2011 Total	16,310	0	624	141	840	251	754	-
2011-2036 Growth	2,404	60	150	30	150	60	150	-
2036 Total	18,714	60	774	171	990	312	905	-
Total 2036	44,354	1,296	4,748	1,735	5,359	3,786	8,592	6,577

Table 8

Share of Housing Growth for the City of Greater Sudbury by Community, High Scenario								
Reference Scenario	Sudbury	Capreol	Nickle Centre	Onaping Falls	Rayside Balfour	Walden	Valley East	Rural
Single/Semi								
2011 Total	21,468	1,187	3,291	1,355	3,445	2,683	6,536	5,886
2011-2036 Growth	2,512	76	736	279	812	1,217	1,572	913
2036 Total	23,979	1,263	4,027	1,635	4,256	3,900	8,108	6,799
Rows								
2011 Total	2,271	0	147	20	310	15	102	-
2011-2036 Growth	408	-	122	16	163	24	82	-
2036 Total	2,679	0	270	37	473	40	183	-
Apartments								
2011 Total	16,310	0	624	141	840	251	754	-
2011-2036 Growth	3,396	85	212	42	212	85	212	-
2036 Total	19,705	85	836	183	1,052	336	967	-
Total 2036	46,364	1,348	5,133	1,854	5,781	4,276	9,258	6,799

Based on the total forecast housing in each community in each Census year, the population is forecast locally by applying a forecast average household size for each area which reflects the forecast changes in average household size for the City in total. Added to this household population is the non-household population which is the small number of people housed in institutions such as nursing homes and prisons. Census net under-coverage is then added to provide the total population as shown in Tables 9 and 10.

Table 9

Distribution of Population for the City of Greater Sudbury by Community							
Reference Scenario	POPULATION						
	2006	2011	2016	2021	2026	2031	2036
Sudbury	92,070	91,570	92,240	93,160	94,160	94,720	95,080
Capreol	3,530	3,390	3,400	3,420	3,440	3,450	3,460
Nickle Centre	10,500	10,970	11,240	11,530	11,780	11,940	12,030
Onaping Falls	3,810	3,880	3,960	4,040	4,120	4,160	4,180
Rayside Balfour	11,840	11,860	12,160	12,470	12,750	12,910	13,010
Walden	7,580	7,670	8,140	8,590	8,960	9,180	9,310
Valley East	20,050	21,150	21,630	22,160	22,640	22,930	23,090
Rural (All)	14,460	15,800	16,210	16,440	16,660	16,790	16,870
Greater Sudbury	163,840	166,290	169,000	171,800	174,520	176,080	177,030

Table 10

Distribution of Population for the City of Greater Sudbury by Community							
High Scenario	POPULATION						
	2006	2011	2016	2021	2026	2031	2036
Sudbury	92,070	91,570	92,940	94,840	96,760	98,580	99,970
Capreol	3,530	3,390	3,420	3,470	3,520	3,570	3,610
Nickle Centre	10,500	10,970	11,390	11,890	12,360	12,780	13,090
Onaping Falls	3,810	3,880	4,010	4,150	4,280	4,400	4,490
Rayside Balfour	11,840	11,860	12,330	12,860	13,360	13,810	14,140
Walden	7,580	7,670	8,320	9,030	9,650	10,200	10,610
Valley East	20,050	21,150	21,900	22,830	23,680	24,470	25,050
Rural (All)	14,460	15,800	16,260	16,600	16,950	17,300	17,550
Greater Sudbury	163,840	166,290	170,570	175,660	180,560	185,110	188,500

2. Employment Growth Is Also Based on a Share Analysis but with Very Limited Available Data

The employment distribution should be interpreted very cautiously since there is very limited available data on which to base the distribution. While there are good City-wide estimates of employment based on the labour survey for 2011 and there is City-wide Census data from the 2006 Census, the last time employment by place of work data were collected was in the 2001 Census. As a result, the local distribution of employment to the communities is essentially a forecast based on a 2001 base year, though the City-wide totals for 2006 and 2011 are sound estimates. Employment, even in 2001, could not be separated out for rural and urban, though rural employment is known to be quite small. The information shown in the tables is for the entire former municipalities.

The employment forecast is prepared by allocating growth by employment category. The population-related employment is allocated in accordance with where population growth has occurred. The other types of employment are kept at constant shares in the absence of any clear shift in shares between these locations. Tables 11 and 12 provide the forecast housing growth by community and housing unit type for each Scenario.

Table 11

Distribution of Employment for the City of Greater Sudbury by Community							
Reference Forecast	EMPLOYMENT						
	2006	2011	2016	2021	2026	2031	2036
Sudbury	58,090	60,870	61,730	61,860	62,030	62,210	62,390
Capreol	880	940	960	960	970	970	970
Nickle Centre	2,980	3,180	3,240	3,250	3,260	3,270	3,280
Onaping Falls	2,230	2,360	2,400	2,410	2,420	2,430	2,440
Rayside Balfour	3,290	3,470	3,520	3,530	3,540	3,550	3,560
Walden	4,540	4,750	4,820	4,830	4,840	4,860	4,870
Valley East	4,850	5,160	5,260	5,280	5,300	5,320	5,340
Rural (All)	0	0	0	0	0	0	0
Greater Sudbury	76,870	80,730	81,940	82,120	82,350	82,610	82,860

Table 12

Distribution of Employment for the City of Greater Sudbury by Community							
High Forecast	EMPLOYMENT						
	2006	2011	2016	2021	2026	2031	2036
Sudbury	58,090	60,870	62,260	63,470	64,520	65,940	67,040
Capreol	880	940	970	990	1,010	1,040	1,060
Nickle Centre	2,980	3,180	3,270	3,360	3,430	3,530	3,600
Onaping Falls	2,230	2,360	2,440	2,520	2,580	2,670	2,740
Rayside Balfour	3,290	3,470	3,550	3,610	3,670	3,750	3,810
Walden	4,540	4,750	4,860	4,960	5,050	5,160	5,250
Valley East	4,850	5,160	5,320	5,450	5,560	5,710	5,830
Rural (All)	0	0	0	0	0	0	0
Greater Sudbury	76,870	80,730	82,670	84,360	85,820	87,800	89,350

This report has provided a summary of the influences on the future growth of the City of Greater Sudbury and a range of two resulting scenarios that the City can use for a variety of analytical purposes. In addition to the information in the report and the appendix, City staff have been provided with additional detailed statistics that can be used for upcoming work on the official plan and other purposes such as the development charges update.