CUSHMAN & WAKEFIELD

metro economics

The Planning Partnership

SCS consulting group ltd

NPG COMMUNITY DEVELOPMENT PLANNING

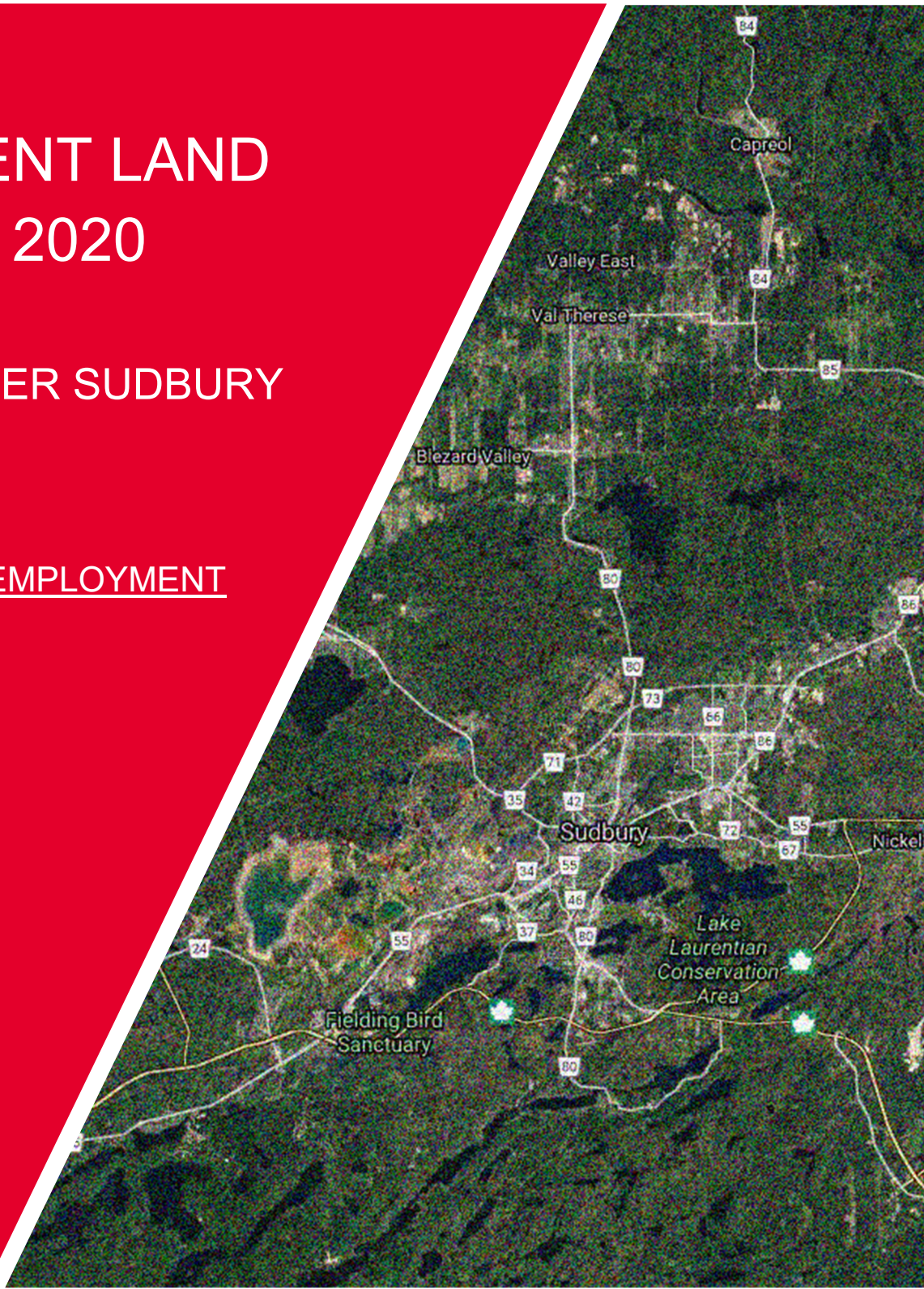
Altus Group

EMPLOYMENT LAND STRATEGY 2020

CITY OF GREATER SUDBURY

DELIVERABLE #4

POPULATION AND EMPLOYMENT PROJECTIONS



4.0 POPULATION AND EMPLOYMENT PROJECTIONS

4.1 Introduction

In 2018, Hemson Consulting Ltd. provided the City of Greater Sudbury with a projection of population and employment growth, in a report entitled *Outlook for Growth to 2046*. These forecasts are used in the City's Development Charge Background Study, and City staff directed the Consultant Team to rely on these figures for the purposes of this Employment Land Strategy. Notwithstanding that these projections pre-date the COVID-19 crisis – the lasting impacts of which are still not fully understood – the Consultant Team is of the view that the long-term nature of these forecasts means that they can still be relied upon for growth management purposes.

4.2 Overview of Scenarios

Hemson developed three forecast scenarios: a Reference Scenario – which is considered the baseline projection – and Low and High Scenarios which adjust growth assumptions to provide a broader range of outcomes. In the *Outlook for Growth to 2046 report,* it is noted that the Reference Scenario represents the most likely outcome considering local and broader demographic and economic factors. The Low and High Scenarios are included to illustrate the sensitivity of long-term growth prospects to changing economic conditions and migration trends.

The three different growth scenarios are described as follows:

- The Low Scenario reflects the most recent Ministry of Finance projections (at the time of the report), which are heavily influenced by a continuation of the out-migration of young adults, and limited prospects for economic growth. This scenario illustrates the city essentially maintaining its present population and employment levels over the forecast period.
- The Reference Scenario reflects more recent trends indicating a mitigation of the out-migration of young people, the influence of currently committed investments in the mining industry, and some increase in the service/administrative functions that the city provides the broader region. This scenario is predicated on modest growth in the residential and non-residential sectors. The Reference Scenario assumes anticipated investments in the mining and institutional sectors occur as planned. However, if there was a shock to commodity prices or an economic slowdown similar to the recession that occurred between 2007 and 2009, the Reference Scenario forecast may be difficult to achieve.
- The High Scenario increases the share of the population represented by young adults, and adds to the economic outlook of the Reference Scenario by incorporating influences from investment in the Ring of Fire area. The High Scenario was developed to test the effects of significant changes to in-migration that would lead to a larger share of young adults. This represents a best case outcome reflecting substantial influence from Ring of Fire investment, and leads to much higher population and employment growth rates than recent trends would generate.

The Consultant Team notes that the COVID-19 health and economic crises represent the type of "shock" that is referenced in Hemson's description of the Reference Scenario. However, given that the horizon of this forecast is 25+ years, we remain comfortable relying on these population and employment projections to inform our employment land demand modeling. Further, the population and employment forecasts that are maintained by metroeconomics closely approximate Hemson's Reference Scenario. Accordingly, the Consultant Team is comfortable endorsing this outlook for growth.

The population projections prepared by Hemson have been adopted by the Consultant Team. The employment forecast contained in the *Outlook for Growth to 2046* report is at an aggregate level, by place of work. Accordingly, it was necessary for metroeconomics to translate this into a projection of employment growth by industry, using North American Industry Classification System (NAICS) codes, which are presented at the two-digit level in the exhibit below. For 2020 and 2021, metroeconomics has made adjustments to total employed to reflect the anticipated impact of COVID-19 in those years. From 2022-onward, it has been assumed that the projected level of employment will prevail. Longer-term, it is expected that COVID-19 impacts would be minimal, perhaps affecting job locations as opposed to industry growth totals.

4.3 Our Approach to Employment by Industry Projections

The population growth of an area typically depends on its growth in "economic base" employment, while an area's growth in "community base" employment depends on its population growth. In recognition of this interdependence between population and employment growth, metroeconomics has developed a community-based projection system that takes account of the economic and demographic factors influencing an area's growth potential.

The economic base of the community is identified through the de-composition of local jobs on a place of work basis by industry into those that are economic base jobs and those that are community base jobs; this is achieved using a location quotient process (which is described in detail below). Economic base industries produce goods and services consumed primarily by businesses or people outside of the local community; these industries – also called export-based industries – produce agriculture, mining, or manufactured products for consumption elsewhere, or provide tourism or higher-order education/health care services to visitors/temporary residents.

The potential for growth of a local community's economic base jobs is identified through assessing how many such jobs exist today, and how many might exist in the future, drawing on metroeconomics' extensive forecasts of economic base industrial job trends nation-wide and province-wide. An assessment is also made of the potential for local residents to commute to jobs in nearby employment locations, drawing on existing patterns and on metroeconomics' base case forecasts of such jobs by sub-provincial area across the country. The potential for job growth within the local area and for job growth in nearby locations determines the potential for job growth among local residents.

The metroeconomics system ties this resident job growth potential to the demographic side of the community; if potential job growth among residents exceeds the current supply of workers (based on an age and gender assessment of the current population, age-specific rates of labour force participation, the level of unemployment, and the need to replace retiring workers), in-migration occurs; thus, job growth potential determines population growth potential, recognizing that each new job-holding resident typically brings along one or two dependents. The system further takes into account the fact that each new resident job-holder increases the need for workers who service the local population – the community base jobs – and that these additional community base jobs, in turn, create the need for more workers, more residents, etc. The growth in employed residents, in other words, drives the community's net in-migration requirements which, along with standard assumptions regarding fertility and mortality rates, provide the parameters needed to develop local area population projections by age and gender. Projected economic base jobs by industry are added to projected community base jobs by industry to determine the total number of jobs by place of work that will exist in the community in the decades ahead.

All jobs in agriculture and forestry, in mining and oil and gas extraction, and in manufacturing, are considered to be economic base jobs, as most of their production is consumed by businesses and people outside of the area. For all other industries, the number of jobs per 1,000 residents in Greater Sudbury is compared to that ratio province-wide. Where the ratio in an industry in Greater Sudbury exceeds that of Ontario, it is assumed the excess jobs in the city are providing services to people or businesses outside of Greater Sudbury. These excess jobs are defined as export-based service jobs, and their output as exportable services.

Of the 70,230 jobs in Greater Sudbury (total employment by place of work) in 2016, 15,590 (22%) were export-based jobs, while 54,640 (78%) were community-based. The industries accounting for the greatest number of export-based jobs in 2016 were mining, oil and gas (5,615), manufacturing (3,200), health and social services (2,939), government (1,302), retail trade (910), and education (704). These six industries together accounted for almost 95% of the export-based jobs in Greater Sudbury.

EMPLOYMENT BY PLACE OF WORK – LOCATION QUOTIENT ASSESSMENT 2016

Category	Greater Sudbury		Ontario		Difference – Greater Sudbury less Ontario	Greater Sudbury	
	#	# Per 1,000	#	# Per 1,000		Economic Base	Community Base
Total Population (persons)	**166,130**		**13,448,494**				
All Industries EPOW (jobs)	**70,230**	**423**	**5,867,270**	**436**	**-13**	**15,590**	**54,640**
Agriculture, forestry	370	2	88,450	7	-5	370	0
Mining, oil and gas	5,615	34	24,705	2	32	5,615	0
Utilities	390	2	43,785	3	-1	0	390
Construction	3,135	19	213,400	16	3	499	2,636
Manufacturing	3,200	19	624,260	46	-27	3,200	0
Wholesale trade	2,250	14	238,335	18	-4	0	2,250
Retail trade	9,650	58	707,530	53	5	910	8,740
Transportation, warehousing	2,270	14	232,090	17	-3	0	2,270
Information, culture	980	6	153,455	11	-5	0	980
Finance, insurance, real estate, leasing	3,350	20	483,235	36	-16	0	3,350
Professional, scientific, technical	3,505	21	497,790	37	-16	0	3,505
Other business services	2,325	14	234,280	17	-3	0	2,325
Education	6,395	38	460,690	34	4	704	5,691
Health, social services	11,340	68	680,110	51	17	2,939	8,401
Arts, entertainment, recreation	1,120	7	119,330	9	-2	0	1,120
Accommodation, food	5,245	32	420,400	31	1	52	5,193
Other services	2,990	18	257,000	19	-1	0	2,990
Government	6,100	37	388,425	29	8	1,302	4,798

Note: “EPOW” = Employed by Place of Work

Hemson's Reference Scenario is in alignment with metroeconomics' view of the Canadian economic outlook as a whole, adjusted to reflect the dynamics of Greater Sudbury's local economic base by industry (and linked to Hemson's overall employment projection). The Low and High Scenarios are also linked to Hemson's employment projections, which vary the outlook for growth.

4.4 Population and Employment Growth Projections

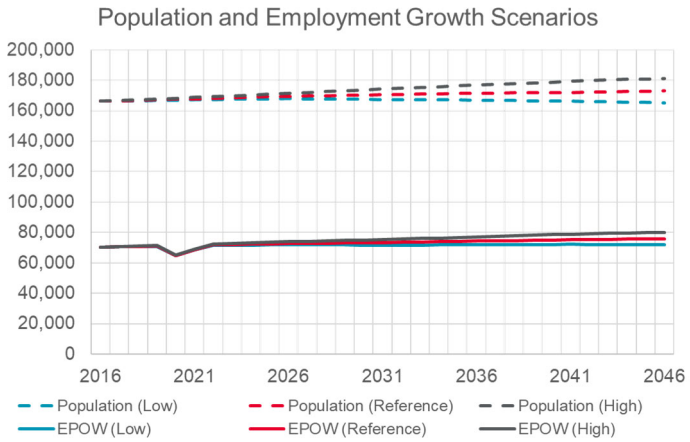
The City of Greater Sudbury had a population of 166,130 in 2016. Based on Hemson's projections, the city's population in 2046 may range from a low of 165,090 (Low Scenario), to a mid-range total of 172,990 (Reference Scenario), or even to a high of 181,290 (High Scenario), should economic conditions and migration to the city – notably by young adults – significantly change.

- For the purposes of our analysis, we will rely upon the estimated 2020 population in each of the scenarios, which ranges from a low of 166,930 to a high of 168,200. The 2020 population estimate has been interpolated using the 2016 and 2021 figures.

Greater Sudbury had total employment of 79,440 jobs in 2016. According to Hemson's outlook, by 2046, total employment could grow modestly to 81,230 (Low Scenario), increase to 85,750 (Reference Scenario), or possibly as high as 90,460 jobs (High Scenario).

- As noted above, metroeconomics has adjusted anticipated total employment for all three scenarios in 2020 and 2021 to account for the impacts of the COVID-19 crisis. The figures for 2020 are used as the starting point for our analysis. As well, metroeconomics has identified total employment by place of work, which excludes jobs with no fixed workplace address (employment by place of work is more useful in undertaking land demand analysis, rather than total employment).

The following exhibits illustrate the population and employment by place of work (EPOW) projections for the three scenarios.



POPULATION AND EMPLOYMENT PROJECTIONS (2020-2046)			
Category	Change (2020-2046)		
	Reference Scenario	Low Scenario	High Scenario
Total Population (persons)	**5,524**	**-1,840**	**13,088**
All Industries EPOW (jobs)	**10,876**	**7,145**	**14,702**
Agriculture, forestry	-29	-50	-7
Mining, oil and gas	776	350	1,217
Utilities	-71	-88	-54
Construction	625	449	807
Manufacturing	-246	-418	-68
Wholesale trade	-523	-591	-453
Retail trade	-261	-676	163
Transportation, warehousing	983	821	1,148
Information, culture	-34	-76	9
Finance, insurance, real estate, leasing	93	-62	251
Professional, scientific, technical	720	520	925
Other business services	406	276	539
Education	1,208	846	1,580
Health, social services	4,326	3,735	4,930
Arts, entertainment, recreation	281	215	348
Accommodation, food	2,387	2,016	2,769
Other services	99	-43	245
Government	137	-77	355
Note: "EPOW" = Employed by Place of Work