



City Plan – Economic, Demographic and Market Study

City of Edmonton

This technical study was initiated to inform the development of The City Plan. The technical studies were considered alongside public engagement, modelling and professional judgment to determine overall outcomes for The City Plan.

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Executive Summary

Watson & Associates Economists Ltd. (Watson), in association with Nichols Applied Management Inc. (Nichols), was retained by the City of Edmonton to prepare an Economic, Demographic and Market Study as input to The City Plan, the City's new long-term land-use and transportation plan. The results of this analysis are intended to guide decision-making and policy development specifically related to planning and growth management, urban land needs, master planning and municipal finance.

The study provides City-wide population, housing and employment forecasts to the year 2065, building on growth projections prepared by the City of Edmonton Chief Economist's Office, based on a detailed assessment of provincial, regional and local economic trends influencing long-term local growth potential and development patterns. Further, detailed growth allocations for the City's neighbourhoods (including the South Annexation lands) was prepared through a market-based approach, which also identifies corresponding residential and non-residential land needs. This growth analysis was completed within the context of a future year population target of two million residents, and considers recent and future economic and demographic trends.

Key observations and study findings are presented herein, while more detailed population, housing and employment growth allocations by City neighbourhood are provided under separate cover through a G.I.S.-based geodatabase.

The following provides a summary of the key report findings.

Current Macro-Economic and Demographic Trends and Impacts on Employment and Labour Force Growth

A number of macro-economic and demographic factors are anticipated to influence future employment and labour force growth by sector, and corresponding lands needs, in particular the export-based industry sectors across the City of Edmonton and the Edmonton Metropolitan Region. Key observations include:

- The Edmonton Metropolitan Region has a strong and diversified economy comprised of a number of key industrial and knowledge-based employment sectors. The Regional economy has generally out-performed Alberta as a whole, with respect to annual employment growth over the past decade.



- The City of Edmonton has a relatively high concentration of employment in commercial and institutional sectors including retail trade, accommodation and food services, information and cultural industries, finance and insurance and government services.
- Similar to the provincial economy as a whole, the nature of the Edmonton economy is changing. Over the past decade, the composition of Edmonton's employment base has gradually shifted from a goods-producing economy to a services-producing economy, led by employment growth in a range of "knowledge-based and creative-class economy" sectors.
- As identified by the City's Office of the Chief Economist, Edmonton's employment base has grown from approximately 476,000 jobs in 2011 to an estimated 550,000 jobs in 2018, representing an average growth rate of 2.1%. Over the period, employment growth has been highly concentrated in a number of commercial and institutional sectors including: finance, insurance and real estate; professional, scientific and managerial; health and social services; education services, and government services. The only sector that experienced a decline during this time period was manufacturing.
- There are a number of factors that indicate economic growth within the Edmonton Metropolitan Region over the long term will be relatively strong, building on the economic expansion experienced over the past decade. This includes long-term trends that remain favourable for oil prices and production in Alberta, and continued diversification of the regional economic base.
- The Edmonton Metropolitan Region has an estimated population of approximately 1.4 million (as of 2018),¹ with population expected to grow to between 1.9 million and 2.2 million by 2044.² Similarly, the Edmonton Metropolitan Region's current employment base of approximately 725,500 in 2014 is expected to climb to 1,197,300 by 2044, an increase of 65%.³
- Continued structural changes in the global economy and technological advancements will require municipalities to be increasingly responsive and adaptive to changing industry needs and disruptive forces.

¹ Statistics Canada. Table 17-10-0135-01 Population estimates, July 1, by census metropolitan area and census agglomeration, 2016 boundaries.

² Schedule 1, Edmonton Metropolitan Region Growth Plan, October 2016.

³ Ibid.



- Long-term labour force growth potential across Canada, and more specifically the Edmonton Metropolitan Region, will be directly influenced by continued structural changes and disruptions to the macro-economy driven by technology and automation.
- In general, globalization has led to increased outsourcing of production processes to overseas manufacturers. While there will continue to be a manufacturing focus in Alberta and Edmonton, the nature of traditional industrial processes is rapidly shifting, becoming more capital/technology intensive and automated, with lower labour requirements.
- Outsourcing of manufacturing production to emerging global markets continues to drive the need for new consolidated, land-extensive warehousing facilities to store and manage the distribution of goods produced locally as well as goods imported from abroad. Demand in the Goods Movement sector is anticipated to continue across the Edmonton Metropolitan Region, particularly in locations where available industrial lands have strong connectivity to regional transportation infrastructure.
- The rise of e-commerce has influenced the demand for retail square footage, in particular the demand for retail goods. While e-commerce has been capturing market share from goods-based retailers, growth in service-based retailers continues as they provide social experiences and other services that cannot be purchased remotely. Service-based retailers typically have smaller footprints than goods-based retailers and, therefore, have greater flexibility for intensification areas. These service-based retailers are driving the intensification of power centre and shopping centre sites across Canada.
- The evolution of the digital economy has resulted in also lessening demand for physical space in institutional facilities such as in education, health care and government services.
- Market demand for non-residential space is being increasingly driven by growth in the knowledge-based or creative class economy. With an increasing emphasis on these knowledge-based sectors, major office, flex office and multi-purpose facilities encompassing office and non-office uses are becoming increasingly dominant built forms within Employment Areas.
- While suburban locations including those in Employment Areas continue to be competitive locations for major office development, there is increasing demand for locations that offer access to high-order transit, a mixed-use environment,



potential for live/work opportunities, and access/proximity to amenities and services.

- Over the coming decades, work at home and no fixed place of employment in Edmonton is expected to steadily increase, with a gradual increase in the share of total employment driven by forecast growth in the knowledge-based and creative class economy.

Demographic Context and Trends that are Expected in Edmonton

An analysis was completed to address how demographics are changing and the impact this is expected to have on future population composition, housing growth patterns and residential land needs. Understanding changes that have occurred to the fundamental composition of the City's population provides insight into the future needs of the community and developing trends that will require unique policy or planning attention moving forward. Key observations include:

- The City has been the major urban core within the Edmonton Metropolitan Region for decades and has historically housed over 70% of the Region's population. It is expected that this trend will carry into the future and the City will continue to accommodate approximately 70% of the Region's population.
- From the late 2000s to today, the City has experienced strong population growth of 2.7% annually. The City had an estimated population of 977,600 in 2018.
- The City has a relatively young population, with approximately one-third of the population comprising young adults aged 20-39. Natural population growth as well as in-migration over the 2018 to 2065 period is anticipated to result in a shift of the age cohort distribution in the City. As a result, by 2065 the City's age cohort distribution is anticipated to shift toward a slightly older structure, as compared to the current distribution.
- Education levels in the City have generally increased over the past decade, with proportionally more of the population seeking university certificates, diplomas, or degrees at or above the bachelor level. This educational trend is consistent with changes at the provincial level over the same period.
- The proportion immigrants represent increased from 23% in 2006 to approximately 30% in 2016, while the proportion of non-immigrants has declined from 76% to 67%.
- The composition of housing units in the City differs somewhat from communities in the surrounding Region. A notable difference is that the City accommodates



relatively more multi-family housing than the surrounding communities, which offer relatively more single-family and semi-detached homes. According to the 2016 Census, the City has relatively more housing in the apartment category (33%), as compared to other communities in the Region (10%). Conversely, communities surrounding the City have a relatively larger share of their housing in the single-family category (79%), as compared to the City (50%).

- Despite the relative consistency in the City's housing profile, some increased interest in higher-density housing is apparent in the profile of recent City housing starts. Over the past 10 or so years, the City has experienced a shift toward more apartment housing. It is expected that the composition of housing in the City will continue to shift somewhat toward higher-density dwellings and away from lower-density dwellings.
- While developers have been increasingly building apartments in the City, on average, homeowners are still partial to lower-density housing. The largest category of households in Edmonton are families with children, who are likely more interested in lower-density housing options that include a backyard and more square footage as compared to high-density housing.
- Discussions with developers and brokers in the residential market confirmed that, in general, the higher-density housing options being absorbed by the market are acting as a stepping stone for singles and families looking to make the eventual move to single-family home ownership.
- While there has been some increasing interest in higher-density housing, our research suggests that this shift is unlikely to continue unabated in the long-run as there is still a dominant preference for lower-density housing among homeowners in the City.
- The need for new land to accommodate residential growth is related, in part, to the degree of redevelopment occurring within mature and established areas of the City through intensification. Between 2006 and 2017, infill development in the City as a proportion of all new residential development averaged approximately 14%.
- At present, a substantial amount of high-density infill is taking place in the downtown core. Many developers perceive this current pace of infill downtown to be unsustainable, due in large part to the relative employment density in the downtown core vis-à-vis outlying areas of the City. It is expected that a shift towards higher density options outside the downtown core and in proximity to outlying transit hubs is likely to take place in the medium term.



City of Edmonton Long-Term Population and Housing Forecast and Growth Allocations

This study provides an assessment of the long-term growth potential for the City of Edmonton to the year 2065 in ten-year increments, along with growth allocations by neighbourhood. The growth forecast presented herein is based on the Fall 2018 forecast from the City of Edmonton Chief Economist's Office. In developing the City of Edmonton's long-term population and housing forecast, consideration has been given to the long-term demographic and socio-economic outlook for the Edmonton Metropolitan Region. Key observations are as follows:

- Edmonton is expected to experience a relatively constant and steady G.D.P. growth through 2045, ranging between 1.6 and 2.9% annually. Over the 2045 to 2065 period, average annual G.D.P. growth of 2% is anticipated.
- The forecast economic growth continues to support steady population and housing growth within the City of Edmonton, largely driven by international and inter-provincial net migration.
- The City's population is forecast to increase from approximately 977,000 to 2 million over the 2018 to 2065 period, representing an average annual growth rate of 1.5%.
- Based on market model assumptions and the identified housing supply, the City can accommodate a population of 1.8 million under the baseline market scenario, which is approximately 200,000 persons shy of the City's 2065 population target of 2 million.
- Under the baseline market scenario, it is expected that the City will house an additional 844,000 persons in about 349,000 new units by 2065. This reflects a housing mix of 50% low-density units, 14% medium-density units and 36% high-density units with 20% of total units accommodated through intensification.
- At a neighbourhood level, large population growth is expected to occur in newer, developing neighbourhoods. Additionally, the Southwest and Southeast Annexation areas, along with additional rural lands that have not yet been subdivided, are shown to absorb units and the accompanying population over the growth period. Growth in mature or established neighbourhoods is driven almost exclusively by the estimated infill potential. The market model includes nuanced market estimates for infill saturation potential for low- and high-density units.



- To meet the City's objective of housing a population of 2 million within Edmonton's boundaries by 2065, various changes in housing preferences would be necessary to achieve this goal. This is presented as the Full Population Scenario.
- In order for the City to house a population of 2 million by 2065 under the Full Population Scenario, a notable shift in housing and geographic preferences would need to occur including a greater degree of higher-density residential development in the Central Area, Northeast and along the City's four planned L.R.T. lines. It is also necessary to assume a higher level of saturation for infill potential of low-density units in mature and established neighbourhoods.
- Under the full population scenario, it is expected that the City will house an additional 1.05 million persons in about 430,000 new units by 2065. This reflects a housing mix of 51% low-density units, 13% medium-density units and 36% high-density units with 33% of total units accommodated through intensification.

City of Edmonton Long-Term Employment Forecast and Growth Allocations

In developing the City of Edmonton's long-term employment forecast, consideration has been given to the long-term economic outlook for the Edmonton Metropolitan Region. The employment forecast presented herein is based on the Full Population Scenario of 2.0 million people by 2065. Key observations include:

- Edmonton's long-term economic and employment growth potential is largely tied to the success of the broader provincial and national economies, as a whole. There are several macro-economic factors and regional and local issues that are anticipated to influence the growth potential of Edmonton's economy and ultimately the future local employment growth over the long term. These factors will not only impact the rate and magnitude of employment growth, they will also influence the form and density of non-residential development and corresponding demand for industrial, commercial and institutional lands.
- As of 2018, the City's employment base is estimated at 550,400, based on data provided by the City's Office of the Chief Economist. Over the 2018 to 2065 period, the City is expected to add an additional 559,400 jobs, thereby increasing to an approximately 1.1 million employment base by 2065. This represents an average annual employment growth rate of 1.5%.
- Employment growth is expected across a wide range of sectors driven by continued diversity of the regional and local economic base and steady local



population growth. The commercial sector is anticipated to account for 48% of City-wide employment growth over the period, followed by the institutional sector (32%), and the industrial sector (15%). Work at home employment is expected to account for 5% of employment growth.

- Population-related employment (i.e. retail, schools, service and commercial) is generally automatically attracted to locations convenient to local residents. Typically, as the population grows, the demand for population-related employment also increases to service the needs of the local community. Similar to population-related employment, home-based employment is also anticipated to generally increase in proportion to population growth.
- Industrial and office commercial employment (export-based employment), on the other hand, is not closely linked to population growth and tends to be more influenced by broader market conditions, as well as local site characteristics and locational attributes.
- Employment by sector (excluding work at home employment) was allocated by neighbourhood based on land-use categories including industrial lands (industrial neighbourhoods), major office, regional serving retail and institutional uses and local population serving retail and institutional uses.
- Edmonton's largest existing employment node (the Downtown neighbourhood) is anticipated to have its employment base nearly double from approximately 80,000 in 2018 to 156,000 in 2065. Other key non-residential neighbourhoods, including Central McDougall, Mistatim Industrial, Oliver and Spruce Avenue, are expected to experience notable increases in employment over the forecast period. Many large employment nodes, including University of Alberta, Summerlea and Strathcona Industrial Park, are expected to experience modest employment growth.
- Neighbourhoods with notable concentrations of employment growth over the forecast period include Blatchford, Central McDougall, Decoteau, Downtown, Edmonton Energy and Technology Park, Ellerslie Industrial, Heritage Valley, South Annexation area, University of Alberta Farm, and the Winterburn Industrial Area.

City of Edmonton Residential and Non-Residential Land Needs to 2065

- Given that a primary objective of the City is to house the forecast population within the current City boundaries (including the annexation areas to the south),



the residential land needs will not differ from those already planned for new neighbourhoods as well as those previously estimated for the annexation lands. If the City is unable to house the forecast population within current City boundaries, additional residential land will be required.

- Over the 2018 to 2065 period, an estimated 20-25% of employment growth on industrial lands within the established industrial districts (i.e. Northwest, South/Southeast and Northeast Districts) is expected to be accommodated through intensification. Moderate infill and expansion of existing developed sites within developed industrial areas has been occurring to-date and is expected to increase as Edmonton matures,
- Based on the industrial land supply identified and assumed intensification, it is anticipated that the Northwest, South/Southwest and Northeast will be built-out by approximately 2045. Thereafter, the City will rely exclusively on the EETP and South Annexation area to accommodate future industrial land development.
- Over the 2018 to 2065 forecast period, industrial land demand in Edmonton is expected to total approximately 4,190 net ha, of which 17% is anticipated to be accommodated in the Northwest, 3% in the Northeast, 12% in the South/Southeast, 32% in the EETP and 37% in the South Annexation area.
- Demand for commercial lands is anticipated to total approximately 1,741 ha over the 2018 and 2065 period. This includes 700 net ha within the former City boundaries and 1,041 net ha within the South Annexation area.
- Demand for institutional lands over the forecast period is anticipated to total 1,065 net ha. This includes 288 net ha in the former City boundaries and 777 net ha within the South Annexation area.
- Based on the market-based analysis presented herein, there is a significant shortage of commercial land in the Southwest Annexation area to accommodate future employment growth allocated to the area through 2065 (a deficit of 635 net ha) and a small deficit of institutional land (24 net ha).
- To accommodate employment growth within the land capacity identified, a downward adjustment of approximately 42,300 jobs to the employment allocation for the South Annexation area for the 2018 to 2065 period will be required, reducing the overall employment forecast from 169,600 to 127,300.
- The excess employment (totalling 42,300) would need to be accommodated within the former City of Edmonton municipal boundary through either higher density of development on greenfield lands or through higher rates of intensification.



- To accommodate the entire 42,300 jobs through intensification would increase the share of employment growth accommodated through intensification from 40% under the Reference Scenario to 48%.



1. Introduction

1.1 Terms of Reference

Watson & Associates Economists Ltd. (Watson), in association with Nichols Applied Management Inc. (Nichols), was retained by the City of Edmonton to prepare an Economic, Demographic and Market Study as input to The City Plan, the City's new long-term land-use and transportation plan.

The purpose of this study is to provide:

- City-wide population, housing and employment forecasts to the year 2065, building on growth projections prepared by the City of Edmonton Chief Economist's Office, based on a detailed assessment of provincial, regional and local economic trends influencing long-term local growth potential and development patterns; and
- Market-based allocations of forecast population, housing and employment growth for each of the City's neighbourhoods and identify corresponding residential and non-residential land needs.

1.2 Context

Growth forecasts are a common input into municipal decision making. Such forecasts typically include a comprehensive review of how anticipated economic and demographic trends, as well as government policies, are expected to influence future growth and development patterns.

The growth analysis presented herein was developed within a market and economic lens context. The results of this study are intended to guide decision-making and policy development specifically related to planning and growth management, urban land needs, master planning and municipal finance.

This growth analysis was completed within the context of a future year population target of two million residents, and considers recent and future economic and demographic trends. In addition to the City-wide growth forecast presented, detailed population, housing and employment growth allocations by neighbourhood are provided in a digital G.I.S. (geographic information system) geodatabase format.



The City of Edmonton is comprised of 396 existing neighbourhoods, as illustrated in Figure 1. Each neighbourhood has an assigned Neighbourhood Classification, in accordance with the Municipal Development Plan, “The Way We Grow,” which includes:

- Core Areas – represents the core of the City centred around the downtown area;
- Mature Areas – developed neighbourhoods largely built prior to 1970;
- Established Areas – remaining developed neighbourhoods largely within the Anthony Henday Drive ring road area;
- Developing Areas – neighbourhoods actively being developed with notably land supply opportunities;
- Planned Areas – neighbourhoods planned for future development but currently rural in nature; and
- Industrial Areas – neighbourhoods with a predominantly industrial land base which includes both mature and developing areas.

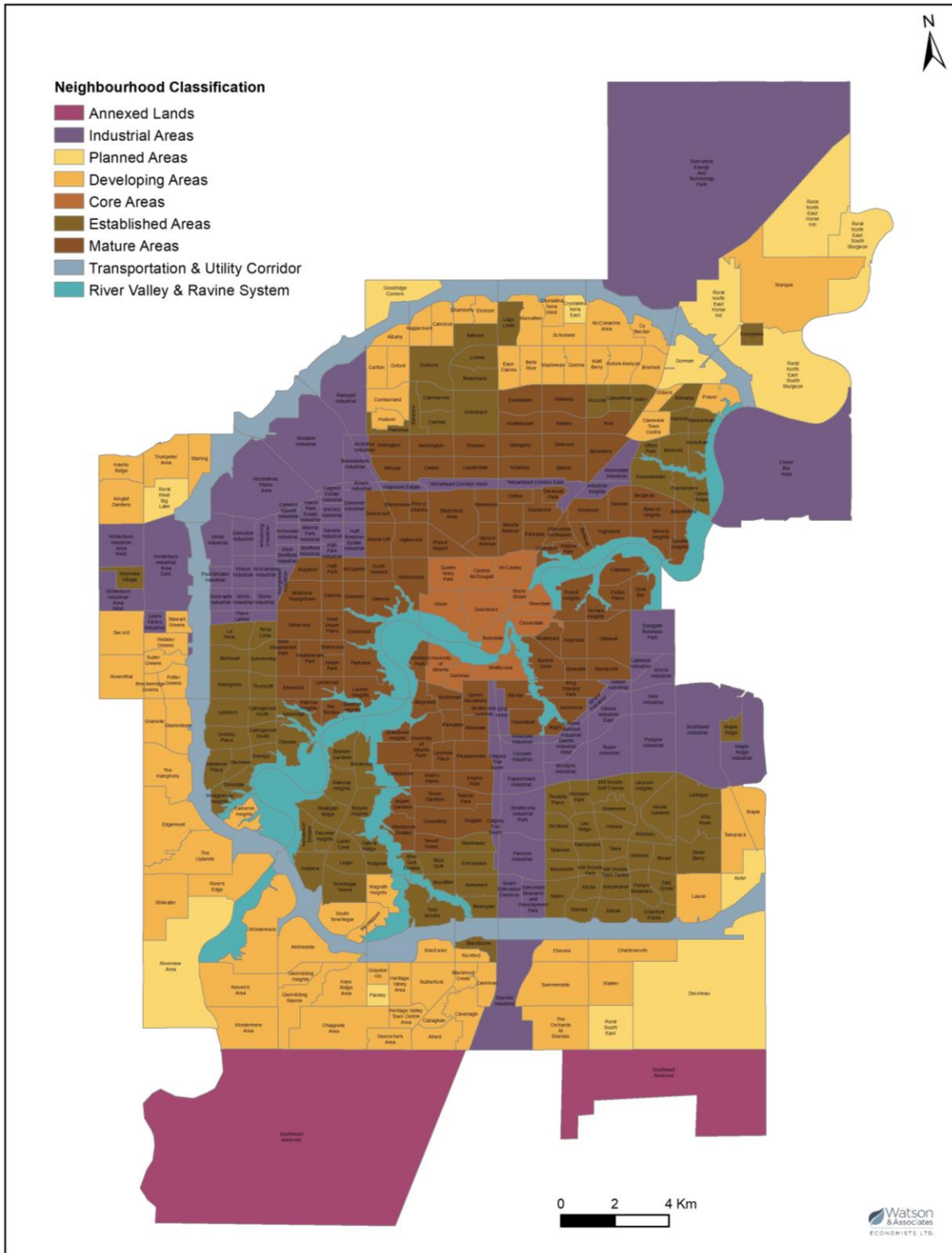
The growth allocation analysis also reflects the South Edmonton Annexation area, which is comprised of the Southwest and Southeast areas, as illustrated in Figure 1.

1.3 Data Sources

The analysis presented herein utilizes the latest data available to the Consultant at the time of reporting. This includes population, housing and employment data provided through Statistics Canada 2016 Census data and 2018 Canadian Business Count data, and InfoCanada Business Directory data. The study also relies on the City of Edmonton Fall 2018 Growth Forecast as prepared by the Office of the Chief Economist, as well as building permit data and land supply information provided by the City’s planning department.



Figure 1
City of Edmonton Map of Neighbourhoods





2. Macro-Economic Trends Influencing Employment and Labour Force Growth

The following provides an overview analysis of the macro-economic and demographic factors that are anticipated to influence future employment and labour force growth by sector. This includes export-based industry sectors (including the oil and gas industry) across the City of Edmonton and the Edmonton Metropolitan Region.

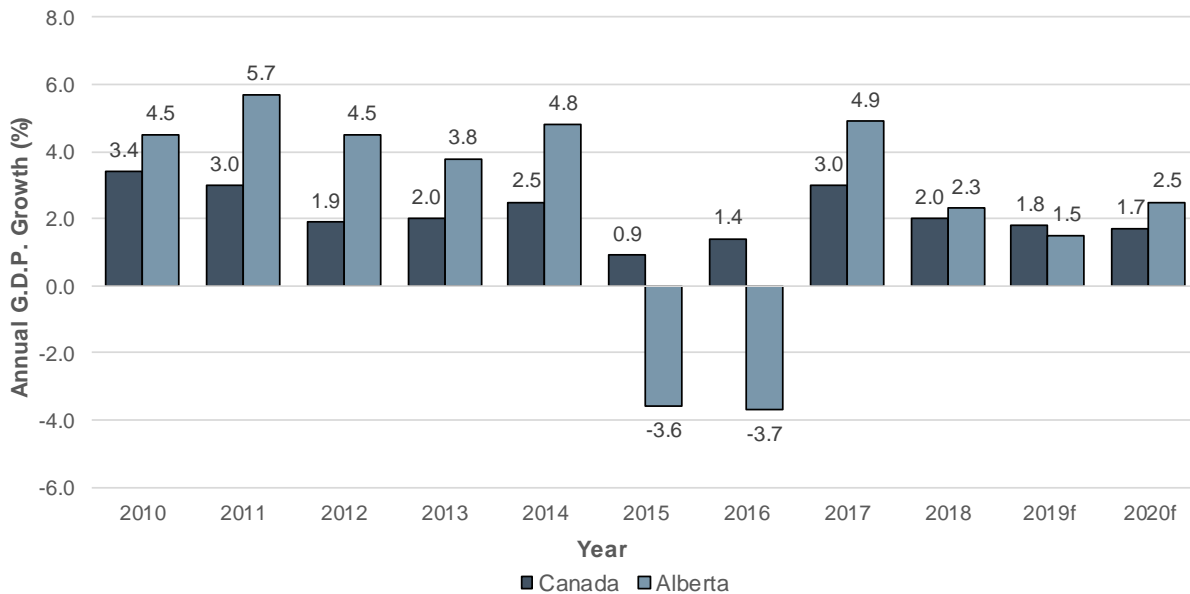
2.1 Provincial and Regional Context

The gross domestic product (G.D.P.) in the Province of Alberta exhibited a high rate of growth between 2010 and 2014 (approximately twice that of the national average), as shown in Figure 2. A significant share of Alberta's economic growth during this time was driven by the energy sector. Over the period, unprecedented global demand for oil led to expanded provincial production and development activity, through significant capital investment in this sector. That growth, however, has been followed by a rapid decline. Alberta's G.D.P. is estimated to have contracted by 3.6% in 2015 and by 3.7% in 2016 due to the recent downturn in the energy sector and the provincial economy, which has underperformed compared to Canada as a whole. In 2017, Alberta's economy sharply rebounded, with an expansion in G.D.P. of 4.9%, out-performing the national economy. This trend continued into 2018, when Alberta's G.D.P. expansion is estimated to be 2.3%, again surpassing national growth. Over the 2019 to 2020 period, Alberta is expected to experience modest G.D.P. growth of 1.5% and 2.5%, respectively, marginally higher than Canada as a whole over the two-year period.

While the performance of the Alberta economy is anticipated to remain positive over the near term, there are potential risks to the national and provincial economies that are important to recognize. This includes risks with respect to the adoption of protectionist trade measures in the U.S., as well as other proposed changes to U.S. fiscal and industrial policies. Domestically, the housing market along with record consumer debt loads collectively continue to pose a risk to the overall economy.



Figure 2
Alberta and Canada Annual Real G.D.P. Growth, 2010 to 2020



Source: Derived from BMO Capital Markets Provincial Outlook, February 2019 by Watson & Associates Economists Ltd., 2019.

The energy sector plays a significant role in Alberta's economy, accounting for 28% of the Province's G.D.P.¹ Other major sectors are largely attributed to the service industry, including finance and real estate, business and commercial services, and retail and wholesale trade. Notable industrial sectors include construction, manufacturing, and transportation and utilities.

Over the past decade, the provincial economy has become more diversified and less concentrated in goods-producing sectors related to manufacturing and energy. Services-producing sectors, including business and commercial services (i.e. professional services, business support and administration, and finance and insurance), as well as health care and social assistance, have experienced strong increases in G.D.P. share over the same time period.

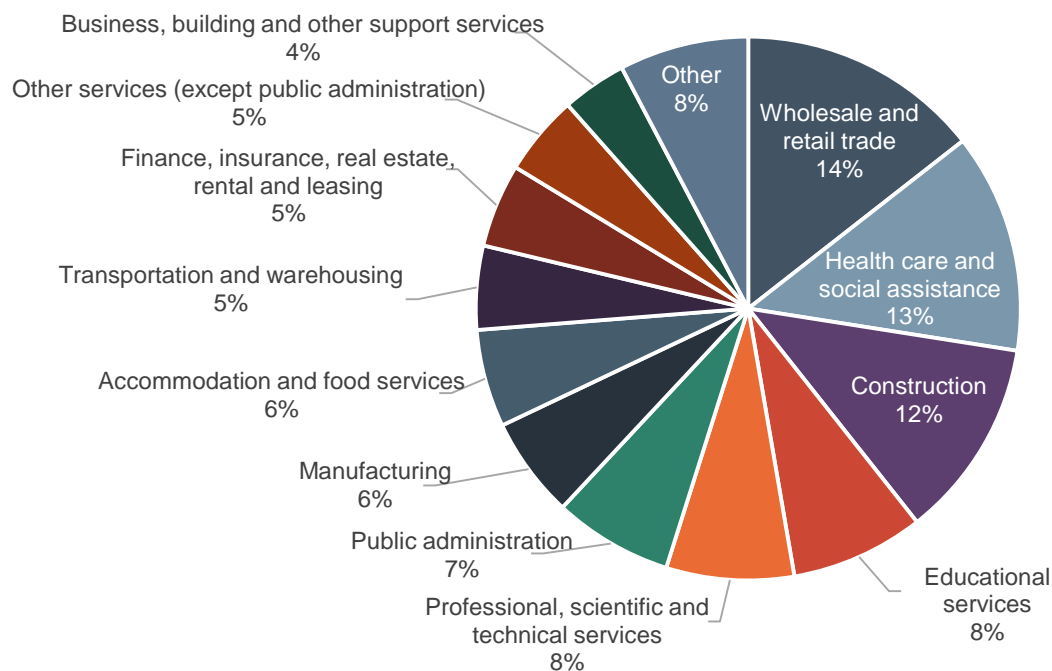
¹ Data from Alberta Government Economic Dashboard, which is adapted from Statistics Canada, CANSIM table 379-0030 (Gross Domestic Product at basis prices).



2.1.1 Edmonton Metropolitan Region Employment Trends and Cluster Analysis

The Edmonton Metropolitan Region has a strong and diversified economy. In terms of employment share, key industrial employment sectors within the Edmonton Census Metropolitan Area (C.M.A.) include construction, manufacturing and transportation and warehousing, as illustrated in Figure 3. In addition, the economic region is comprised of a number of established or emerging knowledge-based sectors, including educational services; health care and social assistance; public administration; professional, scientific and technical services; finance, insurance, real estate and leasing; as well as business, building and other support services. Strong population growth has also fueled growth in wholesale and retail trade, as well as accommodation and food services.

Figure 3
Edmonton Metropolitan Region Employment Structure, 2018



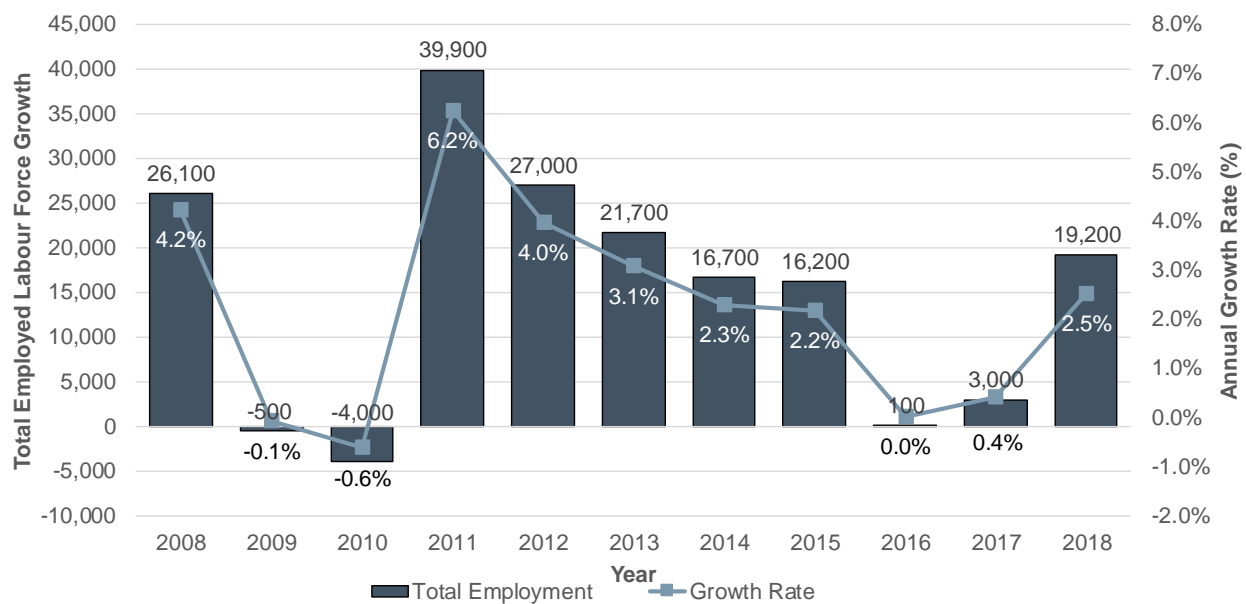
Note: Other includes forestry, fishing, mining, quarrying, oil and gas, information, culture and recreation, and utilities.
Source: Data derived from Statistics Canada Table 14-10-0098-01 -Employment by Industry, annual, Census Metropolitan Area by Watson & Associates Economists Ltd., 2019.

The Regional economy, as represented by the Edmonton C.M.A. has generally outperformed Alberta as a whole, with respect to annual employment growth over the past decade. Following a strong period of employment growth within the Edmonton



Metropolitan Region over the 2011 to 2015 period, in 2016 employment growth slowed notably, largely as a result of job losses in key industrial and commercial sectors including energy, manufacturing, and wholesale and retail trade. These losses, however, have been offset by strong gains in employment in health care and social assistance, education services, and public administration, along with construction. The diversified nature of the Edmonton Metropolitan Region's economy has helped mitigate the slowdown in employment growth experienced in Alberta as a whole, which had a notably more pronounced slowdown in employment growth during the same period. A modest rebound in employment growth occurred in the Edmonton Metropolitan Region in 2017. Employment growth accelerated through 2018, with an increase of 2.5%.

Figure 4
Edmonton Metropolitan Region Employed Labour Force, 2008 to 2018



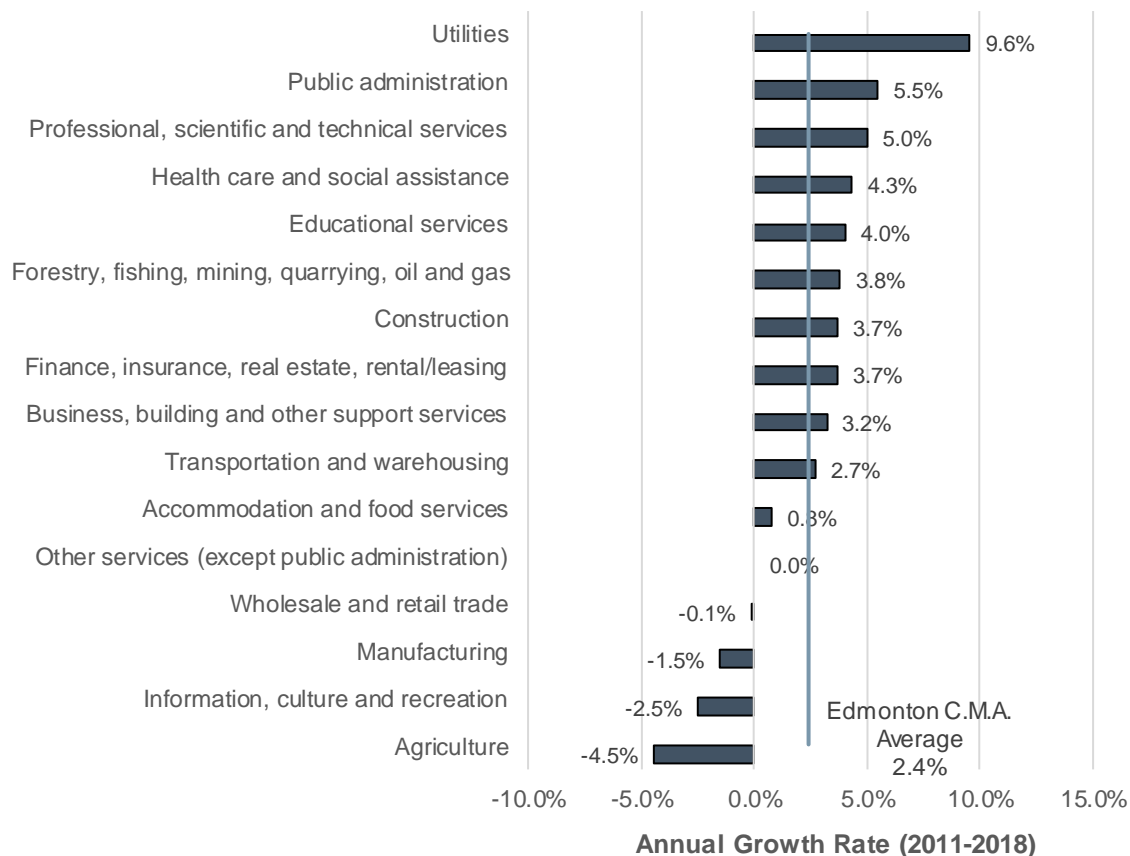
Source: Edmonton C.M.A. data derived from Statistics Canada Table 14-10-0098-01, Province of Alberta data derived from Statistics Canada Table 14-10-0023-01 by Watson & Associates Economists Ltd., 2019.

Figure 5 illustrates the employment change by industry sector over the 2011 to 2018 period in the Edmonton Metropolitan Region. As shown, employed labour force growth rates have been highest in a number of key sectors including: public administration; professional, scientific, and technical services; health care and social assistance; education services; forestry, fishing, mining, quarrying, oil and gas; construction; finance, insurance, real estate, rental/leasing; business, building and other support services; and transportation and warehousing. The utilities sector has also exhibited



relatively strong employment growth but it represents a relatively small share (approximately 1%) of the Region’s employment base. In contrast, manufacturing, and information, culture and recreation have experienced significant declines in recent employed labour force size.

Figure 5
Edmonton Metropolitan Region Average Annual Employment Growth by Sector, 2011 to 2018



Source: Derived from Statistics Canada Table 14-10-0098-01 by Watson & Associates Economists Ltd., 2019.

2.2 City of Edmonton Employment and Economic Structure

2.2.1 City of Edmonton GDP Growth

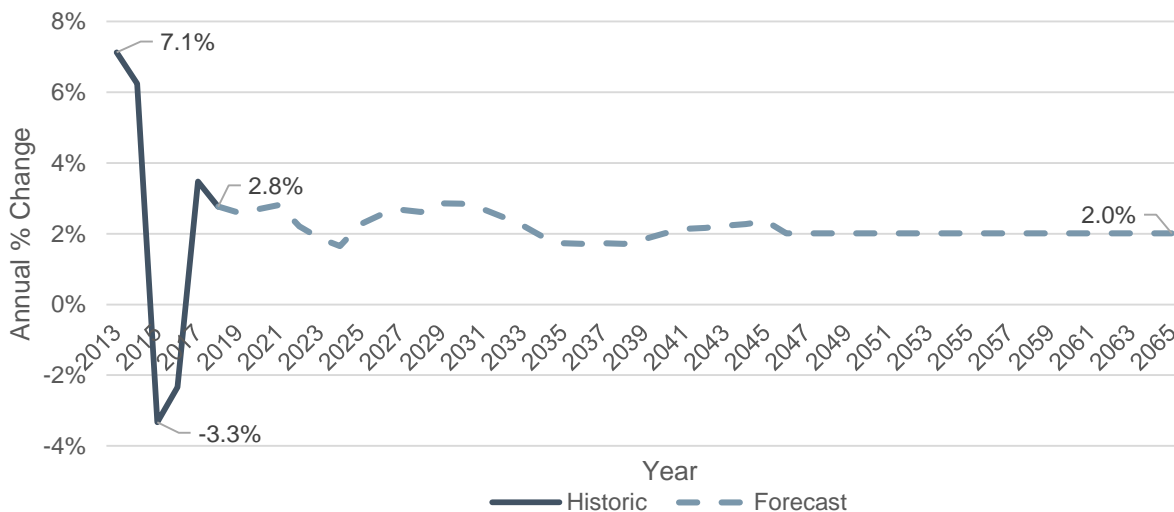
Figure 6 illustrates Edmonton’s historical annual GDP growth from 2013 to 2018, as well as forecast growth through 2065. In 2013 and 2014, Edmonton experienced relatively strong GDP growth of 7.1% and 6.2%, respectively. In 2015 and 2016, the Edmonton



experienced a contraction in GDP due to the economic downturn in the provincial economy. This was followed in 2017 by a rebound in GDP growth of 3.5%.

In accordance with the City's current economic forecast, which served as input into the development of the Chief Economist Office's population and employment projections presented herein, Edmonton is expected to experience a relatively constant and steady GDP growth through 2045, ranging between 1.6 and 2.9% annually. Over the 2045-2065 period, average annual GDP growth of 2% is anticipated.

Figure 6
City of Edmonton
Annual GDP Growth, Historical and Forecast



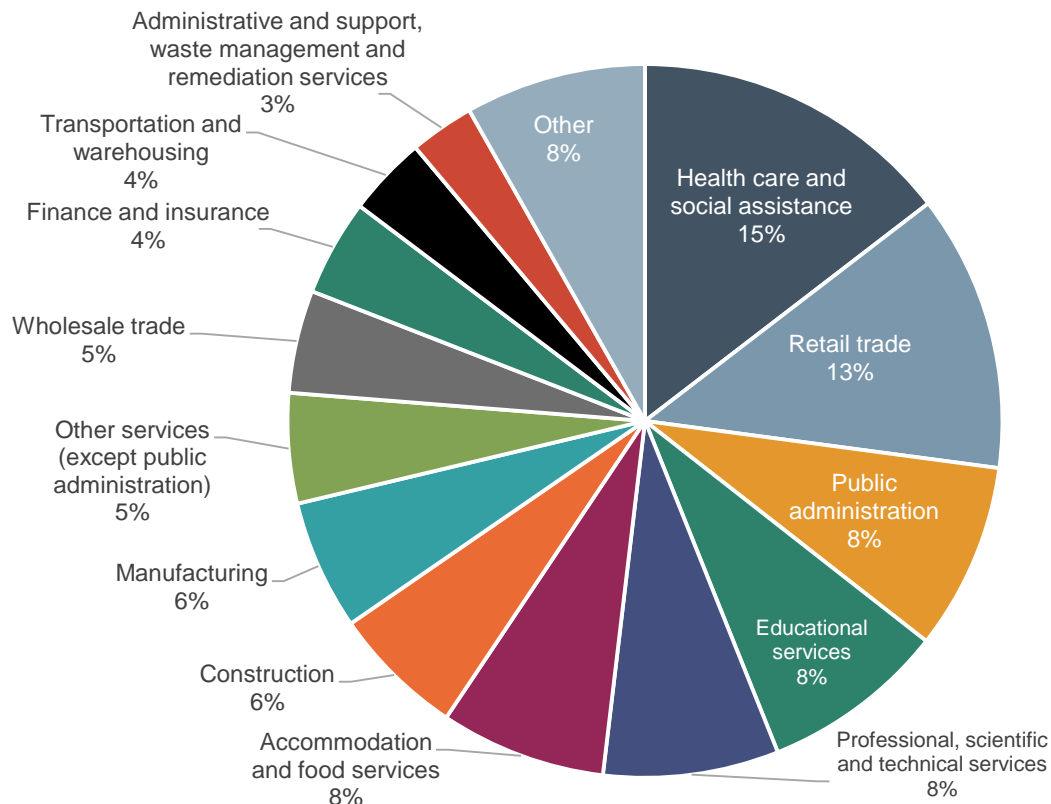
Source: Derived from City of Edmonton Fall 2018 Forecast by Watson & Associates Economists Ltd., 2019.

2.2.2 Employment Base and Industry Clusters

As illustrated in Figure 7, the City of Edmonton's employment base is highly oriented to commercial and institutional sectors. The largest, health care and social assistance, accounts for 15% of total employment, followed by retail trade (13%), public administration (8%), educational services (8%), professional, scientific and technical services (8%), accommodation and food services (8%), construction (6%), and manufacturing (6%).



Figure 7
City of Edmonton Employment Structure, 2016



Source: Data from Statistics Canada Place of Work for 2016 by Watson & Associates Economists Ltd., 2018.
Note: Employment figures include usual place of work and work at home.

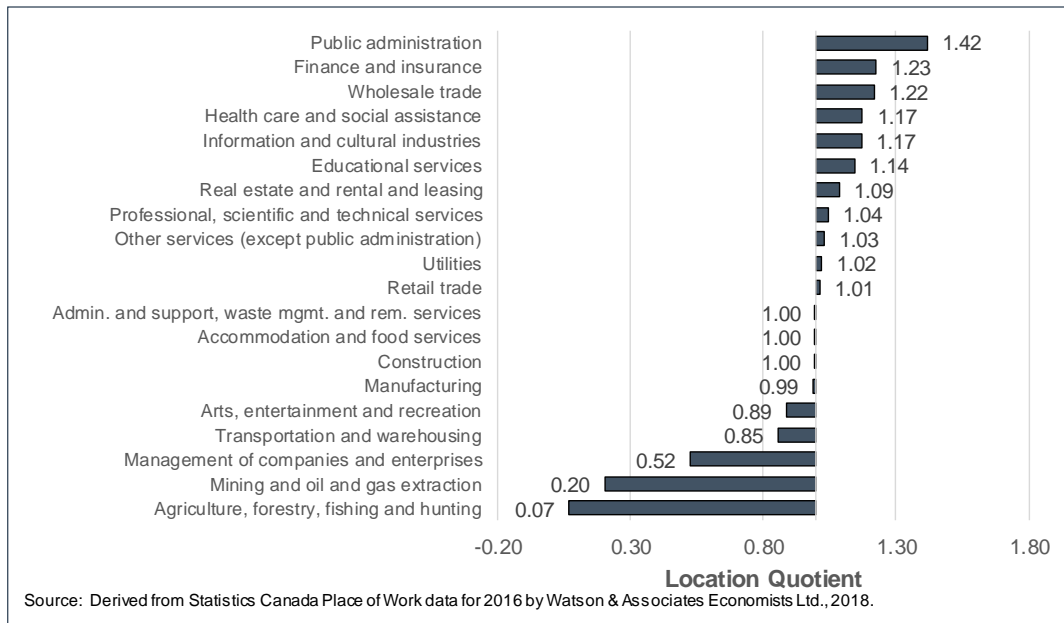
Figure 8 illustrates the strength of employment sectors in the City of Edmonton relative to the Province using Location Quotients (L.Q.).¹ As shown, there is only one industrial sector in Edmonton’s economy that is highly concentrated, which is wholesale trade. The City of Edmonton also has a relatively high concentration of employment in commercial and institutional sectors including retail trade, accommodation and food services, information and cultural industries, finance and insurance and government services. In contrast, the City of Edmonton has a relatively low concentration of

¹ An L.Q. of 1.0 identifies that the concentration of employment by sector is consistent with the broader employment base average. An L.Q. of greater than 1.0 identifies that the concentration of employment in a given employment sector is higher than the broader base average, which suggests a relatively high concentration of a particular employment sector or “cluster.”



employment in a number of primary sectors, such as: agriculture, forestry, fishing and hunting; and mining and oil and gas extraction.

Figure 8
City of Edmonton Location Quotients by Sector Relative to Alberta, 2016

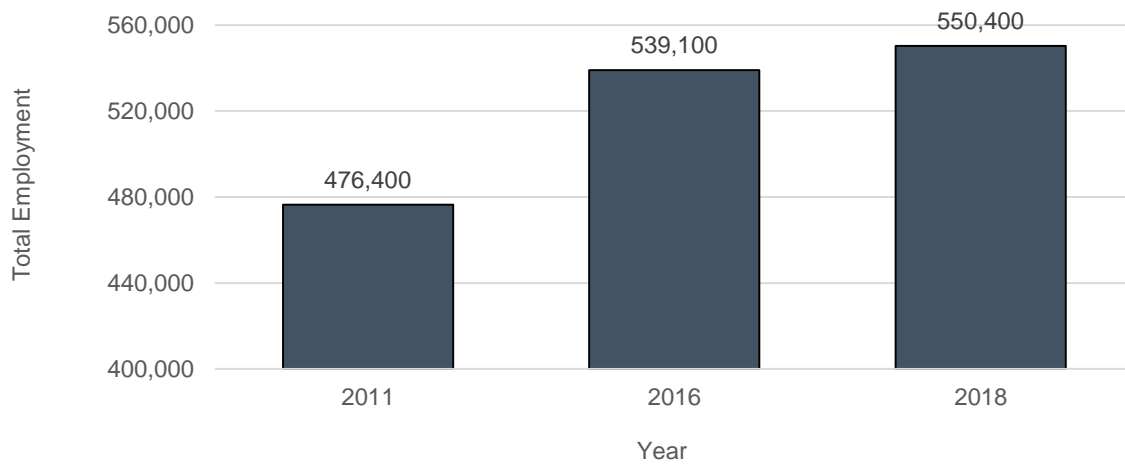


2.2.3 City of Edmonton Employment Growth Trends

As identified by the City’s Office of the Chief Economist, Edmonton’s employment base has grown from approximately 476,000 jobs in 2011 to an estimated 550,000 jobs in 2018, an increase of approximately 16% over the period, as illustrated in Figure 9. The City experienced relatively strong employment growth between 2011 and 2016, increasing by 2.5% annually. Since then, Edmonton has experienced more moderate employment growth, expanding by 1.0% annually between 2016 to 2018. The overall growth rate from 2011 to 2018 has averaged 2.1% annually.



Figure 9
City of Edmonton Employment Base, 2011 to 2018

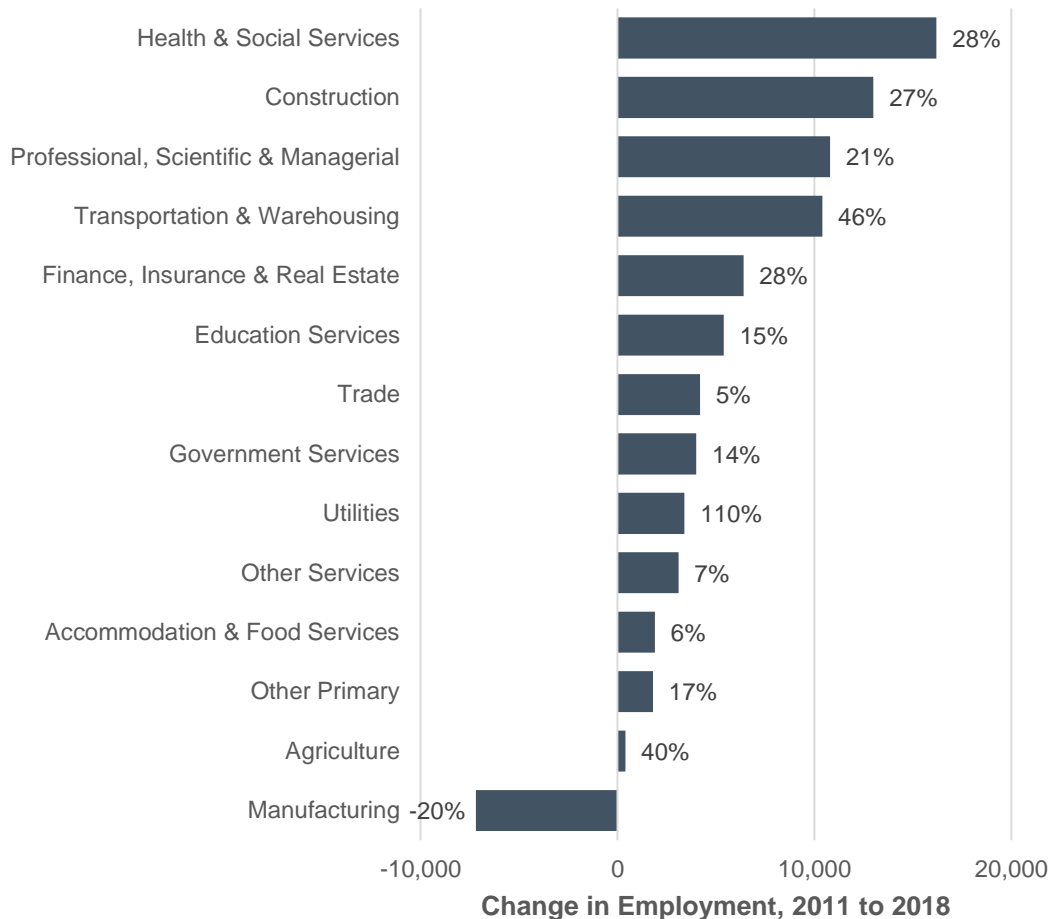


Source: Adapted from City of Edmonton Fall 2018 Employment by Industry by Watson & Associates Economists, 2019.

Figure 10 illustrates employment growth by sector over the 2011 to 2018 period in absolute terms and percentage change. As summarized, Edmonton experienced significant employment growth in a number of industrial sectors, such as transportation and warehousing, construction, and utilities. All the commercial sectors exhibited an increase in employment growth over this period, but the following sectors experienced a significant increase: finance, insurance and real estate; and professional, scientific and managerial. The City also experienced significant growth in the health and social services sector, education services, and government services. The only sector that experienced a decline during this time period was manufacturing.



Figure 10
City of Edmonton Employment Growth by Sector, 2011 to 2018



Source: Data from City of Edmonton Fall 2018 Employment by Industry by Watson & Associates Economists Ltd., 2018.

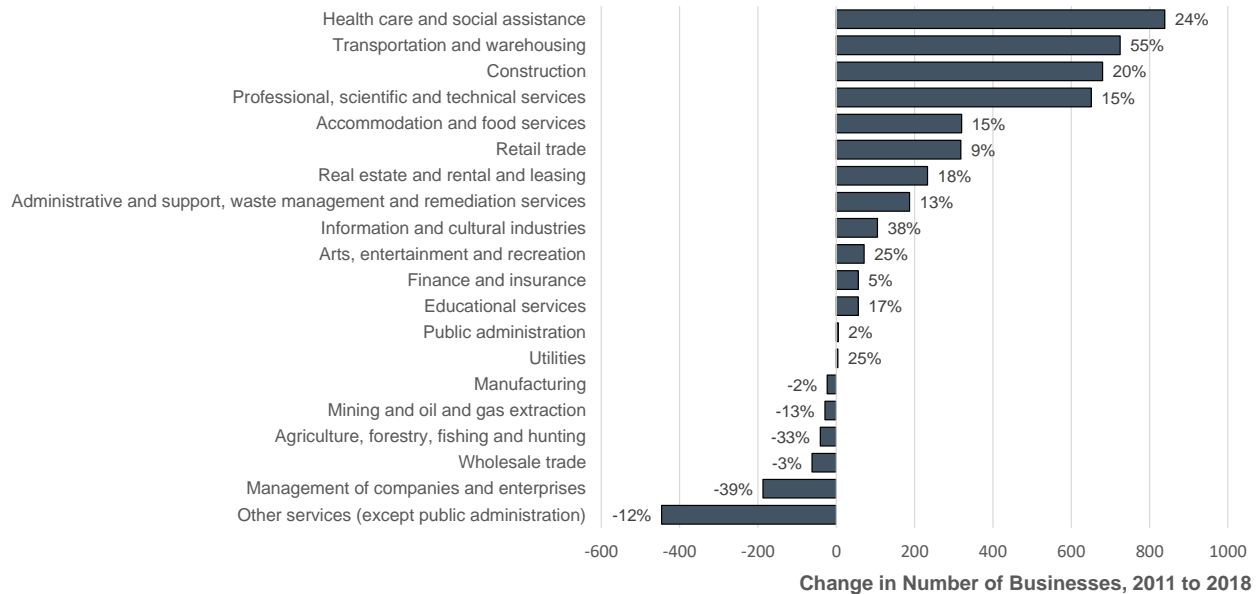
2.3 City of Edmonton Business Growth Trends

2.3.1 Business Growth Trends by Sector

Figure 11 summarizes the change in the number of businesses operating in the City of Edmonton by sector over the 2011 to 2018 period. As shown, the City of Edmonton has experienced relatively strong business growth in a number of sectors including: transportation and warehousing; information and cultural industries; arts, entertainment and recreation; utilities; health care and social assistance; construction; real estate and rental and leasing; and educational services.



Figure 11
City of Edmonton Change in Number of Business Establishments by Sector,
2011 to 2018



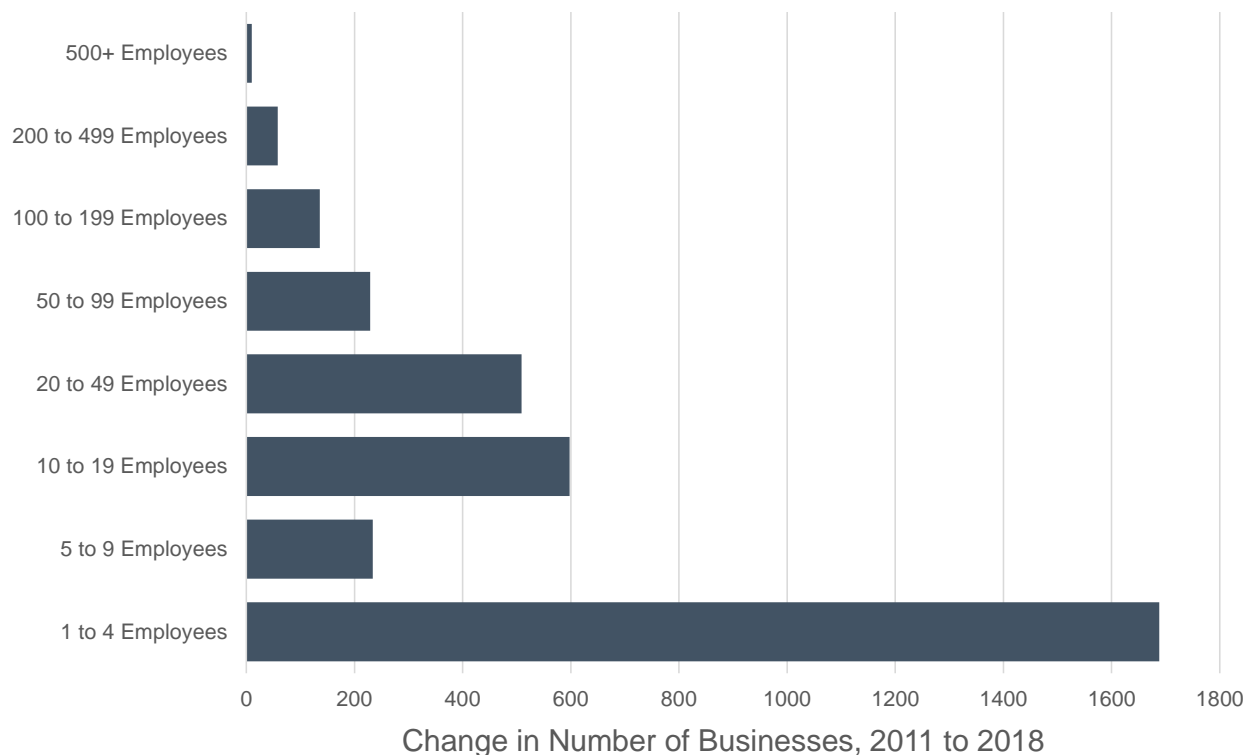
Source: Statistics Canada, Canadian Business Counts, 2011 to 2018 by Watson & Associates Economists Ltd., 2019.

2.3.2 Growth Trends by Business Size

Figure 12 summarizes the growth in the number of businesses in Edmonton over the 2011 to 2018 period by business size class. As shown, the majority of business growth (55%) came from small businesses (those with less than 10 employees). The strongest small businesses growth was in transportation and warehousing; professional, scientific, and technical services; health care and social assistance; construction; real estate and rental and leasing; and administrative and support, waste management and remediation services. Growth in small business has been driven in part by knowledge-based sectors that are focused on innovation and entrepreneurship including notable expansion in self employment.



Figure 12
City of Edmonton Growth in Number of Businesses by Business Size Class,
2011 to 2018



Source: Statistics Canada, Canadian Business Counts, 2011 to 2018 by Watson & Associates Economists Ltd., 2019.

2.4 Emerging Industry Sector and Labour Force Trends

Continued structural changes in the global economy and technological advancements will require municipalities to be increasingly responsive and adaptive to changing industry needs and disruptive forces. The following provides an overview of key industry and labour force trends that are expected to influence growth patterns in Edmonton over the coming decades.

2.4.1 Trends in Knowledge-based Sectors

Similar to the provincial economy as a whole, the nature of the Edmonton economy is changing. Over the past decade, the composition of Edmonton's employment base has gradually shifted from a goods-producing economy to a services-producing economy, led by employment growth in a range of "knowledge-based and creative-class economy"



sectors including: advanced manufacturing, professional, scientific and technical services; financial services; information and cultural industries; education services; health care and social services; as well as real estate.

These sectors represent a growing share of the employment base on industrial lands as well as in mixed-use areas. Market demand for non-residential space has been increasingly driven by growth in the knowledge-based or creative class economy. With an increasing emphasis on these knowledge-based sectors, major office, flex office and multi-purpose facilities encompassing office and non-office uses are becoming increasingly dominant built forms within Employment Areas.

2.4.2 Trends in Industrial Processing

In general, globalization has led to increased outsourcing of production processes to overseas manufacturers. While there will continue to be a manufacturing focus in Alberta, the nature of traditional industrial processes is rapidly shifting, becoming more capital/technology intensive and automated, with lower labour requirements. The highly competitive nature of the manufacturing sector will require production to be increasingly cost effective and value-added oriented.

Emerging export-based subsectors have siting, space and built-form requirements that are significantly different from traditional manufacturing. This may include integrated operations combining office, research and development, warehousing and logistics, and on-site manufacturing in a “campus-style” setting. Anticipating and responding to the evolving needs of industry will be necessary for the City to better position itself for sustained growth, particularly in leading sectors.

2.4.3 Trends in Work at Home and No Fixed Place of Work Employment

In addition to reviewing employment trends by usual place of work, consideration has also been given in this analysis to the employment outlook in Edmonton for employees who work at home as well as employees who have no fixed place of work (N.F.P.O.W.). Statistics Canada defines N.F.P.O.W. employees as “persons who do not go to the same work place location at the beginning of each shift.” Such persons include landscape contractors, travelling salespersons, independent truck drivers, etc.



Generally speaking, work at home employment and persons who have N.F.P.O.W. are representing an increasing share of employment in municipalities across Canada, including Edmonton.

Over the coming decades, work at home employment in Edmonton is expected to steadily increase, with a gradual increase in the share of total employment driven by forecast growth in the knowledge-based and creative economy. This will be facilitated by opportunities related to telecommuting and increased technology. Demographics also play a role in the employment outlook for work at home employment. As the City's population and labour force continues to age, it is likely that an increased number of working and semi-retired residents will be seeking lifestyles which will allow them to work from home on a full-time or part-time basis.

N.F.P.O.W. employment is forecast to also steadily increase within the City over the long term, largely driven by steady employment growth in the construction, Goods Movement and knowledge-based sectors.

2.4.4 Potential Impacts of Technology and Automation on Labour Force Growth

Long-term labour force growth potential across Canada, and more specifically the Edmonton Metropolitan Region, will be directly influenced by continued structural changes and disruptions to the macro-economy driven by technology and automation. According to the Brookfield Institute for Innovation + Entrepreneurship, over the next 10 to 20 years, 42% of the Canadian labour force is at high risk of being affected by automation, either through significant task restructuring or elimination. Jobs that are anticipated to be most highly impacted by automation are primarily within occupations that are administrative, routine, or oriented towards sales and service. The Brookfield Institute report also notes that highly-skilled occupations are expected to grow much more quickly than the rest of the labour force and are at a lower risk of being negatively affected by automation. This suggests that more highly-skilled labour will be a significant driver of Canada's future economic growth.¹

A number of reports have recently been prepared which aim to assess the potential impacts of artificial intelligence (A.I.) to businesses as well as the broader impacts and

¹ The Talented Mr. Robot. The impacts of automation on the Canadian workforce. Brookfield Institute for Innovation + Entrepreneurship. June 2016.



contributions to the global economy. A report prepared by PWC in 2017 identifies that the net impacts to global G.D.P. resulting from A.I. are anticipated to contribute up to \$15.7 trillion to the global economy in 2030, more than the current output of China and India combined.¹ The report also identifies that over the next decade, A.I. will generate massive disruption as both established businesses and new entrants drive innovation and develop new business models.

As identified by the World Economic Forum in 2018, to prevent an undesirable lose-lose scenario associated with anticipated technological change in the economy – talent shortages, mass unemployment and growing inequality – a number of critical actions are needed. This includes businesses assuming an active role in supporting their existing workforce through reskilling and upskilling, individuals taking a proactive approach to their own lifelong learning, and governments creating an enabling environment to assist in these efforts.²

2.5 Regional Economic Growth Drivers

There are a number of factors that indicate economic growth within the Edmonton Metropolitan Region over the long term will be relatively strong, building on the economic expansion experienced over the past decade. These factors are discussed below.

2.5.1 Long-Term Energy Sector Growth Potential

As shown by the composition of the provincial economy and by economic growth trends, investment in the Edmonton Metropolitan Region is strongly tied to the energy sector.

The Edmonton Metropolitan Region serves as a major goods and services staging point for production within the Athabasca, Peace River and Cold Lake oil sands. Further, it has a strong economic base in refined petroleum products and petrochemical products,

¹ Sizing the Prize. What's the real value of AI for your business and how can you capitalise? PWC. 2017.

² World Economic Forum. Insight Report. The Future of Jobs Report. Centre for the New Economy and Society. 2018.



bitumen upgrading and spinoff sectors such as metal fabrication, construction, and business, technical and financial services.

Oil price trends for West Texas Intermediate (WTI) and Western Canada Select (WCS) are illustrated in Figure 13. As shown, since hitting a peak of \$110 per barrel (WTI) in mid-April 2011, oil prices declined by nearly 70% to a price of \$30 per barrel in mid-January, 2016. Since then, WTI oil prices have rebounded but have been highly volatile¹, and the price was \$62 per barrel as of early-April 2019².

Until recently, the price for WCS had followed a similar trend to WTI, except it was subject to a widening discount price. In September 2018, the price of WCS was approximately \$40 per barrel, followed by a record low of \$6 a barrel in December 2018, a discount of about 88% over WTI.³ This margin, however, has been reduced to 17%, with WCS prices at \$55 per barrel as of mid-April 2019.⁴

Despite the short-term challenges in the oil market, long-term trends remain favourable for oil prices and production, largely based on continued demand from Asia. The global demand for oil is expected to be robust through 2025, and without significant increases in U.S. shale production to meet demand, there is a high probability that the market will sharply tighten over the period.⁵ The price outlook for oil is pivotal to oil sands production, which is more expensive than conventional oil to produce. Over the short term, oil prices are expected to gradually recover. Over the longer term, the WTI oil price is forecast to increase to \$70 per barrel in 2020, \$80 per barrel by 2026, \$100 by 2040, and \$105 by 2050, as illustrated in Figure 13. In comparison, the price of WCS is expected to continue to recover, with an increase to \$64 per barrel by 2027 and the price differential with WTI is expected to remain over the period, as Alberta oil producers are faced with transportation capacity constraints with respect to getting products to market. The long-term price of WCS will be partly dependent on the ability

¹ U.S. Energy Information Administration (2009 to Present). Accessed through the Government of Alberta Economic Dashboard on April 22, 2019, <https://economicdashboard.alberta.ca/OilPrice>.

² U.S. Energy Information Administration, Short-Term Energy Outlook, April 2019.

³ Alberta Energy (2009 to Present). Accessed through the Government of Alberta Economic Dashboard on April 22, 2019, <https://economicdashboard.alberta.ca/OilPrice>.

⁴ <https://oilprice.com>, accessed April 22, 2019.

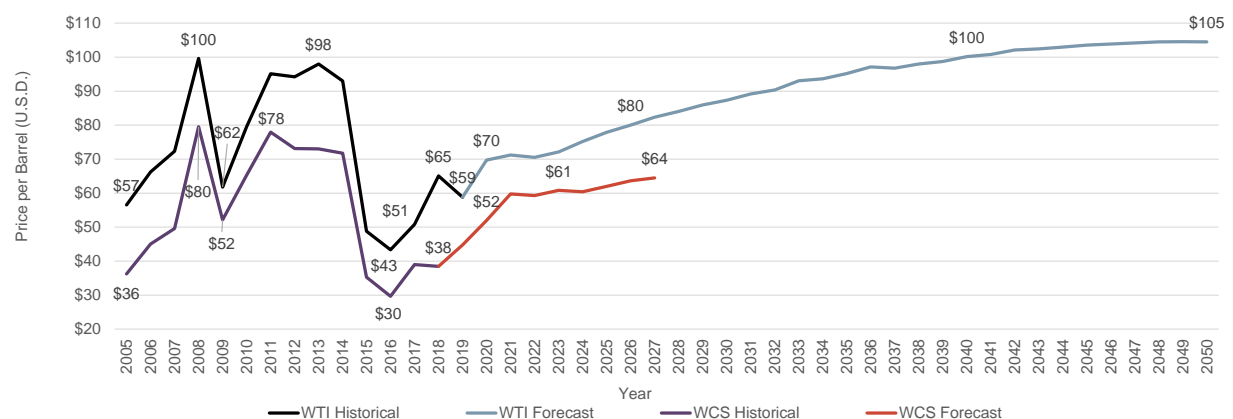
⁵ International Energy Agency, World Energy Outlook, 2018.



to expand opportunities to ship oil to markets via pipeline (e.g. Keystone XL and Trans Mountain) and/or by rail.

The recent decline in oil prices negatively impacted economic growth in Alberta in 2015 and 2016. The relatively low price of oil is expected to continue to affect G.D.P. growth in Alberta in the short term. The current volatility in the oil market is likely to subdue investment until a direction is determined. To help address the current market challenges in the energy sector, the Province of Alberta has been active in promoting diversification within the energy sector.

Figure 13
Historical and Long-Term Outlook for WTI and WCS Oil Prices

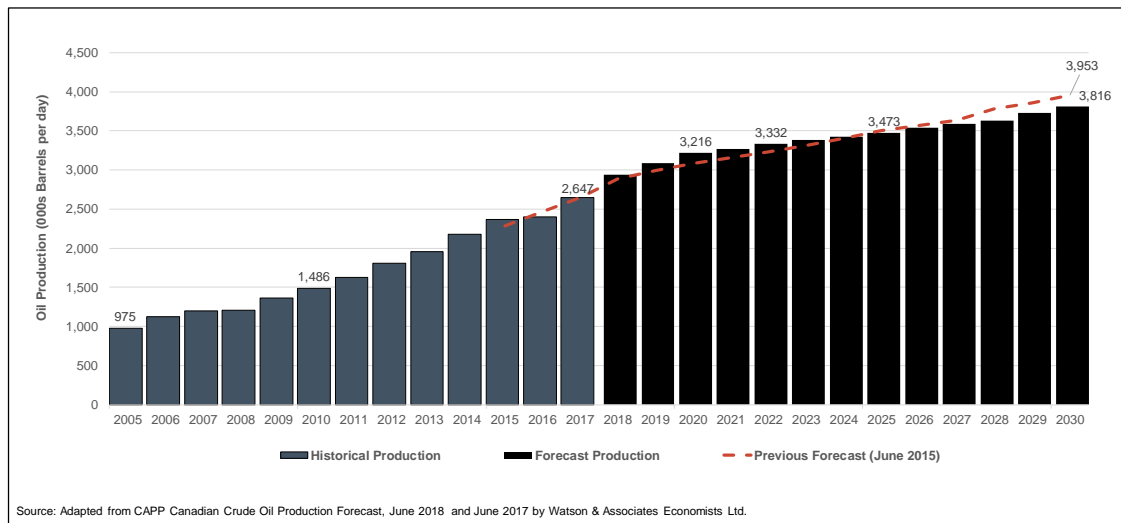


Source: WTI historical data from U.S. Energy Information Administration (2009 to present). WCS historical data from Alberta Energy (2009 to present). Short term WTI forecast 2019 based on Short-Term Energy Outlook, April 2019 and CME Group by EIA. Long term WTI forecast 2019-2050 reflects reference scenario from EIA, Annual Energy Outlook, 2019 (Price per barrel for WTI in 2018 dollars). WCS forecast data from Alberta Energy Regulator, July 2018. Data compiled by Watson & Associates Economists Ltd.

Despite the current volatility in oil prices and changes in the regulatory environment, oil production in Alberta is expected to increase, albeit at a lower growth rate than forecast prior to the recent downturn in the price of oil. With oil prices expected to continue trending upwards over the longer term, there is a basis for continued investment in oil sands production and production technology advancement. Oil sands production is forecast to increase to 3.8 million barrels per day by 2030, an increase of 44% from 2017 levels, as illustrated in Figure 14. While the short-term growth outlook is relatively robust, the longer term (i.e. 2020 to 2030) production forecast is more moderate. The long-term forecast has been downgraded slightly from that reported in 2015, as illustrated in Figure 14.



Figure 14
Alberta Oil Sands Production, 2005 to 2030



2.5.2 Diversification of Economy

The Edmonton Metropolitan Region Growth Plan stresses the importance to “Plan and develop complete communities” and promotes “diversification of the regional economy.” While the energy sector remains a major sector of employment and activity across the Metro Edmonton Region, the economic base continues to diversify into other industrial and knowledge-based sectors such as health industries, education services, logistics, construction, agri-food, professional, scientific and technical services and finance and insurance.

Edmonton’s position as the supply and service centre for the provincial energy industry, along with being the provincial seat of government and centre for education and health services, has contributed to the emergence of a highly diverse regional economy.¹ The employment and business growth patterns over the 2011-2018 period, as illustrated in Figures 10 and 11, respectively, reflect a diversifying economic base within the City of Edmonton. This includes strong growth in service-based and “knowledge-based” industry sectors, as discussed in Section 2.4.

¹ City of Edmonton Economic Development Plan – Technical Report, Millier Dickinson Blais.



Continued economic diversification provides opportunities for a broader range of non-residential development potential and employment prospects for Edmonton.

2.5.3 Strong Regional Long-Term Population and Employment Growth

With a robust economy and a diverse mix of export-based employment sectors, the Edmonton Metropolitan Region is highly attractive on an international level to new businesses and investors. Over the past decade, the Edmonton Metropolitan Region has been particularly attractive to the energy sector given its proximity to the Athabasca Region (Fort McMurray area, located 400 km northeast of Edmonton), which currently represents the majority of oil sands production in Alberta. The Edmonton Metropolitan Region has a strong appeal given the area's regional infrastructure (i.e. the Edmonton International Airport (E.I.A.), provincial highways, inter-modal facilities, etc.), access to skilled and unskilled labour and potential synergies associated with post-secondary institutions.

The vibrant and high quality of life that the Edmonton Metropolitan Region offers is an important factor that attracts investors and workers to the area. With access to a wide range of indoor and outdoor recreational opportunities, arts and cultural facilities, public and private schools, amenities (e.g. shopping, dining, health care, personal services) and tourism destinations within the surrounding region, the regional housing market in the Edmonton Metropolitan Region appeals to all major demographic groups (i.e. young adults, families, empty-nesters and seniors).

The physical, socio-economic and geographic attributes of the Edmonton Metropolitan Region have produced a highly competitive and diverse regional employment market. As a result, all the municipalities across the Edmonton Metropolitan Region have been successful to varying degrees in attracting a variety of industries within a broad range of industrial, office, retail and institutional sectors. In turn, this continues to support steady population and housing growth within the City of Edmonton and surrounding municipalities within the Edmonton Metropolitan Region, largely driven by international and inter-provincial net migration to this region.



The Edmonton Metropolitan Region has an estimated population of approximately 1.4 million (as of 2018)¹, with population expected to grow to between 1.9 million and 2.2 million by 2044.² Similarly, the Edmonton Metropolitan Region's current employment base of approximately 725,500 in 2014 is expected to climb to 1,197,300 by 2044, an increase of 65%.³

2.5.4 Edmonton International Airport (E.I.A.)

The Edmonton International Airport (E.I.A.) is the fifth busiest airport in Canada in terms of passenger traffic, with 7.8 million commercial passengers in 2017.⁴ The E.I.A. is also the largest major airport in Canada as measured by land mass, spanning just under 7,000 acres.⁵ The airport is a designated trans-shipment Foreign Trade Zone (FTZ), and the site of Port Alberta, a 3,000-acre site planned to be Alberta's premier cargo gateway, consisting of a multi-modal facility combining air, rail and road transportation.

The E.I.A. has had an expansion in its cargo and air support facilities (e.g. Air Canada Cargo and Support Facility, Canadian North's Manufacture, Maintenance, Repair and Operations (MMRO) facility and Aeroterm logistics distribution centre). The airport is also experiencing other major industrial and commercial development including an 800,000-square-foot cannabis production facility operated by Aurora Cannabis.

The continued development of the airport as a major multi-modal hub and centre of industrial and commercial activity is expected to drive further industrial development within the southern part of the Edmonton Metropolitan Region including south/southeast Edmonton.

2.5.5 Petrochemical and Basic Chemical Cluster

The Edmonton Metropolitan Region accommodates one of Canada's key hydrocarbon processing and petrochemical clusters, which represents a unique heavy industrial base

¹ Statistics Canada. Table 17-10-0135-01 Population estimates, July 1, by census metropolitan area and census agglomeration, 2016 boundaries.

² Schedule 1, Edmonton Metropolitan Region Growth Plan, October 2016.

³ Ibid.

⁴ Annual passenger statistics – <http://corporate.flyeia.com/business-at-the-airport/air-service-development/passenger-statistics>, accessed November 11, 2018

⁵ Edmonton International Airport – Facts and Statistics: <http://corporate.flyeia.com/media-centre/facts-and-statistics>



comprised of oil and bitumen-based processing and basic chemical production. Edmonton has a notable presence in this industry cluster through its medium and heavy industrial lands base.

There are several major oil and gas projects planned or underway across the Edmonton Metropolitan Region which is expected to continue to expand and strengthen the petrochemical cluster. One major project, the NWR Sturgeon Refinery, is expected to further enhance the region's profile in the petrochemical and basic chemical industry cluster and serve as a catalyst for further development in the sector. In May of 2018, construction was completed on the 50,000-barrels-per-day facility. There are ten large units onsite, enabling the refinery to process synthetic crude oil into diesel and other petrochemical products. In 2018, SinoCan Global, announced that it planned to build a 167,000-barrels-per-day bitumen refinery in the region.

Global demand for base chemicals is expected to double over the 2015 to 2035 period, driven by growing Asian demand.¹ The Edmonton Metropolitan Region's well-established and competitive petrochemical cluster, combined with strong global demand growth prospects, offers continued value-added supply-chain growth opportunities over the medium and long term. Edmonton is well-positioned to capitalize on this growth potential with the market opportunities that the Edmonton Energy and Technology Park (EETP) offers, assuming that it can provide a cost competitive environment compared to other global locations.

3. City of Edmonton Non-Residential Market

3.1 Edmonton Industrial Market

Industrial lands are an integral part of Edmonton's economic development potential and they accommodate a significant share of the municipality's businesses and employment.

The City of Edmonton's industrial base is the largest and the most active with respect to development activity within the Edmonton Metropolitan Region. Edmonton has approximately 5,865 net ha of developed industrial land, with a large share located in the northwest and southeast quadrants of the City. Edmonton's industrial lands

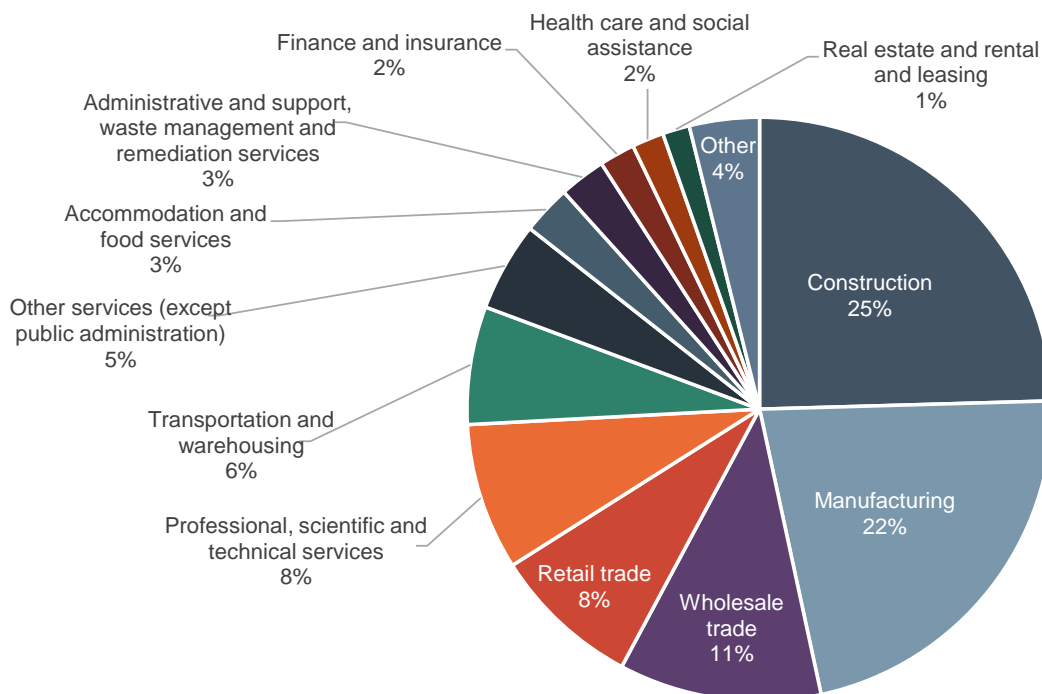
¹ Think Act, Chemicals 2015, Roland Berger Strategy Consultants, May 2015.



accommodate approximately 120.7 million sq.ft. of industrial G.F.A. (gross floor area).¹ Edmonton's industrial lands also accommodate a share of the City's office, commercial service, and institutional space.

Figure 15 summarizes the share of employment by sector on industrial lands. As illustrated, Edmonton's employment lands accommodate a broad range of sectors. The largest is construction, which accounts for 25% of the total. This is followed by manufacturing (22% of total), wholesale trade (11%), retail trade (8%), professional, scientific and technical services (8%), and transportation and warehousing (6%).

Figure 15
City of Edmonton Employment on Industrial Lands by Sector, 2017



Source: Derived from InfoCanada business directory employment data by Watson & Associates Economists Ltd., 2019.

The following provides an overview of the City of Edmonton's established and planned industrial districts with respect to market segmentation and recent development trends, as well as occupied, underutilized and vacant industrial land supply opportunities.

¹ Colliers International, Edmonton Industrial Research & Forecast Report, Q3 2018.



3.1.1 Edmonton's Industrial Districts

The City's industrial land base is delineated into four key areas: Northwest Edmonton, Northeast Edmonton, South/Southeast Edmonton, and the EETP, which are discussed below.

Northwest Industrial District

The Northwest District encompasses 2,695 net ha of developed industrial land and represents the largest concentration of industrial space in the Edmonton Metropolitan Region. The area is largely oriented to logistics, transportation, warehousing and light manufacturing. The majority of the City's transportation and logistics land uses are located in the Northwest District, within proximity of the CN intermodal facility and major highways such as the Yellowhead Trans-Canada Highway, which serves as a major connection to the Canadian west coast.

Established large-scale industrial parks in the Northwest District, which can accommodate short- to medium-term industrial growth, are located in Mistatim Industrial, Rampart Industrial, and Kinokamau Plains Area industrial neighbourhoods. These areas are prestige and considered highly marketable.

The Winterburn Industrial Area is expected to accommodate a significant share of industrial development over the long term. The Winterburn Industrial Area was subject to an Area Structure Plan (ASP), which designates the area's remaining vacant industrial lands to accommodate a wider range of uses, including light industrial, medium industrial and business industrial development. This will raise Winterburn's competitiveness with respect to light industrial and prestige industrial development markets.

South/Southeast Industrial District

The South/Southeast Industrial District (South/Southeast District) is situated in south and southeast Edmonton. The area is well connected by major highways and also benefits from its proximity to the E.I.A.

The District has approximately 2,523 net ha of developed industrial lands, the second largest inventory in the City of Edmonton, and has a diverse range of industrial uses. The industrial areas in the east part of the District are largely designated for medium



and heavy industry. The area is largely associated with the energy sector and neighbouring “Refinery Row” in Sherwood Park (Strathcona County) and is largely built out. In contrast, the industrial areas in the southern part accommodate predominately light industrial and business park designations, providing for a broad mix of uses including knowledge-based sectors such as business services, research and development, advanced manufacturing, construction and logistics/distribution.

A large share of the development on industrial lands within the City of Edmonton in the past decade has occurred in the City’s South/Southeast District. Wholesale trade, construction and manufacturing accounted for the majority of development in the past decade, largely in the form of prestige large-scale, multi-bay industrial condos. The area has also experienced growth in office and knowledge-based employment. Over the past five years, land development has been highly concentrated in the Ellerslie Industrial and Pylypow Industrial neighbourhoods.

Remaining industrial lands supply opportunities in the South/Southeast District are largely concentrated in the Pylypow Industrial, Southeast Industrial, Maple Ridge Industrial and Ellerslie Industrial neighbourhoods.

Northeast Industrial District

The Northeast Industrial District (Northeast District) has a developed industrial land base of approximately 649 net ha. The Northeast District’s industrial base is relatively small compared to the Northwest and South/Southeast Districts, but it has expanded significantly over the past five years. Further, the composition of the Northeast District is highly oriented to medium and heavy industries. Currently, the area has a limited supply of industrial land available for development totalling 138 net ha, concentrated in the Clover Bar Area neighbourhood.

The recent extension of Anthony Henday Drive has greatly enhanced access to the area and its marketability. Over the past five years, the area has experienced significant development activity and industrial land absorption.

Edmonton Energy and Technology Park (EETP)

The EETP represents the last remaining large greenfield area that is available for industrial development. The park is expected to accommodate development over a long-term time horizon and is expected to be developed in phases.



The EETP ASP was adopted in 2010 and includes a net developable land area of approximately 3,300 ha. No development has occurred since the approval of the ASP; however, there has been some land assembly and marketing of the lands for development.

The EETP is being marketed as an eco-industrial hub, which will take advantage of its location within Alberta's Industrial Heartland and will accommodate a range of industrial uses, including energy-related value-added industries, manufacturing, logistics and research and development activities. The Park will benefit from the recent extension of Anthony Henday Drive and the proposed portion of the Alberta High Load Corridor, which will improve accessibility in the area to projects located in Alberta's Industrial Heartland, Fort McMurray and Alberta's oil sands.

3.1.2 Industrial Sector Development Trends

Edmonton has maintained a strong industrial base that has grown and evolved in connection with major transportation networks throughout the area. Location factors play a key role in the distribution of the dominant business clusters visible across the City today, such as manufacturing, transportation/logistics, wholesale trade, construction and petrochemical processing.

For industrial land development, highway access is considered highly important. Historically, areas with good highway access have experienced strong development pressure. The completion of Anthony Henday Drive, developing the highway into a complete "ring road," has provided greater access and industrial development opportunities in the northwest and northeast parts of the City. The recent completion of the northeast part of Anthony Henday Drive will also expand the market potential for industrial development in northeast Edmonton, most notably within the Edmonton Energy and Technology Park.

Given the Region's strong base in the logistics/distribution sector, intermodal facilities also play an important role in industrial development patterns. The CN Intermodal facility in northwest Edmonton has also been a major catalyst for industrial development in that part of the City and the surrounding area (e.g. the Acheson Industrial Area in Parkland County). Further, the new CP intermodal facility in south Edmonton is expected to expand the multi-modal structure of the area, creating further development opportunities for logistics and distribution in south Edmonton.



Proximity and access to a major airport is also advantageous for an increasing number of industrial sectors. Sectors such as research and development, and advanced manufacturing rely increasingly on air-transport in their supply chains and just-in-time delivery. Other sectors directly tied to airport activities and operations include air freight distribution/logistics. The E.I.A., which is situated on Highway 2 next to the City of Leduc and the Nisku Area, has served as a catalyst for light industrial and office development in south Edmonton and the airport is considered a key driver of future industrial land development in south Edmonton.

For both international and locally based industries, south/southeast Edmonton has a strong appeal, given its proximity to major regional infrastructure, including the Highway QE2 Corridor, the CP intermodal facility and the E.I.A.

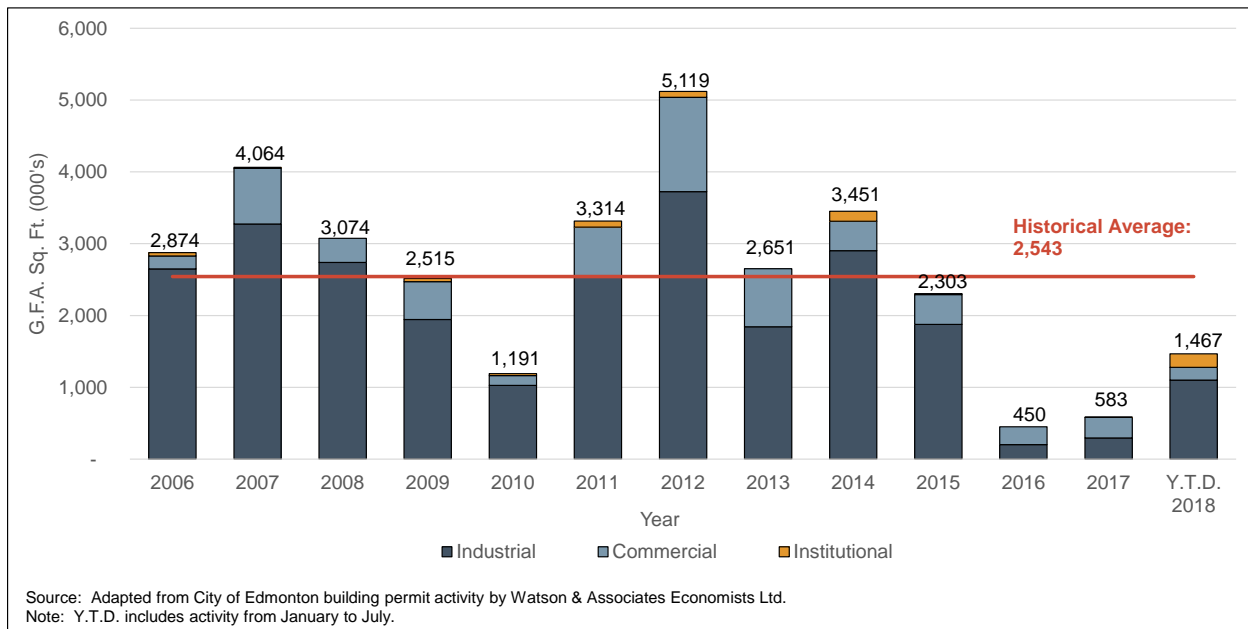
With respect to industrial development, industrial activity is increasingly centred on production processes that are time-sensitive, driven by just-in-time manufacturing, e-commerce and an increasingly globalized environment. As a result, the location and site requirements within the industrial sector continue to evolve. For the Goods Movement sector, a major growth sector, the growing inter-dependence of companies and their suppliers continues to increase the importance of this integrated business process through various modes of transportation. In turn, this drives the need for more, bigger, and better-located warehouses and logistics facilities. As such, large flexible tracts of land are required for large warehouses, storage yards and future expansion. Locational requirements are typically focused on direct access to distribution channels. This means that access to transportation infrastructure is critical, including access to major highways and intermodal facilities. Given that these facilities tend to be land-extensive, competitive land costs are also an important consideration in site selection.

3.1.3 Recent Development Activity on Industrial Lands

Figure 16 summarizes building construction (new development) on Edmonton's industrial lands over the 2006 to Y.T.D. 2018 period, expressed in G.F.A. As illustrated, Edmonton accommodated an average of 2.5 million sq.ft. of development on industrial lands annually over the period. The level of development activity experienced a strong rebound after the 2009/2010 economic downturn, with strong growth through 2015. The recent economic downturn in Alberta resulted in a major decline in development activity in 2016 and 2017. January to July 2018 development activity has been significantly stronger than in the previous two years.



Figure 16
City of Edmonton Annual Building Permit Activity on Industrial Lands



As presented in Figure 16, over the 2011 to 2018 period, 77% of development on industrial lands has been in the industrial sector, compared to 21% in the commercial sector (14% office and 7% retail and personal services) and 3% in the institutional sector. Over the 2001 to 2018 period, development activity on industrial lands has shifted gradually to encompass a greater share of non-industrial uses, largely associated with growth in the office sector driven by increasing demand in “knowledge-based” sectors.

Over the 2011 to Y.T.D. 2018 period, expansions and new construction on developed industrial lands have accounted for approximately 27% of building G.F.A.¹ This suggests that a notable share of recent development activity on industrial lands is being accommodated through intensification of underutilized properties.

Over the 2011 to Y.T.D. 2018 period, a total of 617 net ha of industrial lands were absorbed in the City of Edmonton.

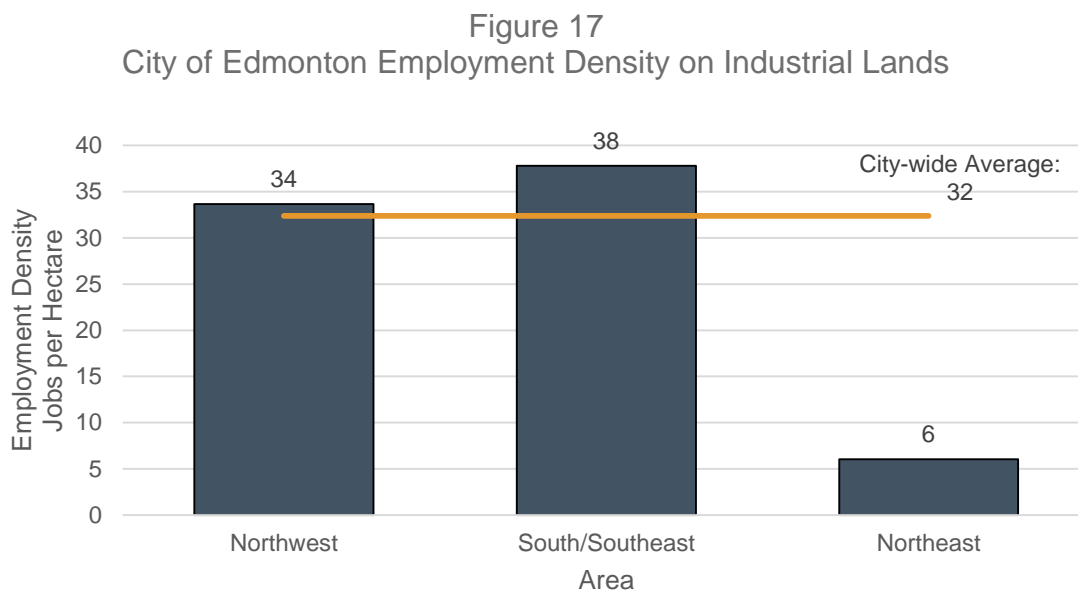
¹ Watson estimate based on review of total building G.F.A. on industrial lands compared to building G.F.A. on absorbed industrial lands over the 2011 to Y.T.D. 2018 period.



3.1.4 Employment Density Trends

Within Edmonton, employment density varies widely by sector. Major office, research and development, and manufacturing tend to have higher employment density. In contrast, warehousing, logistics/distribution, transportation, utilities and communications generally have lower employment density on average.

Figure 17 summarizes the average employment density (jobs per net ha) on industrial lands in the City of Edmonton. As shown, employment density on employment lands averages 32 jobs, with densities highest in South/Southeast and Northwest Edmonton and lowest in Northeast Edmonton.



Source: Watson & Associates Economists Ltd., 2019.

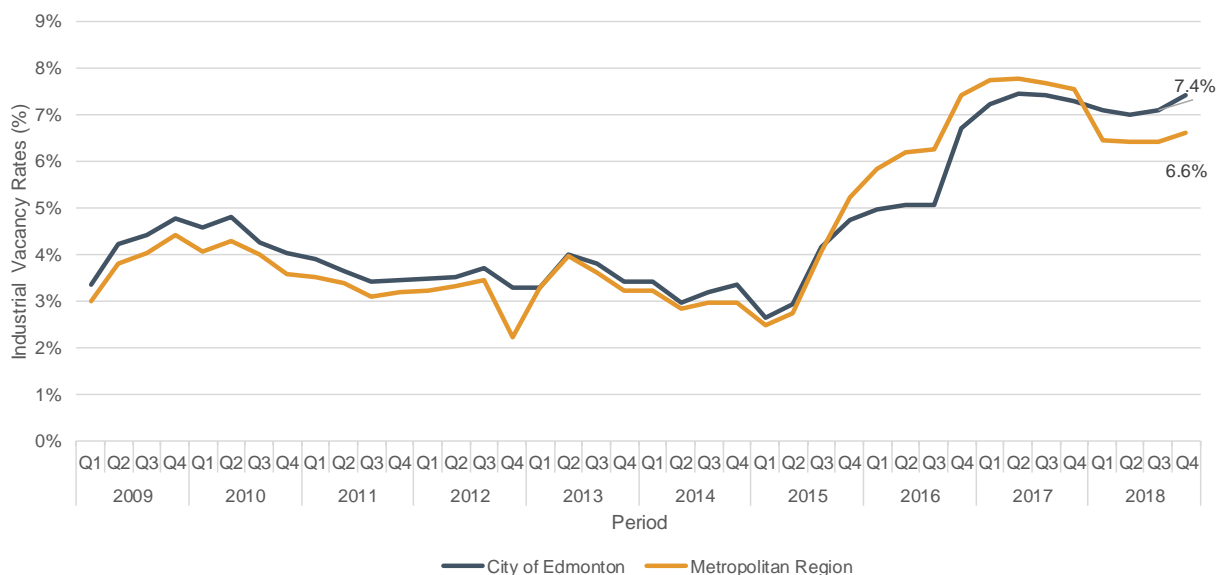
It is anticipated that future industrial development patterns in Edmonton will include a broad range of industrial uses, including an increasing share of logistics/distribution, manufacturing and construction. Further, the City’s “knowledge-based” sectors will continue to expand, accommodated largely through office development. Most of these sectors have relatively high employment densities, which should generate a higher average employment density on industrial lands developed over the forecast period in relation to the existing City-wide average. Further, continued upward pressure on industrial land values, driven by the expected strength of the local and regional economies, will also encourage high land utilization and correspond to higher employment density than what was experienced in the past.



3.1.5 Market Rents and Vacancy Rate Trends

Industrial vacancy rates within the Edmonton Metropolitan Region remained relatively stable over the 2009 to 2015 period, ranging between 3% and 4%. They have increased over the past few years, however, to an average of 6.6% in Q4 2018, and have now exceeded the highs reached in 2009 following the global economic downturn, as illustrated in Figure 18. Industrial vacancy rates in the City of Edmonton have historically been close to the Edmonton Metropolitan Region's average and are currently 7.4%, more than double the rate observed in 2015. While industrial vacancy rates have declined slightly from highs reached in 2016, current industrial vacancy rates in the Edmonton Metropolitan Region and the City of Edmonton suggest that there is some excess capacity in industrial building space.

Figure 18
Edmonton Metropolitan Region Industrial Vacancy Rates, 2009 to 2018



Source: Derived from Colliers International Edmonton Industrial Research and Forecast Market Reports 2009 - 2018 by Watson & Associates Economists Ltd., 2019.

3.1.6 Opportunities to Accommodate Development in Industrial Neighbourhoods

Figure 19 summarizes the total gross and net vacant industrial land supply for the City of Edmonton by Industrial District as identified in the 2018 City of Edmonton Competitiveness Study prepared by Watson. As illustrated, the City has 4,659 net ha of vacant industrial land. This includes approximately 696 net ha within the Northwest



District, 496 net ha in the South/Southeast District, 138 net ha in the Northeast District and 3,329 net ha within the EETP. Currently, 100% of the industrial lands within the EETP are vacant.

Figure 19
City of Edmonton Supply of Net Vacant Industrial Lands (ha)

Industrial District	Total Gross Vacant (A)	Non-Developable Features ¹ (B)	Net Vacant Industrial Land Supply (C = A-B)
Northwest Industrial District	982	286	696
South/Southeast Industrial District	661	165	496
Northeast Industrial District	201	63	138
Edmonton Energy & Technology Park ²	5,238	1,909	3,329
Total	7,082	2,423	4,659

Source: Watson & Associates Economists Ltd.

¹ Non-Developable features for industrial lands outside of the Edmonton EETP include:

- Municipal Reserves or Public Utility Reserve lands
- Environmental takeout of vacant industrial lands encroached by environmentally sensitive lands identified through Environmentally Sensitive Areas - Natural Areas (ESA) and North Saskatchewan River Valley and
- A downward adjustment of 25-35% to unsubdivided parcels and urban reserve lands (after environmental takeouts) has been applied to account for internal infrastructure and municipal reserve requirements.

² EETP Gross and net Industrial land supply source data: Horsehills Area Structure Plan, 2010 and the City of Edmonton.

Given the large number of established industrial areas in Edmonton, a wide array of opportunities for intensification also exist. The 2018 Competitiveness Study prepared by Watson identified a total of 1,529 ha of developed industrial land within the City as underutilized. This represents 26% of the total developed industrial land base. This reflects parcels that have a vacant portion (potential for severance or building expansion), relatively low building coverage or sites that are currently used exclusively for storage and/or parking.

3.1.7 Growth Outlook for Key Industrial Sectors

With respect to growth prospects in key industrial sectors, the following observations are provided.



Energy Sector - Despite diversification over the last several decades, Edmonton's economy is still largely tied to prospects directly related to the energy sector. Overall, positive longer-term trends in global demand and a gradual recovery in the oil price are anticipated to lead to continued growth in oil production and oil sands development, albeit at a lower growth rate than anticipated in the past. This is expected to support modest employment growth directly tied to the energy sector, as well as demand for support activities related to the oil and gas sub-sector within Edmonton over the medium to long term.

Manufacturing - Looking forward, there will continue to be opportunities for manufacturing in the Edmonton Metropolitan Region. New manufacturing employment growth is anticipated primarily in small to mid-sized businesses. Despite the growth potential, industrial processes have become more specialized, capital/technology-intensive and automated. This means that as the regional manufacturing sector continues to recover, economic output will gradually increase; however, more modest employment growth is anticipated in the manufacturing sector relative to GDP growth. The EETP will also broaden the market choice of potential industrial sites for manufacturing uses within Edmonton, which should encourage development and employment growth in the sector.

Goods Movement - The Goods Movement sector is an integral part of the Edmonton Metropolitan Region economy. This sector is accommodated in a range of industrial building typologies reflecting the diverse sub-sectors that comprise the sector. This includes distribution centres, warehouses, fulfillment centres, delivery depots, logistics hubs, corporate office buildings of major logistics companies, trucking terminals, multi-tenant warehouses and terminals, cold storage buildings and transportation yards.

Increased outsourcing of manufacturing production to emerging global markets continues to drive the need for new consolidated, land-extensive warehousing facilities to store and manage the distribution of goods produced locally as well as goods imported from abroad. Demand in the Goods Movement sector is anticipated to continue across the Edmonton Metropolitan Region, particularly in locations where available industrial lands have strong connectivity to regional transportation infrastructure (i.e. intermodal facilities and major highway access).

Construction - As previously discussed, the construction sector has been a key component of industrial employment growth for Edmonton. Over the forecast period, a



portion of industrial employment growth is anticipated to be generated from construction employment, driven by both residential and non-residential development activity within Edmonton and the surrounding area. This includes employment associated with construction of buildings, heavy and civil engineering construction and speciality trade contractors.

3.2 City of Edmonton Office Market

3.2.1 Overview of Major Office Market

The City of Edmonton has a major office¹ inventory of approximately 29.7 million sq.ft.² Of this, approximately two-thirds (68%) is located in Edmonton's Core Area, which includes neighbourhoods in the central area of the City as depicted in Figure 1. The majority of this office space is located in the City's Downtown neighbourhood, as illustrated in Figure 20. About one-third of major office space is located in the suburban markets, located largely in Southside and West End. This includes inventory located within industrial neighbourhoods as well as other commercial nodes and corridors.

Current vacancy rates for office space in Edmonton are estimated at 17.0%.³ Office vacancy rates in the City have increased significantly since 2011, when they averaged 10.7%.⁴

¹ Major office buildings include buildings 20,000 sq.ft. of G.F.A. or greater.

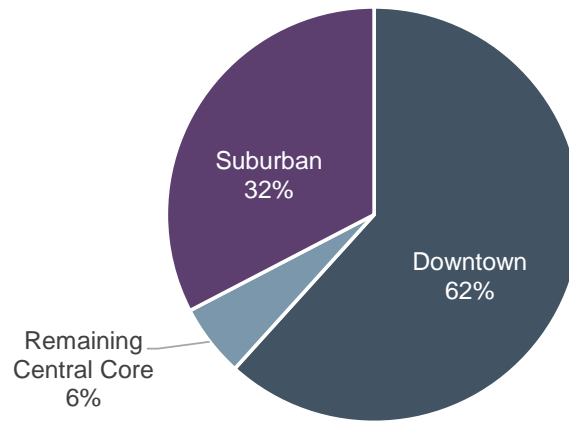
² Colliers Edmonton Office Statistics, Q4 2018.

³ Ibid.

⁴ Ibid.



Figure 20
City of Edmonton, Major Office Inventory by Geographic Area



Source: Derived from Colliers Edmonton Office Statistics, Q4 2018, by Watson & Associates Economists Ltd., 2019.

Edmonton's downtown has the highest concentration of major office space in the City. With a combined 18.4 million sq.ft. of building G.F.A., it is comprised of a mix of private sector and government office buildings of mid-rise and high-rise typologies. Since 2011, major office development has consisted largely of standalone high-rise buildings of Class A or AA, ranging between 11 and 28 storeys and from 140,000 to 625,000 sq.ft. A large share of new space is located in the ICE District of the City. New major office space in downtown Edmonton is accommodating a range of sectors including financial services, professional, scientific and technical services, real estate services, and public services.

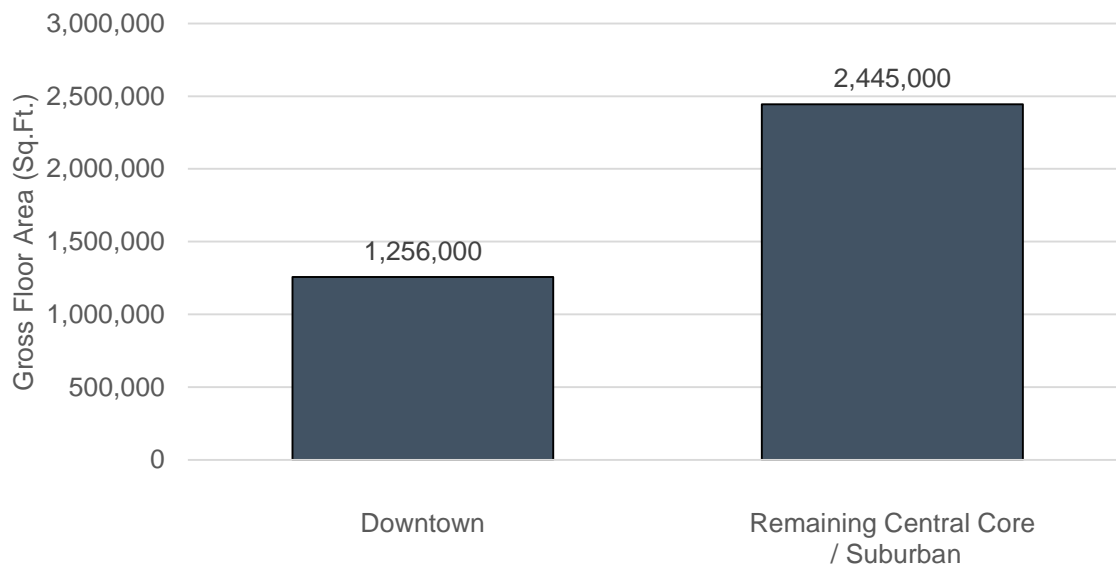
The suburban office market in Edmonton is far less concentrated in nature, with major office buildings, largely of a suburban low- and mid-rise nature located throughout the City. In many of the City's business/light industrial areas the share of office employment has steadily increased since 2001.

3.2.2 Trends in Development Activity

Over the 2011 to 2018 period, Edmonton's major office inventory expanded by 14% (3.7 million sq.ft.). Approximately one-third (1.2 million sq.ft.) of this expansion occurred within the downtown area, over the period, as illustrated in Figure 21. In comparison, two-thirds of the City-wide growth in office space was accommodated in other areas of the City, most notably in suburban locations.



Figure 21
City of Edmonton Major Office Inventory Growth, 2011 to 2018 (sq.ft.)



Source: Derived from Colliers Edmonton Office Real Estate Report, Q4 2011, and Colliers Edmonton Office Statistics, Q4 2018, by Watson & Associates Economists Ltd., 2019.

Based on review of building permit data, 2011 to 2018 major office development activity outside the downtown area has been largely concentrated in Queen Alexandra, South Edmonton Common, Ellerslie Industrial and McIntyre Industrial neighbourhoods.

3.2.3 *Changing Preferences of Office Tenants*

Office development and the employment sectors they typically accommodate have certain site-specific requirements including:

- Access to skilled labour;
- Proximity to related industry clusters (companies and public institutions such as universities);
- Prestige setting;
- Access to high-order public transit;
- Access and exposure to major highways;
- Ease of access/egress;
- Access to on-site amenities/services and proximity to off-site services; and
- Potential for live/work opportunities.



These factors can strongly influence business location decisions, both for new development and expansions. Within the Edmonton context, the relative importance of these attributes is evolving, which is impacting office development patterns.

Demand for standalone low-rise office, research and development facilities, flex office and multi-tenant commercial/industrial space is anticipated to continue to account for a growing share of building G.F.A. A large portion of demand is anticipated to be driven by growth in knowledge-based employment sectors including business services, and professional and technical services including engineering and environmental services, and research and development.

Flex office space in particular has become a major trend across many markets in Canada, including Edmonton. Flex office space allows occupants flexibility in the use and allocation of space according to operation needs. Tenants of flex office space may include businesses that require a blend of office and industrial site characteristics.

While suburban locations including those in Employment Areas continue to be competitive locations for major office development, there is increasing demand for locations that offer access to high-order transit, a mixed-use environment, potential for live/work opportunities, and access/proximity to amenities and services. The quality and location of new office space are considered very important tools to attract and retain talent.¹ As such, urban mixed-use environments are becoming increasingly desirable locations for office-related businesses.

There are a number of economic and demographic factors that are driving this shift in office development. One important factor is access to transportation.

Access to Transportation

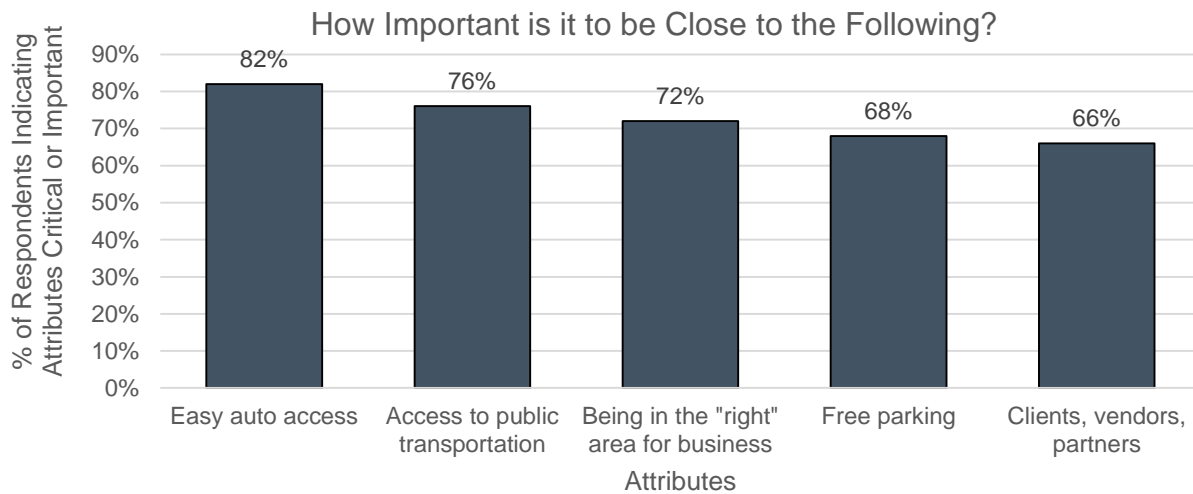
Access to transportation networks has long been considered a high priority for office-based sectors. According to the Colliers International 2014 survey of office tenants in Canada, transportation access is the most important attribute. As shown in Figure 22, 82% and 76% identified easy auto access and access to public transit, respectively, as

¹ Emerging Trends in Real Estate, Canada and United States 2015, PricewaterhouseCoopers and Urban Land Institute.



either critical or important to have. The survey also determined that 71% of tenants indicated the need to be located within a 10-minute walk of public transit.

Figure 22
Colliers International 2014 Tenant Survey



Source: Adapted from Colliers International 2014 Tenant Survey by Watson & Associates Economists Ltd.

Looking forward, market demand for standalone office space is anticipated to strengthen within mixed-use environments, such as the downtown core and the City's corridors which are transit-supportive, pedestrian-oriented and offer proximity/access to amenities, entertainment, cultural activities and public spaces. Major office users are drawn to areas that attract and retain talent, which includes providing a number of commuting options and a work environment that is interesting and inspiring.



3.3 City of Edmonton Retail Market

3.3.1 Overview of Regional and Local Retail Market Inventory

The City's retail base includes approximately 31 million sq.ft. of retail space, as of 2018.^{1,2} Relative to population, the City has approximately 34 sq.ft. of retail space per resident.³ Other large cities in Canada⁴ generally have retail space between 20 sq.ft. and 50 sq.ft. per resident. As a comparison, the City of Calgary has approximately 32 sq.ft. of retail space per resident⁵ and the City of Winnipeg has approximately 48 sq.ft. per resident.⁶ Generally, the retail space per capita ratio is based on a number of factors including the share of retail sales from within the City versus the broader region, diversity of retail uses and areas (e.g. established pedestrian oriented retail strips and retail base serving tourists and visitors), average household income and population density of the City (accessibility to retail areas).



West Henday Promenade, in the City's northwest area, is a typical neighbourhood shopping centre that serves the local needs of the area. The shopping centre includes a grocery store, a pharmacy and small food services and personal services tenants.

The City's high per capita retail space ratio⁷ is largely due to its ability to attract comparison-based retailers.⁸ Comparison-based retailers generally attract customers from across the City and the surrounding communities in the Region. These retail uses

¹ Based on Gross Leasable Area (G.L.A.), includes only the rental or retail unit of a building and excludes shopping centre corridors, stairwells and other non-rental space.

² Retail G.F.A. data derived from CBRE Marketview Edmonton Report, Q2, 2018.

³ Estimate by Watson & Associates Economists Ltd.

⁴ Includes Cities of Vancouver, Calgary, Winnipeg, Ottawa, Toronto and Montreal.

⁵ Based on data by UMC as summarized in the City of Calgary City of Calgary Retail and Commercial Study – Existing Conditions.

⁶ Based on data prepared by Tate Economic Research as summarized in the 2018 City of Winnipeg Employment and Commercial Lands Study.

⁷ A retail space per capita ratio exceeding 30 sq. ft. per resident is considered high.

⁸ Includes retailers selling general merchandise, apparel, furniture and appliances, electronics and sporting goods.



are typically located in regional shopping centres and power centres.¹ As summarized in Figure 23, retail space in regional shopping centres and power centres account for over half the City's retail space (56%). Local serving retail uses² represent approximately 39% of the City's retail space and are generally located in a range of small and medium-sized retail shopping centres (neighbourhood shopping centres, community shopping centres), as well as small retail sites (i.e. single-tenant retail buildings).³ The remaining 5% of the City's retail space is comprised of street-front retail uses in the City's downtown core and areas that surround the downtown (downtown fringe). The downtown core and the area surrounding it serve local employees and visitors, as well as customers from across the City and the Region.



South Edmonton Common, Canada's largest power centre, a major regional retail destination. The power centre includes approximately 2.3 million sq.ft. of commercial space.

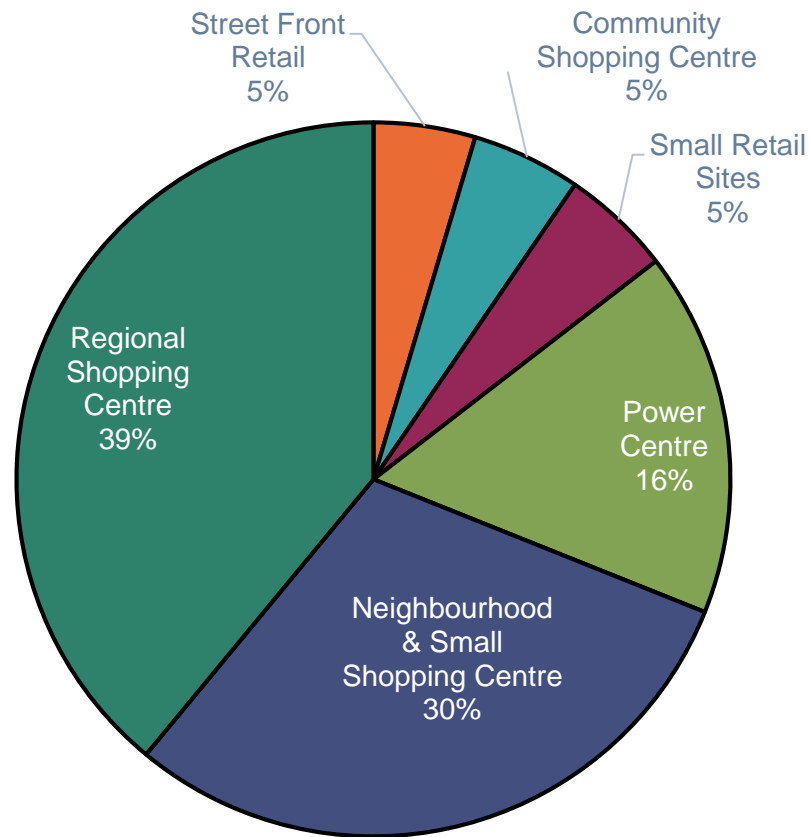
¹ Comparison-based retailers are the primary component of regional shopping centres and power centres; however, these retail centres may also include a mix of other retail uses, in particular large grocery stores, restaurants and a range of personal services.

² Includes grocery, pharmacy, food services, personal services (e.g. dry cleaners, tutoring services) and wine, liquor and beer stores.

³ On a per capita basis, the City of Edmonton has 14 sq.ft. per capita of local-serving retail uses.



Figure 23
City of Edmonton Retail Base by Retail Centre Type



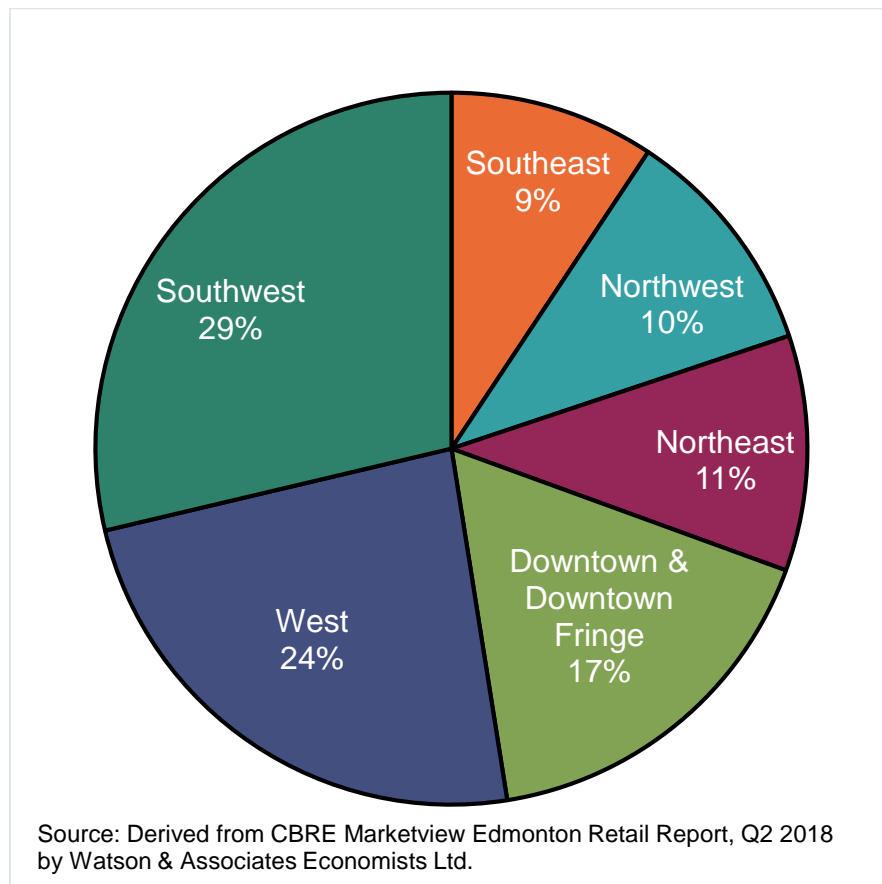
Source: Derived from CBRE Marketview Edmonton Retail Report, Q2 2018 by Watson & Associates Economists Ltd.

As summarized in Figure 24, a large portion (29%) of the City's retail space is concentrated in the City's southwest area (south of 61 Avenue and west of 91 Street). The southwest area of Edmonton comprises some of the City's regional serving retail centres, including South Edmonton Common, South Park Shopping Centre, South Point Shopping Centre and other big-box retail uses along Highway 2. The southwest area is dominated by power centre retail space and accounts for approximately 78% of the City's power centre retail space. The City's west end (west of the North Saskatchewan River and south of Highway 16) represents just under a quarter (24%) of the City's retail space, and includes the West Edmonton Mall and other shadow retail tenants surrounding the West Edmonton Mall that draw customers from across the City and the Province. The City's downtown/downtown fringe area represents approximately 17% of the City's retail space and includes the City's downtown area and major commercial



corridors (Whyte Avenue, Jasper Avenue and 104 Avenue) which are retail destinations.¹ The remaining retail space is concentrated in the City's north end (northwest and northeast) and the City's southeast area, which primarily serve the local residential population base. Sherwood Park and St. Albert are major competitive influences to these areas of the City and offer a range of retail uses that intercept regional trade.

Figure 24
City of Edmonton Retail Base by City Area



Approximately 5% of the retail space in the City of Edmonton is currently vacant which suggests a balanced and healthy retail market.² A healthy retail vacancy rate in a balanced market is typically between 5% and 8%. As summarized in Figure 25, the

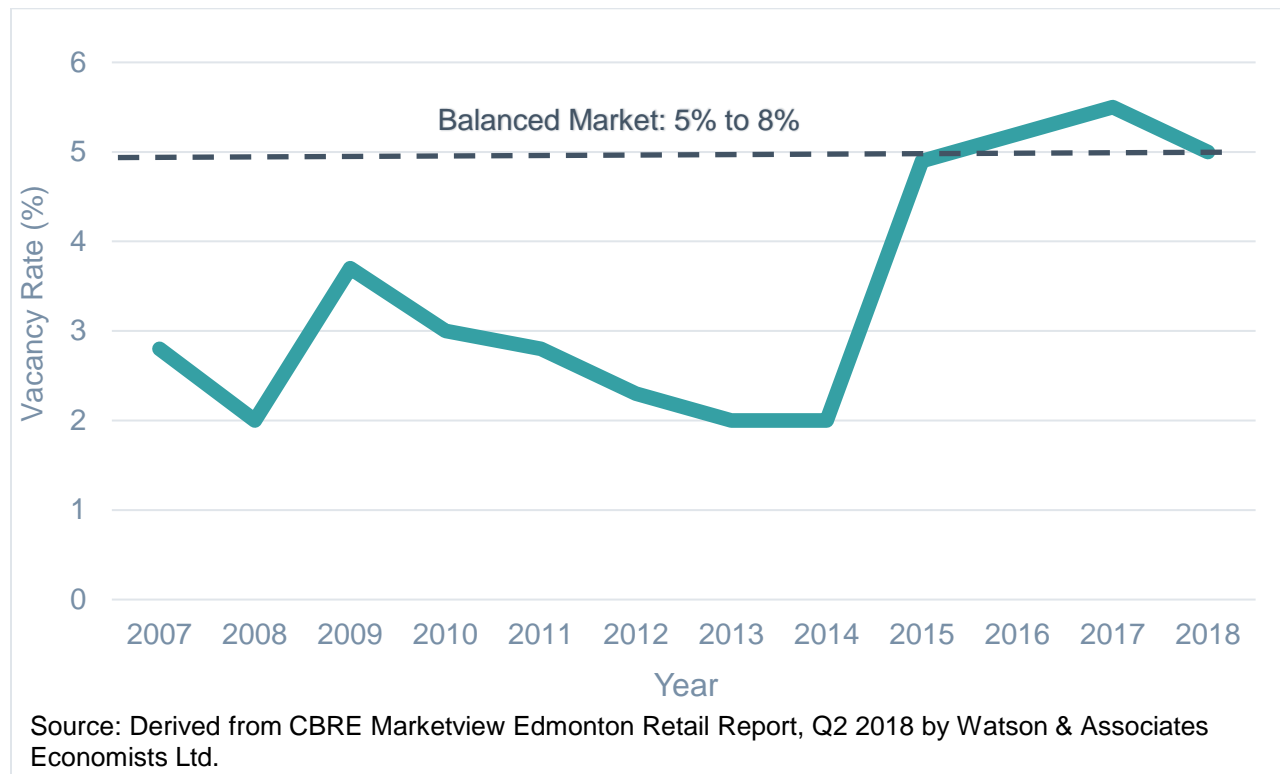
¹ Generally, includes the City's "core areas" and the neighbourhoods of McKernan, Queen Alexandra, Ritchie, Strathcona Junction identified in Figure 1 of this report.

² As a comparison, the retail vacancy rate in the City of Calgary as of 2018 is slightly higher at 5.6%.



City's retail vacancy rates have historically been very low, below the average that is considered reflective of a balanced market.

Figure 25
City of Edmonton Retail Vacancy Rates, 2007 to 2018



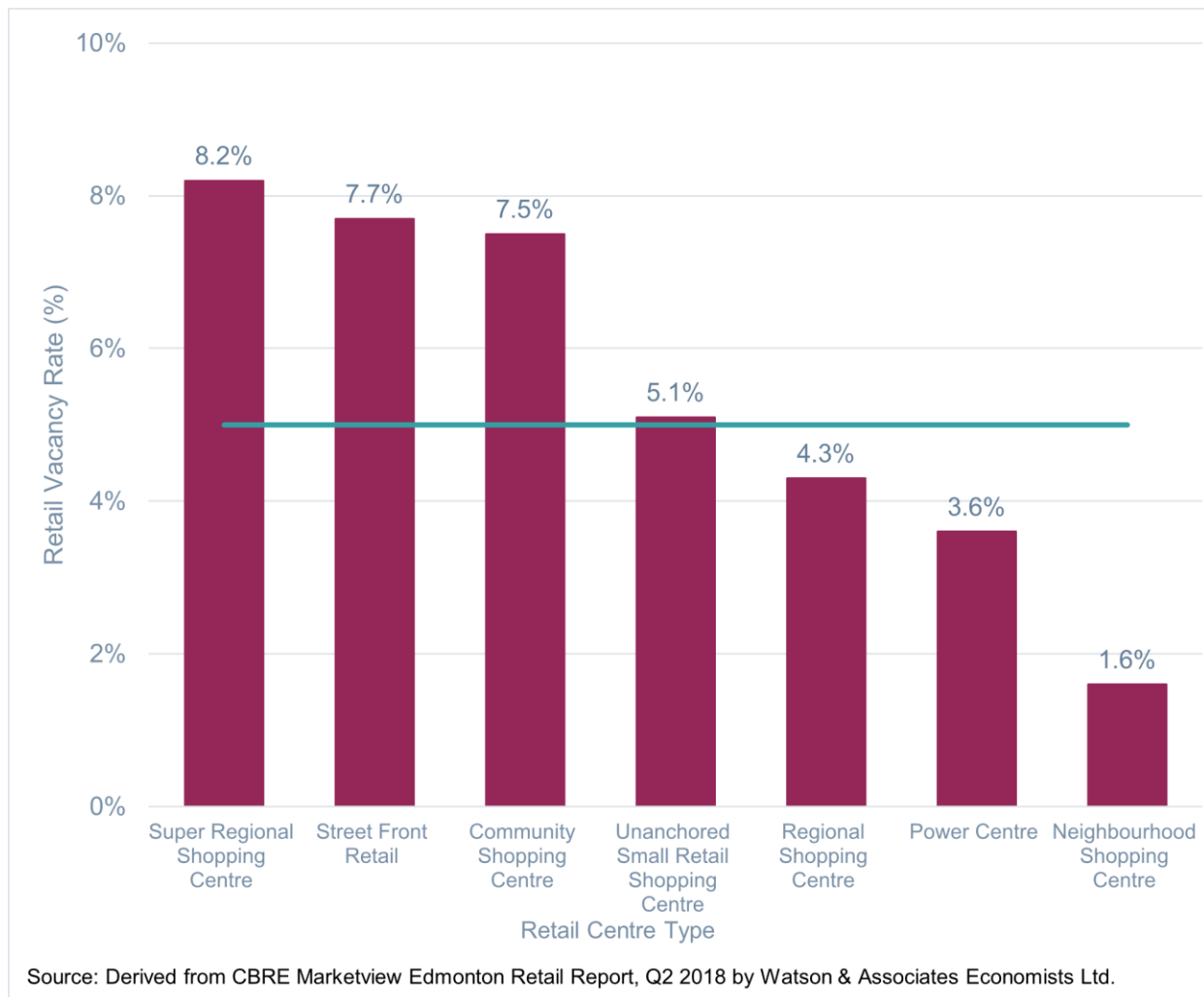
The average vacancy rates by retail centre type vary from 1.6% in neighbourhood shopping centres to 8.2% in Super Regional Shopping Centres,¹ as summarized in Figure 26. The variation of the City of Edmonton's vacancy rates by retail centre type are consistent with national trends. With the exception of power centres, vacancy rates in retail shopping centres serving the local population base (neighbourhood shopping centres and non-anchored retail shopping centres) are typically lower than shopping centres offering comparison-based goods that draw customers from a broader area. While power centres typically include a range of comparison-based goods retailers (e.g.

¹ Super Regional Shopping Centres are anchored by three or more full-line department stores of generally larger than 100,000 sq.ft. Super Regional Shopping Centres are typically enclosed malls.



Toys “R” Us, Best Buy and Winners), they also include large retailers that compete with retailers in local serving retail areas (e.g. Walmart, Real Canadian Superstore).

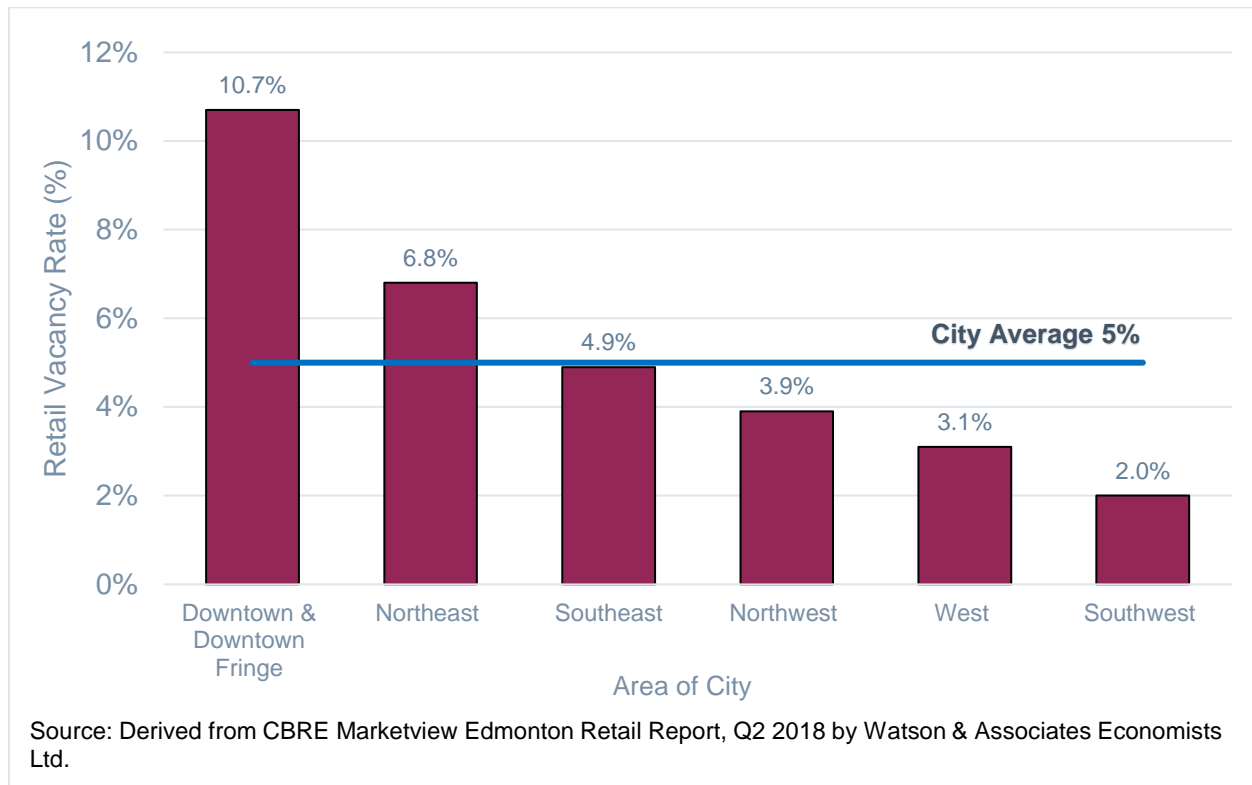
Figure 26
City of Edmonton Retail Vacancy Rates by Retail Centre Type, 2018



As summarized in Figure 27, retail vacancy rates across the City, range from 2% in the southwest area of the City to 10.7% in the downtown/downtown fringe area. Retail vacancy rates in the City’s northeast and southeast areas indicate a healthy and balanced market. The downtown/downtown fringe area vacancy rate of 10.7% is considered high. Vacancy rates in the City’s northwest, west and southwest areas are very low and suggest that these areas of the City have a limited supply of retail space.



Figure 27
City of Edmonton Retail Vacancy Rates by Area of City, 2018

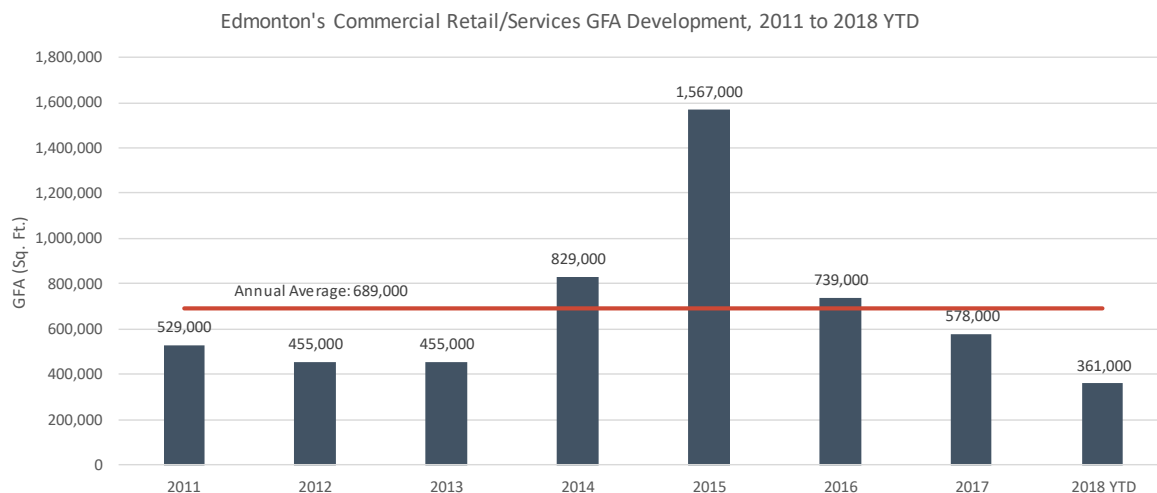


3.3.2 Development Trends

Over the past decade, retail development in the City has been very active, with both local and regional tenants opening new locations or expanding existing operations. As summarized in Figure 28, based on non-residential building permit activity, the City has added over 5.5 million sq.ft. of retail/service space since 2011 and has averaged approximately 689,000 sq.ft. annually. The notable level of development activity in 2015 was attributed largely to the JW Marriott Edmonton ICE District development.



Figure 28
Edmonton's Commercial Retail/Services G.F.A. Development, 2011 to 2018 Y.T.D.



Source: Building Permit data provided by the City of Edmonton, 2011 to July 2018.

3.3.3 Opportunities to Accommodate Retail Commercial Development in Edmonton

There are approximately 700 net ha of vacant commercial lands available for development in Edmonton, excluding future opportunities to accommodate growth within the South Annexation area. This includes approximately 386 net ha which are zoned.

With respect to the geographic concentration of new construction, there are several major development trends influencing the retail landscape, which will shape the demand for retail space. These trends are discussed below.

Impacts of E-Commerce

- The rise of e-commerce has influenced the demand for retail square footage, in particular the demand for retail goods. While e-commerce has been capturing market share from goods-based retailers, growth in service-based retailers continues as they provide social experiences and other services that cannot be purchased remotely. Service-based retailers typically have smaller footprints than goods-based retailers and, therefore, have greater flexibility for intensification areas. These service-based retailers are driving the intensification of power centre and shopping centre sites across Canada by adding retail space



to parking lots and occupying vacant retail space previously inhabited by goods-based retailers.

- Retailers are leveraging their “bricks-and-mortar” to support e-commerce sales growth. In 2015, Canadian Tire opened their largest store in the Edmonton’s South Edmonton Commons retail area. The store features overall 100 digital screens that provides information on products, as well as large product demonstration areas, including a driving simulator, that lets customers virtually test-drive tires in different weather conditions.¹
- Other retailers are also offering opportunities for customers to pick-up online orders at stores which may include sourcing products available in-store at other company stores across Canada.

Available Greenfield Land Supply for Big-Box Development

- Demand for big-box retail development is slowing across the mature market areas of the City, as a result of the limited supply of greenfield land in these areas. As a result, traditional power centre developers are pursuing a wider-range of development sites to broaden their real estate portfolio, including a wider-range of location/size options.
- It is important to note that an increase in population growth within established and mature communities will largely improve the sales performance of the existing retail base and does not necessarily result in the demand for additional retail space. Compared to developing greenfield areas, a larger population growth increment is required within mature and established communities to support demand for additional retail space.

Increasing Productivity of Retail Stores

- Retailers are embracing the concept of “just-in-time retail” which involves using the latest technologies in controlling product inventory and applying scheduling techniques to provide the same product assortment with less real estate square footage.

¹ Edmonton Journal, Country's largest Canadian Tire opens in South Edmonton Common, published June 4, 2015, accessed online via <https://edmontonjournal.com/business/commercial-real-estate/countrys-largest-canadian-tire-opens-in-south-edmonton-common>.



- The planning implication of this trend is that stores are getting smaller and require less land and/or building space, as less product storage space is required.

Small Store/Customized Store Prototypes

- The majority of Canada's top retail players (e.g. Canadian Tire, IKEA, Sobeys and Loblaw) that have traditionally been big-box retailers, have smaller store prototypes ranging in size from 5,000 to 50,000 sq.ft. The smaller store prototype focuses on serving a more defined targeted demographic from a smaller local trading area. The smaller store footprint provides developers with greater flexibility to incorporate retail in an intensification area and mature neighbourhoods, as well as the opportunity to accommodate major national companies.
- Loblaw Inc. is an example of a retailer in the Edmonton area that has expanded with a smaller store format. In 2010, Loblaw Inc. added the No Frills store banner (less than 50,000 sq.ft.), a smaller store format, to the City of Edmonton market. Previously, Loblaw operated in the Edmonton market with the Real Canadian Superstore format (averaging over 95,000 sq.ft.) and new store development was primarily concentrated within the developing greenfield areas.

3.4 City of Edmonton Institutional Sector

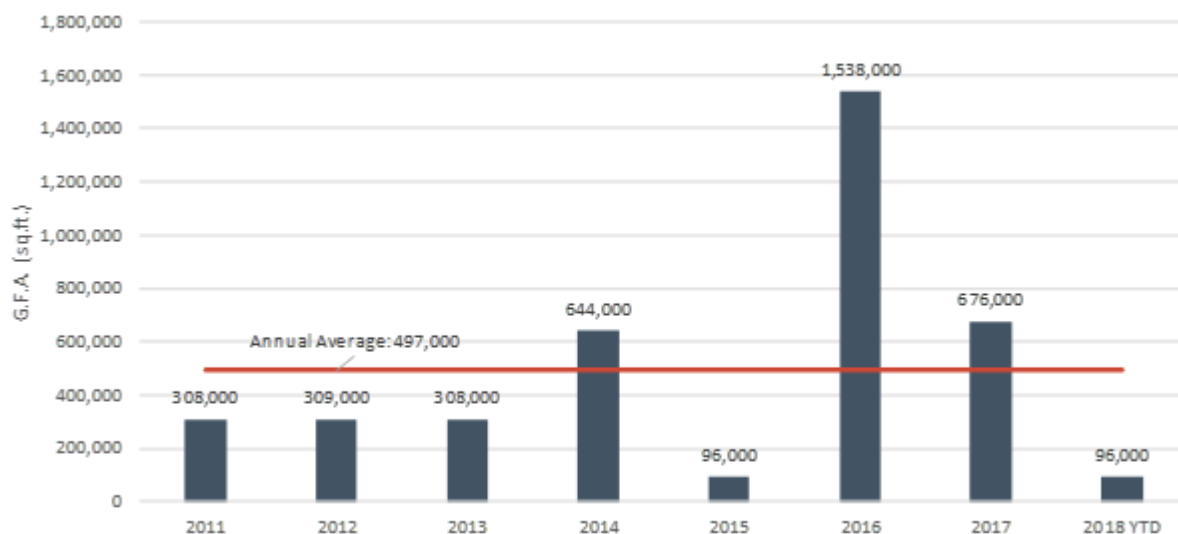
As previously discussed, Edmonton has a relatively high concentration of employment in the institutional sector including government, education, and health care and social services. Edmonton has an estimated 143,000 jobs in the institutional sector across a range of regional institutional nodes and local employment serving uses (e.g. elementary and high schools, health care and social services). Major institutional employers include the Government of Alberta, City of Edmonton, University of Alberta, MacEwan University, and University of Alberta Hospital. Edmonton's health care facilities serve a large regional population base, while the City's post-secondary institutions serve the population base of Alberta and beyond. Edmonton's existing institutional uses occupy a total of approximately 3,000 net ha of land.¹

¹ Watson & Associates Economists Ltd. estimate.



Over the 2011 to 2018 period, institutional development has averaged 497,000 sq.ft. per year, as illustrated in Figure 29. Of the total institutional building activity over the 2011 to 2018 period, 46% was associated with elementary and secondary school facilities, 22% with post-secondary facilities, 22% with hospitals and social services, and 11% with government facilities.¹ The identified development activity was highly concentrated in new growth neighbourhoods.

Figure 29
Edmonton's Institutional G.F.A. Development, 2011 to 2018 Y.T.D.



Source: Building Permit data provided by the City of Edmonton. 2011 to July 2018.

Edmonton is anticipated to experience significant employment growth in the institutional sector, driven by local, regional and provincial population growth. This includes employment growth in education, health and social services and other institutional facilities (i.e. cultural, religious, etc.). An increase in seniors' health facilities/services, including retirement homes and assisted living facilities, as well as other institutional-related development due to a growing but aging population base, is expected for the City.

The evolution of digital spaces has resulted in a lessening demand for physical space in institutional facilities. In the educational sector, for example, the growing prevalence of online learning has lessened demand for physical space within municipalities because

¹ Derived from City of Edmonton building permit data by Watson & Associates Economists Ltd.



technology can connect students “to their classmates and teacher in powerful ways. Whether through web-based conferencing software or even the camera on their cell phone, meeting synchronously with others enriches their learning and engagement in the course.”¹ The health care sector is slowly becoming digitized which is lessening the demand for physical doctor visits.² These online trends are occurring in the public administration sector as well, where civic services are increasingly becoming more digitized, and the need for physical interaction is reduced. Such trends are gaining prevalence across all industries, and will continue to impact the demand for physical, non-residential space.

Edmonton has a vacant institutional land supply totalling 288 net ha including 73 net ha of zoned land. This excludes future opportunities to accommodate growth within the South Annexation area.

4. Historical Population, Demographic, and Housing Trends

4.1 Regional and Local Population Growth

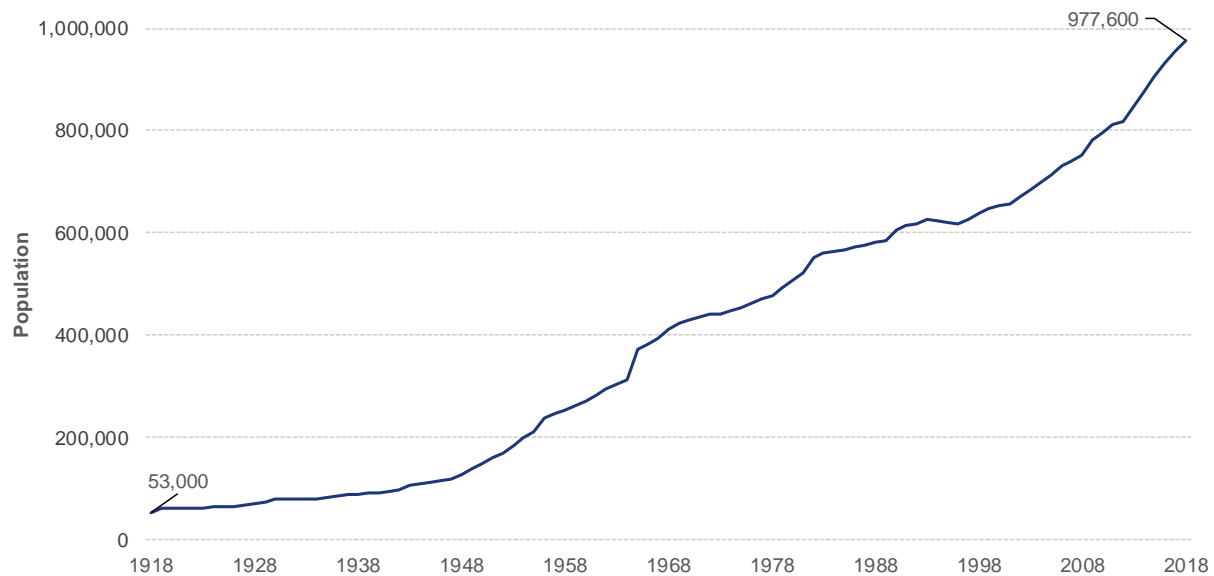
The City of Edmonton’s (the City) long-term population growth and forecast is depicted below in Figure 30. Over the last 100 years, the City grew by over 900,000 persons. Much of this growth occurred in the latter half of the period when Alberta experienced substantial resource-based economic growth. Edmonton has an estimated population of approximately 977,600 in 2018.

¹ Alberta Education, Government of Alberta. (2019). *Online Learning School and School Authority Leader Guide*. Edmonton, AB.

² PWC UK. (2017). Artificial intelligence in healthcare. Retrieved from <https://www.pwc.co.uk/industries/healthcare/patient-voice-2017/artificial-intelligence-results.html>



Figure 30
City of Edmonton Population, 1918 to 2018



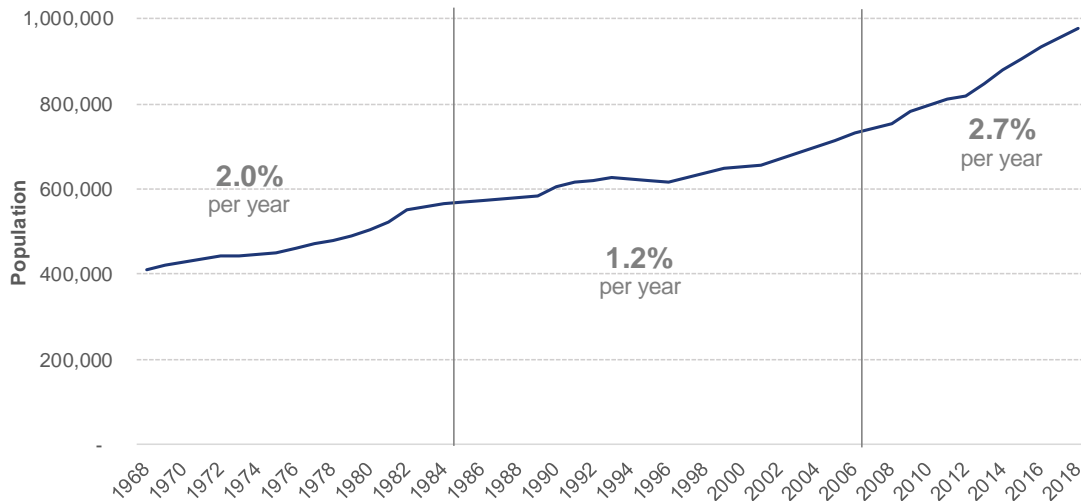
While the City has experienced significant growth in the last 50 years, it has done so through periodic cycles of faster and slower growth in response to fluctuations in global, national, and provincial economic activity. The provincial energy sector has had a particularly marked effect on those cycles, as it is the predominant driver of the Alberta economy.

Figure 31 below depicts the City's average historical population growth rates during three distinct periods over the last 50 years:

- From the late 1960s to the mid-1980s, the City experienced relatively strong population growth of 2.0% per year.
- More moderate growth was seen between the mid-1980s and the late 2000s, averaging about 1.2% per year.
- From the late 2000s to today, the City has returned to strong population growth of 2.7% annually.



Figure 31
City of Edmonton Population and Growth Rates, 1968-2018



The City has been the major urban core within the Edmonton Metropolitan Region (the Region) for decades and has historically housed over 70% of the Region’s population (Figure 32). It is expected that this trend will carry into the future and the City will continue to accommodate approximately 70% of the Region’s population.

Figure 32
Historical Regional Population and City of Edmonton Share

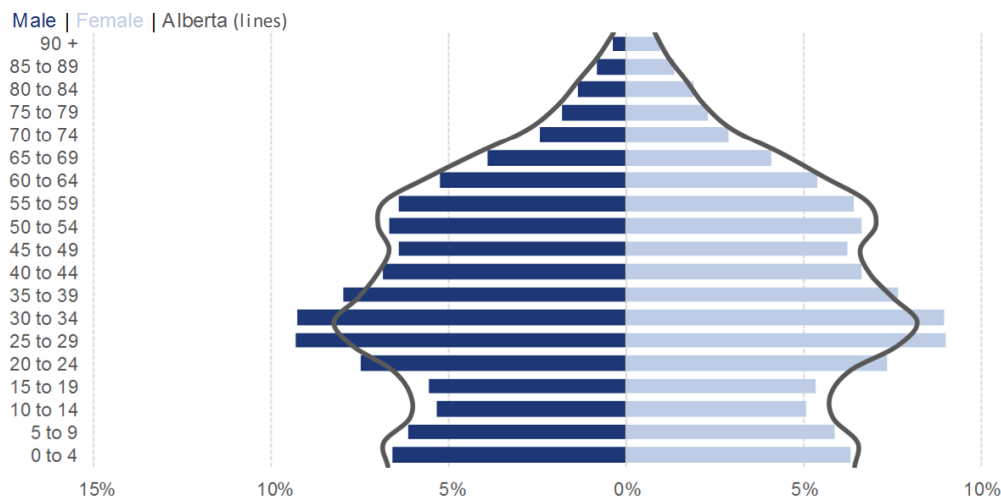
Year	Edmonton Metropolitan Region Population	City of Edmonton Population	City of Edmonton’s Share of Region
1981	731,310	529,924	72.5%
1986	795,249	576,249	72.5%
1991	854,046	618,195	72.4%
1996	870,929	616,306	70.8%
2001	932,556	666,104	71.4%
2006	1,041,479	730,372	70.1%
2011	1,161,593	812,201	69.9%
2016	1,321,499	932,546	70.6%



4.2 Demographic Trends

The City has a relatively young population, with approximately one-third of the population comprising young adults aged 20-39 (Figure 33), slightly higher than the provincial proportion in these age categories (30%).

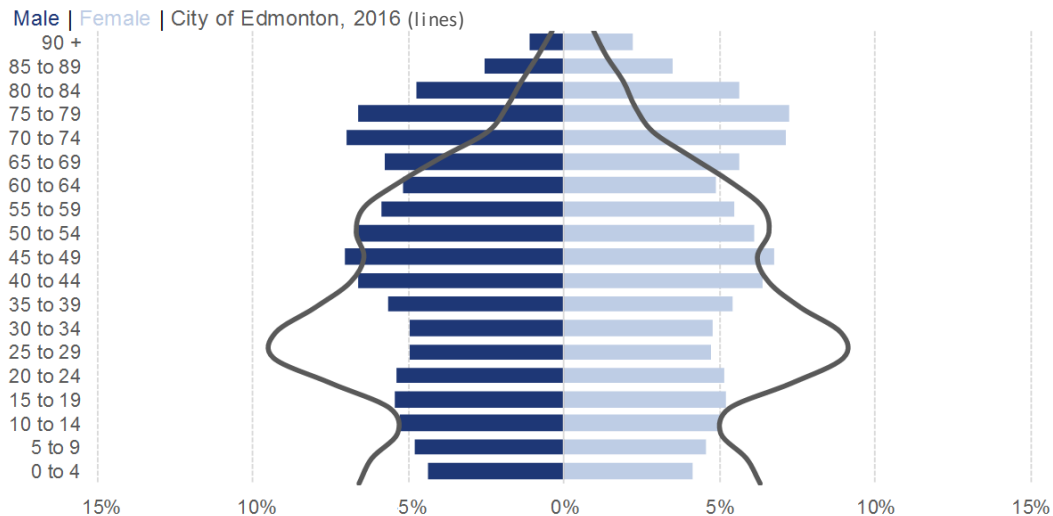
Figure 33
City of Edmonton Age Cohort Distribution, 2016



Natural population growth as well as in-migration over the 2018-2065 period is anticipated to result in a shift of the age cohort distribution in the City. Currently, the population within the 0-19 cohorts is smaller than that within cohorts in typical child-rearing years (i.e. 20-39). As a result, by 2065 the City's age cohort distribution is anticipated to shift toward a slightly older structure, as compared to the current distribution (Figure 34).



Figure 34
City of Edmonton Age Cohort Distribution, 2065



The City's gender distribution has remained relatively constant over the last decade, with a 50/50 split between males and females, and there is no evidence to suggest that this split will change in any meaningful way. Other demographic indicators in the City, however, have changed. As described below in Figure 35, Education levels in the City have generally increased, with proportionally more of the population seeking university certificates, diplomas, or degrees at or above the bachelor level in 2016 (27%) as compared to 2006 (20%). Again, this educational trend is consistent with changes at the provincial level over the same period.



Figure 35
City Educational Attainment, 2006 and 2016

Highest Certificate, Diploma, or Degree	Proportion of Population Aged 15 and Over	
	2006	2016
None	22%	15%
High school	26%	27%
Apprenticeship or trades	10%	8%
College or other non-university certificate or diploma	18%	18%
University certificate or diploma below bachelor level	4%	3%
University certificate, diploma, or degree above bachelor level	20%	27%

Source: Statistics Canada 2006; Statistics Canada 2016

The proportion immigrants increased from 23% in 2006 to approximately 30% in 2016, while the proportion of non-immigrants has declined from 76% to 67% - the province overall has experienced a similar trend over the same period. The nature and magnitude of immigration in the future is subject to uncertainty as immigration policy is under the jurisdiction of the federal government and can vary significantly depending on the political party in power. As such, the ethnic composition of the City's population is also dependent on fluctuating federal policy. In general, immigration has the potential to affect the housing market through changes in household size. New Canadians from countries and regions (e.g. south Asian and Chinese¹) where cultural norms include multi-generational households may, upon immigrating to Canada, continue to live with their large families. Although this living arrangement may be motivated, in part, by financial circumstances – particularly in high-cost environments, research into multigeneration households has identified other benefits, such as child and senior care, as being key motivators².

¹ Statistics Canada Family Matters series.

² <https://vanierinstitute.ca/multigenerational-homes-canada/>



It should be noted that the average household size in Edmonton has remained largely unchanged in the past decade (2.4 in 2006 to 2.5 in 2016), suggesting that the nature and magnitude of immigration over the same time period has had a relatively small impact – if any, on the household composition in Edmonton. Should a marked increase in immigration to Canada (and Edmonton specifically) take place, additional study regarding the household structure of new residents may be necessary to provide more details on the ethnicity composition of the City and potential influences in long-term housing trends.

Like the Province overall, the City's median household income has increased over the last decade. In 2006, the median household income in Edmonton was approximately \$74,000, slightly lower than the provincial median of \$83,000. In 2016, median household income has increased in real terms in the City to about \$92,000, while that of the Province is about \$99,000.¹ Thus, between 2006 and 2016, the real median income in Edmonton increased by about 2% per year, similar to the province overall. The City's Fall 2018 forecast as prepared by the Chief Economist anticipates that real GDP will continue to increase at roughly 2% per year. As such, it is expected that real income will continue trending at a 2% per year increase over the growth period.

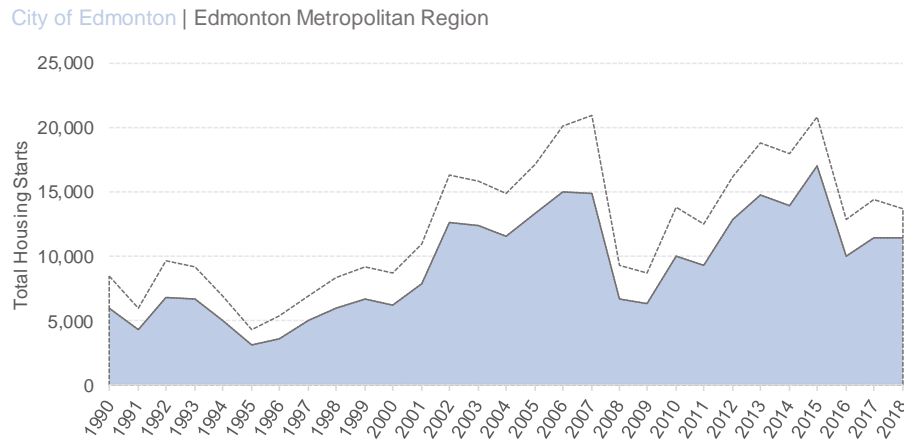
4.3 Regional and Local Housing Markets

Housing such a large share of the Region's growing population has meant that the City has taken on a large share of the Region's housing starts over the years as well (Figure 36).

¹ Incomes have been adjusted for inflation and are presented in \$2018.



Figure 36
City and Edmonton Metropolitan Region Housing Starts, 1990 to 2018



Source: CMHC 2016

The composition of housing units in the City differs somewhat from communities in the surrounding Region. A notable difference is that the City accommodates relatively more multi-family housing than the surrounding communities, which offer relatively more single-family and semi-detached homes. According to the 2016 Census, the City has relatively more housing in the apartment category (33%), as compared to other communities in the Region (10%). Conversely, communities surrounding the City have a relatively larger share of their housing in the single-family category (79%), as compared to the City (50%).

Figure 37
Proportion of City and Edmonton Metropolitan Housing Stock by Type, 2016

Geography	Single	Semi-Detached	Row	Apartment
Edmonton	50%	6%	10%	33%
Surrounding Communities	79%	7%	5%	10%

Source: Statistics Canada 2016

While the City’s housing profile differs from that of surrounding communities, the total housing stock within Edmonton has remained relatively unchanged since the 1990s. As described in Figure 38, there has been some fluctuation in the relative proportion of unit



types within the City's housing market over time, but the general profile across single, semi-detached, row, and apartment housing has not changed considerably.

Figure 38
City Housing Stock by Unit Type, 1996 to 2016¹

Year	Single	Semi-Detached	Row	Apartment
1996	53%	4%	10%	33%
2006	51%	4%	10%	35%
2011	52%	5%	10%	34%
2016	50%	6%	10%	33%

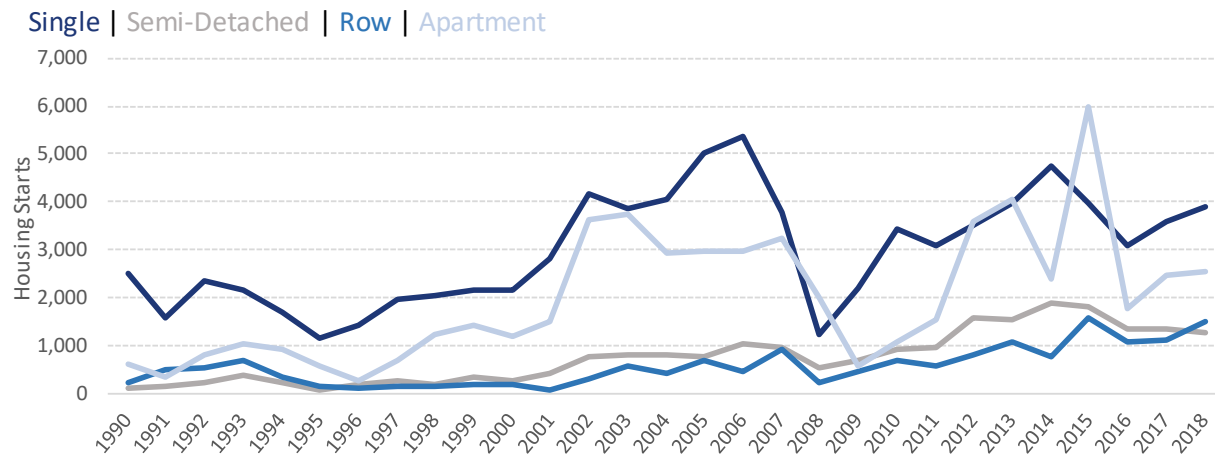
Source: Statistics Canada 1996; Statistics Canada 2006; Statistics Canada 2011; Statistics Canada 2016

Despite the relative consistency in the City's housing profile, some increased interest in higher-density housing is apparent in the profile of recent City housing starts. Since 1990, single family housing has typically dominated housing starts in the Edmonton Metropolitan Region overall. However, over the past 10 or so years the City has experienced a shift toward more apartment housing, which has exceeded single family homes in terms of total housing starts in certain years (Figure 39).

¹ Note that data for the 2001 Census year was insufficiently complete for comparison to other Census years.



Figure 39
Housing Starts in the City by Type, 1990 to 2018



Source: CMHC 2016

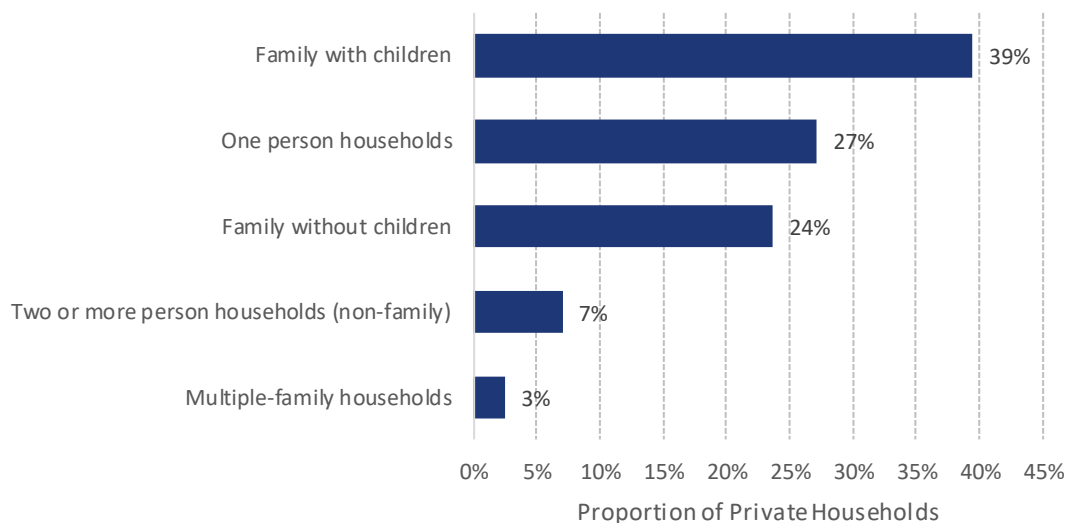
Indeed, the City has experienced a recent shift in housing starts toward higher-density units, and it is expected that the composition of housing in the City will shift somewhat toward higher-density dwellings and away from lower density dwellings. However, the extent of this shift will be dictated by individual preferences.

4.4 Homeowner Preferences

While developers have been increasingly building apartments in the City, on average, homeowners are still partial to lower-density housing. This preference can be explained, in part, by the general profile of the City's homeowners. As depicted in Figure 40 below, the largest category of households in Edmonton are families with children, who are likely more interested in lower-density housing options that include a backyard and more square footage as compared to high-density housing.



Figure 40
City Households by Household Type, 2016



Source: Statistics Canada 2016.

The second largest category of households in the City is singles, followed by couples without children. While these smaller households may be more interested in high-density housing, research has suggested that on average, the preference for low-density units is relatively consistent across both the younger generation looking for their first homes, as well as empty-nesters. A recent study conducted by the Centre for Urban Research and Land Development (2018) suggests that millennials, one of the major markets for apartments and condo buildings, are quite like previous generations in that they would prefer lower-density homes, such as single-family, semi-detached, or townhomes, over higher-density options. This preference appears to hold even when we consider that affordable low-density homes are typically only available in the suburbs or even the surrounding communities of a major urban centre. Those living in the Region seem to prioritize space and a back yard over their daily commute, as the number of total commuters by car increased by 8% between 2011 and 2016, and the number of commuters with a long commute (at least one hour one-way) increased by about 7% (Statistics Canada 2011; Statistics Canada 2016). Discussions with developers and brokers in the residential market confirmed that, in general, the higher-density housing options being absorbed by the market are acting as a stepping stone for singles and families looking to make the eventual move to single family home ownership.



Another important market for higher-density housing in the City are retirees looking to downsize. In Alberta however, more than half of the Baby Boomer population would prefer to renovate their current larger home than move or downsize (Royal LePage 2018). About one third are looking to downsize after their children leave home, but less than half of those willing to downsize would consider purchasing a condominium.

Therefore, while there has been some increasing interest in higher-density housing, our research suggests that this shift is unlikely to continue unabated in the long-run as there is still a dominant preference for lower-density housing among homeowners in the City.

The following table outlines the general profiles of homeowners across the various housing types in the City.



Figure 41
City of Edmonton Population, 1918 to 2018 Historical, 2019 to 2065 Forecast

Housing Type	Homeowner Profile
Single, semi-detached, duplexes	<ul style="list-style-type: none"> Single detached homes are the dominant preference for the majority of homeowners in the City. The primary constraint for those wishing to purchase a single or semi-detached home is price. Many single or semi-detached homes are purchased by homeowners over the age of 30 transitioning from less expensive multi-family homes or from a rental unit.
Row housing, triplexes, collective residents	<ul style="list-style-type: none"> Multi-family homes such as row houses or townhomes are typically purchased by singles or couples without children under the age of 30 looking to own a home but cannot yet afford a single-family home. These homes are viewed primarily as an opportunity for young singles and couples to transition from renting to eventually purchasing a single-family home when their income allows. Infill development of row housing or townhomes closer to the core, such as the Blatchford neighbourhood, may provide a compromise for those looking for the space and yard of a single-family home, as well as access to downtown amenities such as the developing ICE District.
Low-rise apartments (<5 stories)	<ul style="list-style-type: none"> Across the City, low-rise apartments and condos are often marketed to single professionals under 30 or older retirees looking to own a home with little maintenance within their budget. For the younger population, these units are considered in very much the same way as row houses or townhomes, offering an opportunity for singles to eventually transition to larger homes as their income allows. This is particularly true for those purchasing low-rise units in suburban/developing areas.
High-rise apartments (>5 stories)	<ul style="list-style-type: none"> Like many urban centres, high-rise apartment units in the City are concentrated in the downtown core area. Many purchasers of these units use them as a rental property for young professionals and couples working in the downtown area. Homeowners purchasing high-rise units to live in themselves are typically younger singles or couples without children. Again, these units are largely considered to be transitional for young singles and couples who eventually look for opportunities to purchase a single-family home.



4.5 Trends in Infill Development

4.5.1 Low Density

The need for new land to accommodate residential growth is related, in part, to the degree of redevelopment occurring within mature and established areas of the City. Lot subdivision, high density redevelopment and repurposing, and other forms of residential intensification allow for the accommodation of population growth without the consumption of new lands. The City of Edmonton has a target to meet 25% of housing demand through infill development in the future (City of Edmonton 2010).

Between 2006 and 2017, infill development in the city as a proportion of all new residential development varied between a high of 25% in 2016 to a low of 4.9% in 2009, averaging approximately 14% over the twelve-year period. In 2016, the City achieved its policy target of seeing 25% of new development occurring in mature neighbourhoods. It should be noted that the success in 2016 is not believed to be indicative of a new sustained level of infill and the variance seen over the 2006 to 2017 period is expected to continue.

A review of infill permit and assessment data as well as discussion with developers active in the residential infill market revealed a number of key factors related to site selection with respect to low density infill development. Specifically:

- Two primary features of a lot dictate its attractiveness as an infill site:
 - Land values. Returns to infill development are heavily influenced by the initial purchase price of the underlying land. Accordingly, developers actively seek out properties that are undervalued relative to the surrounding neighbourhood – effectively identifying future margin. In general, when selecting sites for infill, the differential between initial purchase price and the top quartile selling price in a neighbourhood is given far more weight than the neighbourhood itself.
 - Infrastructure upgrades, such as fire hydrants, can very quickly remove a site from consideration. Several developers remarked on the high costs associated with installing additional fire hydrants as barriers to infill development in certain locations.
- At present, the degree of infill that has occurred in mature neighbourhoods varies substantially. The highest concentration of infill in the City is found in Inglewood,



where about 10% of lots that are appropriate for infill, (i.e. lots that are below average neighbourhood value) have been redeveloped. Other mature and established neighbourhoods in the City generally have infill levels in the 1% to 4% range.

4.5.2 High Density/Transit Oriented Development

Data availability with respect to higher density infill and Transit Oriented Development (TOD) is relatively limited in the City of Edmonton context. In general, there isn't sufficient data to discern meaningful trends or patterns of behaviour with respect to historical levels of activity. Accordingly, the study team had discussions with a number of developers who provided the following insight into current and future high-density infill and TOD activity.

As with low-density infill, initial land prices generally dictate the economics of infill development and high land values relative to the surrounding neighbourhood tend to deter investment. This finding is particularly relevant in the TOD context as prices in close proximity to future L.R.T. sites have increased in anticipation of the coming transit, thereby reducing the relative attractiveness of the lands for infill. Some developers noted pursuing opportunities on sites slightly more removed from transit lines as a strategy to keep costs down.

At present, a substantial amount of high-density infill is taking place in the downtown core. Many developers perceive this current pace of infill downtown to be unsustainable, due in large part to the relative employment density in the downtown core vis-à-vis outlying areas of the City. It is expected that a shift towards higher density options outside the downtown core and in proximity to outlying transit hubs is likely to take place in the medium term.

5. City of Edmonton Long-Term Population, Housing and Employment Forecast and Growth Allocations

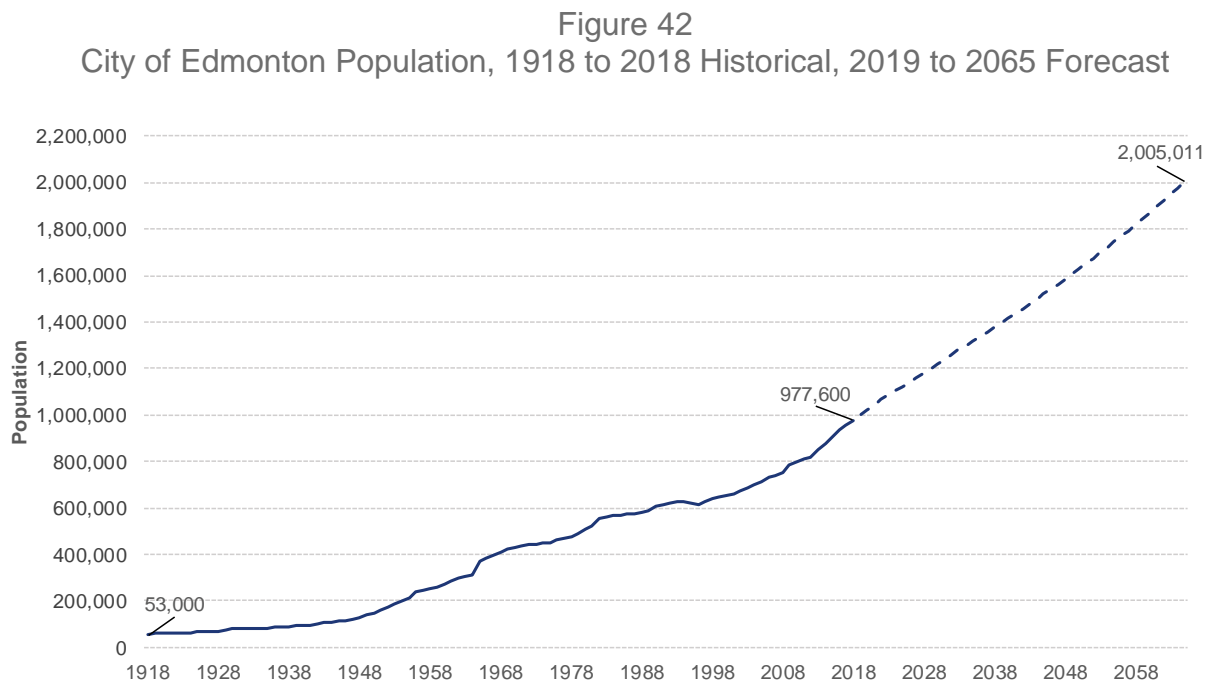
This chapter provides an assessment of the long-term growth potential for the City of Edmonton to the year 2065 in ten-year increments, building on the analysis summarized in sections 2 through 4. The growth forecast presented herein is based on the City of Edmonton Chief Economist Office's Fall 2018 forecast. In developing the City of



Edmonton's long-term population, housing and employment forecast, consideration has been given to the long-term demographic and economic outlook for the Edmonton Metropolitan Region.

5.1 Forecast Population Growth, 2018 to 2065

The City's Office of the Chief Economist's Fall 2018 population forecast was developed for the 2018 to 2065 period. The forecast assumes an average annual growth rate of 1.5% between 2018 and 2065. As depicted in Figure 42 below, the forecast results in a total population of about 2 million persons by 2065.



5.2 Future Housing Growth by Neighbourhood

5.2.1 Allocation Methods and Key Assumptions

Based on the population growth projections provided by the City's Chief Economist, the study team has prepared a baseline market forecast of residential housing growth in the City to 2065 at both neighbourhood and geographic sub-area levels, as well as by housing unit type. The City offers a number of different types of housing units which are summarized below in Figure 43 below.



Figure 43
City Housing Types

Unit Type	Acronym	Description	Household Size
Low Density	LDR	Single detached homes, semi-detached homes, duplex units.	2.8
Medium Density Row	MDR-R	Row housing, triplex units, collective residences.	2.8
Medium Density Apartment	MDR-A	Apartment-style housing with less than five stories.	1.8
High Density	HDR	Apartment-style housing with five or more stories.	1.5

In brief, the study team allocated the Chief Economist's projected population using historic market preferences with regards to key housing characteristics (e.g. location, unit type, etc.) over the last decade, coupled with forward looking adjustments based on published research and discussion with key stakeholders in Edmonton's housing market (e.g. developers, brokers, etc.)

The first step of this analysis involved updating the City's current greenfield and infill housing supply by neighbourhood and unit type. Note that secondary and garden suites are not included in this analysis as they are not considered to be permanent housing units. Greenfield supply data from the study team's previous annexation work for the City, coupled with new neighbourhood subdivisions that have taken place in the last few years, were used to estimate a current greenfield housing supply. Low-density and high-density infill supply were estimated according to the following:

- Potential LDR and MDR-R infill supply was estimated by identifying below average value lots in mature and established neighbourhoods and capping the amount of development in a neighbourhood at a saturation point of 10% to approximate neighbourhoods in the City with high levels of infill.
- To estimate high-density infill supply (MDR-A and HDR) the study team identified neighbourhoods with a current medium- or high-density component to their housing stock and allocated infill growth to achieve saturation levels comparable to the average in mature neighbourhoods.



After updating the City's current housing supply, residential demand was allocated in the City under the following assumptions:

- City-wide preferences for unit types shift during the forecast period, with preferences for higher-density units increasing and preferences for lower-density decreasing until 2035, after which they are held constant. The preference shift is described below in Figure 44.

Figure 44
City Housing Demands by Housing Type, Current and Future

Unit Type	Current Housing Demands	Future Housing Demands (2035-2065)
LDR	55%	50%
MDR-R	12%	13%
MDR-A	28%	29%
HDR	5%	8%

- Residential demand for each housing unit type is allocated across the City's 8 geographic sub-areas (Central North, North, Northeast, Northwest, Central South, Southeast, Southwest, and West) according to historical development patterns in the City and the availability of unit supply.
- Within each geographic sub-area, demand for each housing unit type is allocated across neighbourhoods according to historical development patterns within the sub-area. Unsatisfied demand in a particular neighbourhood is re-allocated to nearby neighbourhoods within the sub-region.
- Unsatisfied demand in a sub-region is allocated to adjoining sub-regions in keeping with the principle of contiguous development. Specifically:
 - Unmet residential demand in the Central North sub-area will be distributed to the North, Northeast, and Northwest sub-areas.
 - Unmet residential demand in the North sub-area will be distributed to the Northeast and Northwest sub-areas. Similarly, unmet residential demand in the Central South sub-area will be re-allocated to the Southwest and Southeast areas.
 - Unmet residential demand in the Southwest and Southeast sub-areas will be accommodated by the supply in the annexation areas.



- As development approaches the limits of the City, demand is allowed to leak to adjacent communities and not re-allocated to other sub-sectors of the City.
- The allocation of growth at both the neighbourhood and sector level does not follow a so-called “nook and cranny” approach, whereby every available greenfield and infill housing unit is absorbed. In an effort to represent forward looking actors, we have modelled growth to leak into nearby neighbourhoods and adjacent sectors as the desired supply dwindles.

5.2.2 Baseline Market Scenario

5.2.2.1 Population and Housing by Unit Type and Neighbourhood

Under the baseline market scenario, it is expected that the City will house an additional 844,000 persons in about 349,000 new units by 2065. The total cumulative population is estimated to be 1.8 million persons. The breakdown of additional units and population housed in 2065 are provided below in Figure 45.

Figure 45
Unit and Population Absorption by Unit Type, 2065

	LDR	MDR-R	MDR-A	HDR	Total
Units	173,500	50,000	100,600	24,800	348,900
Infill (% of units)	10%	14%	39%	26%	20%
Population	485,700	140,100	181,000	37,200	844,000
Cumulative Population = 1,800,000					

Detailed unit and population absorption forecasts by individual neighbourhoods for the baseline market scenario are provided under separate cover to the City.

At a neighbourhood level, large population growth is expected to occur in newer, developing neighbourhoods. Additionally, the Southwest and Southeast annexation areas, along with additional rural lands that have not yet been subdivided are shown to absorb units and the accompanying population over the growth period. Growth in mature or established neighbourhoods is driven almost exclusively by the estimated infill potential. The market model includes nuanced market estimates for infill saturation



potential for low- and high-density units. By the end of the forecast period infill development is anticipated to represent approximately 20% of total new units. Much of this infill occurs in higher-density housing types, particularly MDR-A as certain neighbourhoods in the core are estimated to have relatively large infill potential for MDR-A units. Anticipated growth at a sub-area level is described below:

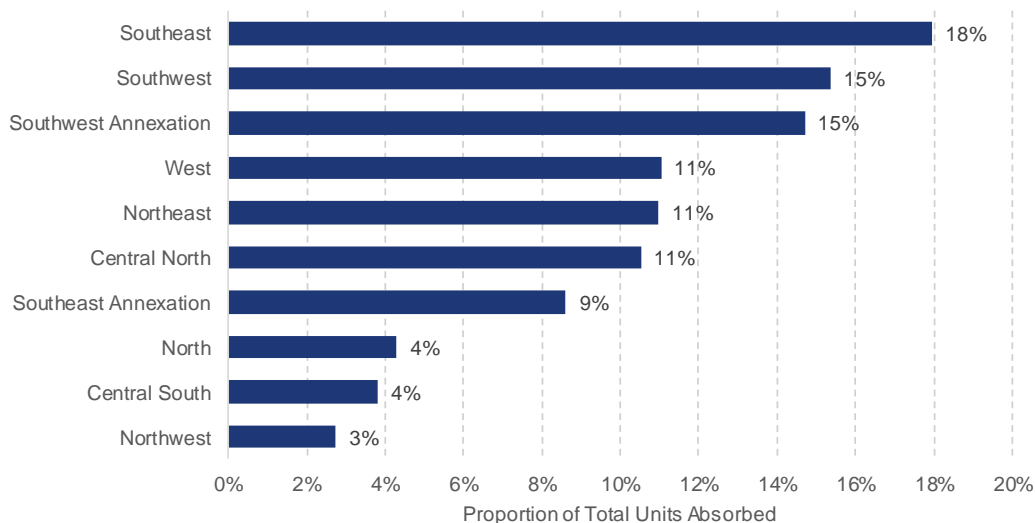
- The Southeast and Southwest sub-areas see relatively more development as compared to the other sub-areas (Figure 46) as these areas have seen much of the City's recent development and have a relatively large amount of the available greenfield supply in the City. In the Southeast sub-area, the Decoteau neighbourhood absorbs the largest proportion of units due to its large supply of greenfield area. Similarly, in the Southwest, newer neighbourhood developments including the Heritage Valley Town Centre, Chappelle, Windermere, and Keswick are expected to see much of the sub-area's housing over the growth period. The Southwest and Southeast Annexation areas are estimated to absorb approximately 15% and 9% of future housing development, respectively. This development is anticipated to begin once the supply of specific unit types is exhausted in the Southwest and Southeast sub-areas. All of this development will be greenfield and has yet to be subdivided into specific neighbourhoods.
- The City's West sub-area will absorb about 11% of housing supply over the growth period. Much of this greenfield development is expected to take place in a variety of new neighbourhoods. The largest proportion of development is estimated to occur on lands in the Riverview Area that have yet to be subdivided, as well as Edgemont, Stillwater, and Rosenthal.
- While the City's Northeast has not seen a great deal of development in the past, there is notable supply in the area's Rural North East area, as well as the new Marquis neighbourhood, which are expected to absorb most of the new development in this sub-area.
- Development in the Central North sub-area will be exclusively accommodated by infill development. This sub-area has seen a large proportion of City's MDR-A and HDR development in the past and hosts a notable supply of MDR-A and HDR infill that can be developed before achieving the average saturation level of high-density infill in mature neighbourhoods. New neighbourhoods including Blatchford, Rosssdale, and Edmonton Northlands are expected to accommodate much of the sub-area's growth, due to the proposed supply available in these



neighbourhoods. The Downtown area was also found to have notable infill potential.

- The City's North sub-area has absorbed approximately 12% of the total housing development over the last decade. However, low greenfield supply and relatively few below-average lots available for low-density infill create limited opportunities for future growth in this sub-area. New development in Goodridge Corners and Crystallina Nera East are expected to accommodate much of this area's housing growth, as is infill development in the Griesbach neighbourhood.
- The Central South sub-area has had relatively little development over the last decade, and while there is some infill potential across mature neighbourhoods in this area, particularly low-density infill in the Garneau, Bonnie Doon, and Forest Heights neighbourhoods, the total absorption of units in the Central South is expected to account for just 4% of housing development over the growth period.
- Finally, the City's Northwest area has historically had the least amount of development over the last decade. Growth in this sub-area is expected to occur primarily on greenfield lands in new neighbourhoods such as Kinglet Gardens, and neighbourhoods in the Big Lake area.

Figure 46
Proportion of New Units Absorbed in the City by Sub-area, 2018-2065



As noted above, the total population housed under the baseline market scenario is 1.8 million, approximately 200,000 persons shy of the City's 2065 population forecast of 2 million. The reason for the discrepancy can be attributed to the market model



assumptions described above. As development approaches the limits of the City, demand for specific units can leak to adjacent communities should those units not be available in the desired sub-area. For example, under the market scenario, an LDR unit in the Northeast portion of the City is not substitutable for an LDR unit in the Southwest, nor is it substitutable for any other unit type in City limits. Instead, it is considered more likely that demand for an LDR unit in the Northeast would be substitutable with an LDR unit in a community adjacent to that sub-area, such as Fort Saskatchewan.

5.2.3 Full Population Scenario

As stated earlier, the baseline market scenario results in a “leakage” of approximately 200,000 persons outside of the City by 2065. This result is driven fundamentally by an assumed behavior by buyers to seek a preferred housing type in an adjacent community to Edmonton rather than shift their preferences to a different geographic area of the City and to a different housing type. As this outcome is not consistent with the City’s objective of housing a population of 2 million within City boundaries by 2065, the study team has identified various changes in housing preferences that would be necessary to achieve this goal.

First, it is important to note that the estimated total supply within the City (including market-based estimated infill supply) is insufficient to accommodate the full 2 million population projected for the city – resulting in an unhoused population of just over 100,000 persons. Given that the baseline market scenario results demonstrate a slightly higher leakage of almost 200,000 persons, several assumptions regarding housing preferences and infill potential would need to change in order for the City to fully absorb its current housing supply and increase its supply sufficiently to house a population of 2 million by 2065. These changes are described below:

- Recent development for LDR and MDR-R units has been focused in the City’s North, Southwest, and Southeast sub-areas. Development of MDR-A and HDR units has been primarily undertaken in the Central North and Southwest sub-areas. In order for the City to house a population of 2 million by 2065, a notable shift in geographic preferences would need to occur. Specifically:
 - Preferences for MDR-R units would need to shift significantly toward the study team’s estimated infill capacity in the City’s Central North, with almost 35% of all MDR-R development taking place in this sub-area as opposed to the 5% that has occurred historically.



- Preferences for MDR-A units would have to shift as well, with more MDR-A development taking place in the City’s Central South infill supply (approximately 11% as compared to the historically seen 7%), as well as available supply in the West (approximately 11% as compared to the historical 4%).
- There would need to be a significant shift toward a preference for HDR housing in the City’s Northeast sub-area (i.e. 16% of HDR demand), which has had little to no HDR development in the last decade.
- It is also necessary to assume a higher level of saturation for infill potential in mature and established neighbourhoods. In this case, the study team has more than doubled the infill saturation for the dominant low-density units.
- In addition to increased LDR infill potential, the study team has altered the potential for higher-density infill development, particularly in the MDR-A category in mature and established neighbourhoods along the proposed L.R.T. routes. Approximately 350 units of supply, equivalent to 4-8 MDR-A buildings, were added to each neighbourhood adjacent to a proposed L.R.T. station along the City’s four planned L.R.T. lines.

5.2.3.1 Population and Housing by Unit Type and Neighbourhood

Under the full population scenario, it is expected that the City will house an additional 1.05 million persons in about 430,000 new units by 2065. The total cumulative population is estimated to be 2 million persons, as forecast by City staff. Under the full population scenario assumptions, the breakdown of additional units and population housed in 2065 are provided below in Figure 47.

Figure 47
Unit and Population Absorption by Unit Type, 2065

	LDR	MDR-R	MDR-A	HDR	Total
Units	220,900	55,800	124,800	31,900	433,400
Infill (% of units)	31%	27%	44%	21%	33%
Population	618,500	156,200	224,600	47,900	1,050,000
Cumulative Population = 2,000,000					



Detailed unit and population absorption forecasts by individual neighbourhoods for the full population scenario are provided under separate cover to the City.

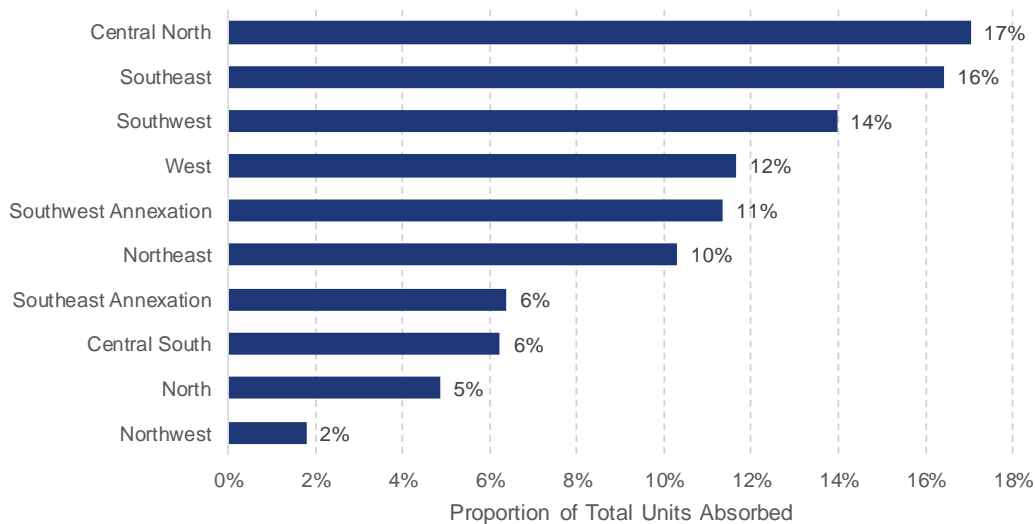
Like the baseline market scenario, large population growth is expected to occur in newer, developing neighbourhoods, as well as the annexation areas and rural areas that have yet to be subdivided. Anticipated growth at a sub-area level is described below:

- The most notable difference between the baseline market scenario and the full population scenario is a result of the adjustments around preferences for infill units in the City's Central North sub-area. These changes have resulted in the Central North accommodating the largest proportion of housing development over the growth period (17%, Figure 48). Neighbourhoods such as Downtown and Queen Mary Park accommodate significantly more of the infill development in this sub-area as a result of being along proposed L.R.T. lines and thus having larger potential high-density, transit-oriented infill supply.
- Although housing preferences are adjusted in this scenario, there is still a large proportion of development taking place in the Southeast, Southwest, West, and South Annexation sub-areas as these have been popular areas for growth in the past and there is substantial greenfield supply remaining. Furthermore, these sub-areas include neighbourhoods along proposed L.R.T. lines that are assumed to have higher potential for high-density, transit-oriented infill as compared to the baseline market scenario.
- Similarly, the Northeast sub-area accommodates a substantial share of housing growth as there is notable greenfield supply available in the Rural North East area and Marquis neighbourhoods.
- The Central South sub-area is anticipated to accommodate slightly more of the future housing growth as compared to the baseline market scenario as additional low-density infill development is assumed in neighbourhoods like Strathcona and Ottewell, and high-density, transit-oriented infill is assumed neighbourhoods such as Bonnie Doon.
- The North sub-area sees some additional housing development, as compared to the baseline scenario, primarily as a result of additional high-density, transit-oriented infill development assumed in neighbourhoods such as Caernarvon and Carlisle that are expected to host the Northwest L.R.T. extension.



- Finally, like the baseline market scenario, the City’s Northwest sub-area is expected to accommodate a small proportion of housing development over the growth period, primarily on greenfield lands in new neighbourhoods such as Kinglet Gardens, and neighbourhoods in the Big Lake area.

Figure 48
Proportion of New Units Absorbed in the City by Sub-Area, 2018-2065



5.3 Long-Term Employment Growth, 2018 to 2065

Edmonton’s long-term economic and employment growth potential is largely tied to the success of the broader provincial and national economies, as a whole. As discussed in Section 2, there are several macro-economic factors and regional and local issues that are anticipated to influence the growth potential of Edmonton’s economy and ultimately the future local employment growth over the long term. These factors will not only impact the rate and magnitude of employment growth, they will also influence the form and density of non-residential development and corresponding demand for industrial, commercial and institutional lands.

Key observations include:

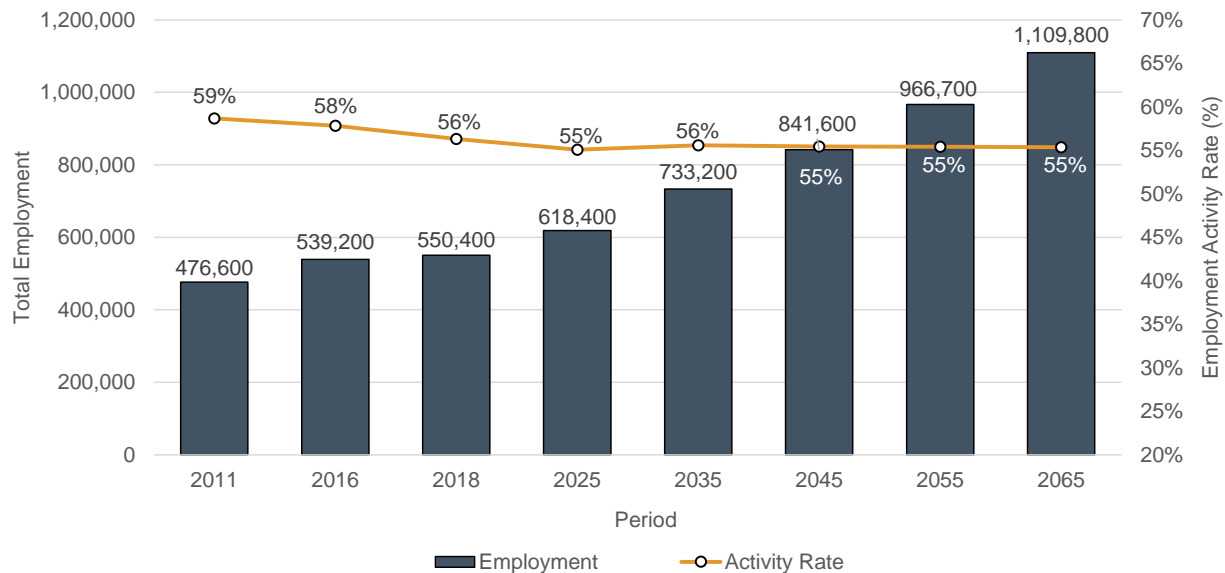
- As of 2018, the City’s employment base is estimated at 550,400, based on data provided by the City’s Office of the Chief Economist. Over the 2018 to 2065 period, the City is expected to add an additional 559,400 jobs, thereby increasing



to an approximately 1.1 million employment base by 2065. This represents an annual employment growth rate of 1.5%; and

- Between 2018 and 2065, the City's employment activity rate (ratio of jobs to population) is forecast to decline slightly from 56% to 55%.

Figure 49
City of Edmonton, Total Employment Growth by Major Sector, 2018 to 2065



Source: Derived from City of Edmonton Fall 2018 Employment by Industry by Watson & Associates Economists Ltd., 2019.

5.3.1 Forecast Employment Growth by Sector

In accordance with the City of Edmonton's Office of the Chief Economist's long-term City-wide employment projections to 2065, a long-term City-wide employment growth forecast by major employment sector (i.e. primary, industrial, commercial, institutional, and work at home) has been established.¹ This includes employment estimates for 2018, along with a forecast for 2025, 2035, 2045, 2055 and 2065.

Consideration has also been provided regarding long-term economic opportunities and disruptive factors that are anticipated to influence long-term employment growth by major employment sector within the City of Edmonton.

¹ Major sector employment totals include estimates of No Fixed Place of Work (N.F.P.O.W.) employment.



Employment growth is expected across a wide range of sectors driven by continued diversity of the regional and local economic base and steady local population growth. Figure 50 summarizes the 2018 to 2065 employment forecast by major employment sector for the City of Edmonton.

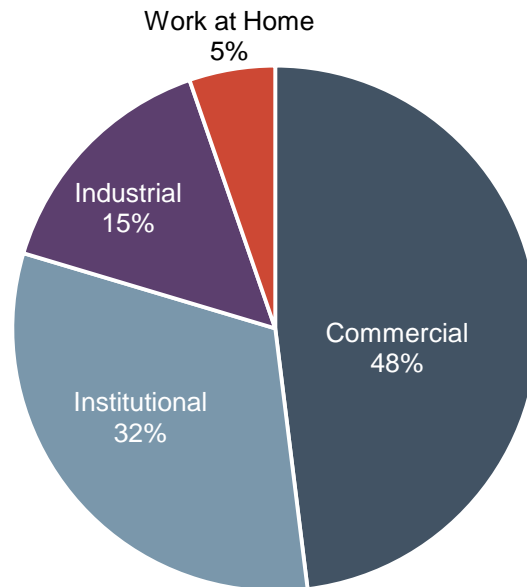
Population growth is anticipated to drive the demand for population-related commercial and institutional employment in Edmonton. New residential and population-related development will also drive demand within the construction sector and influence investment across certain industrial sectors that are more closely driven by regional population growth (e.g. fulfilment centres, urban warehouses).

Most industrial and office commercial employment (export-based employment), however, is not closely linked to population growth. Employment within these sectors tends to be more influenced by broader market conditions (i.e. economic competitiveness, transportation access, access to labour, and distance to employment markets), as well as local site characteristics such as servicing capacity, highway access and exposure, site size/configuration, physical conditions and site location within existing and future employment areas throughout the City and the surrounding market area.

As shown, the City is anticipated to experience strong employment growth in the commercial sector, accounting for 48% of City-wide employment growth. The industrial and institutional sectors are each expected to account for 15% and 32% of the total employment growth, respectively. Work at home employment is expected to account for 5% of employment growth.



Figure 50
City of Edmonton, Share of Employment Growth by Sector, 2018 to 2065



Source: Watson & Associates Economists Ltd., 2019.

With respect to employment growth by major employment sector, the following observations have been made:

- **Primary Employment** – Primary industries (i.e. agriculture employment) comprise a relatively small proportion of Edmonton’s employment base (approximately 0.2% in 2018). This sector is not anticipated to experience any employment growth over the 2018 to 2065 forecast period.
- **Industrial Employment** – Future industrial employment growth in Edmonton is anticipated to total approximately 84,400 over the 2018 to 2065 period, accounting for 15% of employment growth. Industrial employment growth is anticipated to be concentrated in sectors related to energy, construction, goods movement (wholesale trade, transportation and warehousing) and manufacturing.
- **Commercial Employment** – Commercial employment growth is forecast to increase by approximately 268,700 jobs over the 2018 to 2065 period, accounting for 48% of total employment growth. This includes:
 - Population-related commercial employment, which is driven by local and regional population growth (population-related commercial employment).



This includes employment in retail, accommodation and food, arts, entertainment and recreation and personal services.

- Major office employment – office-based employment accommodated in stand-alone office buildings 20,000 sq.ft. or greater in G.F.A.
- **Institutional Employment** – Edmonton is anticipated to experience employment growth in the institutional sector, representing 176,700 jobs (32% of total employment growth) over the 2018 to 2065 period, which will be largely driven by local and regional population growth. This includes employment growth in government, education, health and social services and other institutional facilities (i.e. cultural, religious). The City is expected to see an increase in seniors' health facilities/services, including retirement homes and assisted living facilities, as well as other institutional-related development, due to a growing but aging population base.
- **Work at Home** – In addition to reviewing employment trends by usual place of work, consideration has also been given to the employment outlook in Edmonton for employees who work at home. Over the forecast period, work at home employment in the City is expected to expand by 29,600 jobs, driven by forecast growth in the knowledge-based and creative economy.

5.4 Opportunities to Accommodate Future Non-Residential Development

To inform the allocation of forecast employment growth at the neighbourhood level, Watson developed a non-residential land inventory dataset for each neighbourhood, excluding the South Edmonton Annexation lands. This included:

- A vacant industrial land supply inventory derived from Watson's City of Edmonton 2018 Competitiveness study;
- A GIS-based analysis of other non-residential lands conducted to identify net developable vacant commercial and institutional lands. This analysis was based on a review of vacant parcel data supplied by the City of Edmonton, along with Area Structure Plan/Neighbourhood Structure Plans in new growth areas; and
- Identification of neighbourhoods with potential for employment intensification based on locations in proximity to existing and planned high-order transit (Transit Oriented Development) and neighbourhoods in the Core Area.



5.5 Employment Growth Allocations by Neighbourhood

5.5.1 Establishment of 2018 Employment Base

Utilizing ArcGIS 10.5 software, each of Edmonton's neighbourhoods was assigned a 2018 base employment estimate as follows:

- Using the established City-wide 2018 employment base control totals discussed above, allocations of employment by neighbourhood were determined through spatial analysis of 2017 InfoCanada geocoded business directory data (provided by City staff) containing employment and industry sector data, supplemented by 2016 Census Place of Work employment data at the Census Tract level;
- Recent non-residential development activity by neighbourhood was also considered, with estimates of recent employment growth added to help establish the 2018 employment base; and
- Work at home employment was allocated to the neighbourhood level, based on City-wide control totals and proportionally based on population.

5.5.2 Employment Growth by Neighbourhood, 2018 to 2065

When forecasting long-term employment, it is important to understand how growth in the City's major employment categories (i.e. industrial, commercial and institutional) is impacted by forecast labour force and population growth. Population-related employment (i.e. retail, schools, service and commercial) is generally automatically attracted to locations convenient to local residents. Typically, as the population grows, the demand for population-related employment also increases to service the needs of the local community. The following is noted:

- Similar to population-related employment, home-based employment is also anticipated to generally increase in proportion to population growth;
- Industrial and office commercial employment (export-based employment), on the other hand, is not closely linked to population growth and tends to be more influenced by broader market conditions (i.e. economic competitiveness, transportation access, access to labour, and distance to employment markets), as well as local site characteristics such as servicing capacity, highway access and exposure, access to high-order transit, site size/configuration, physical conditions and site location within existing and future Employment Areas

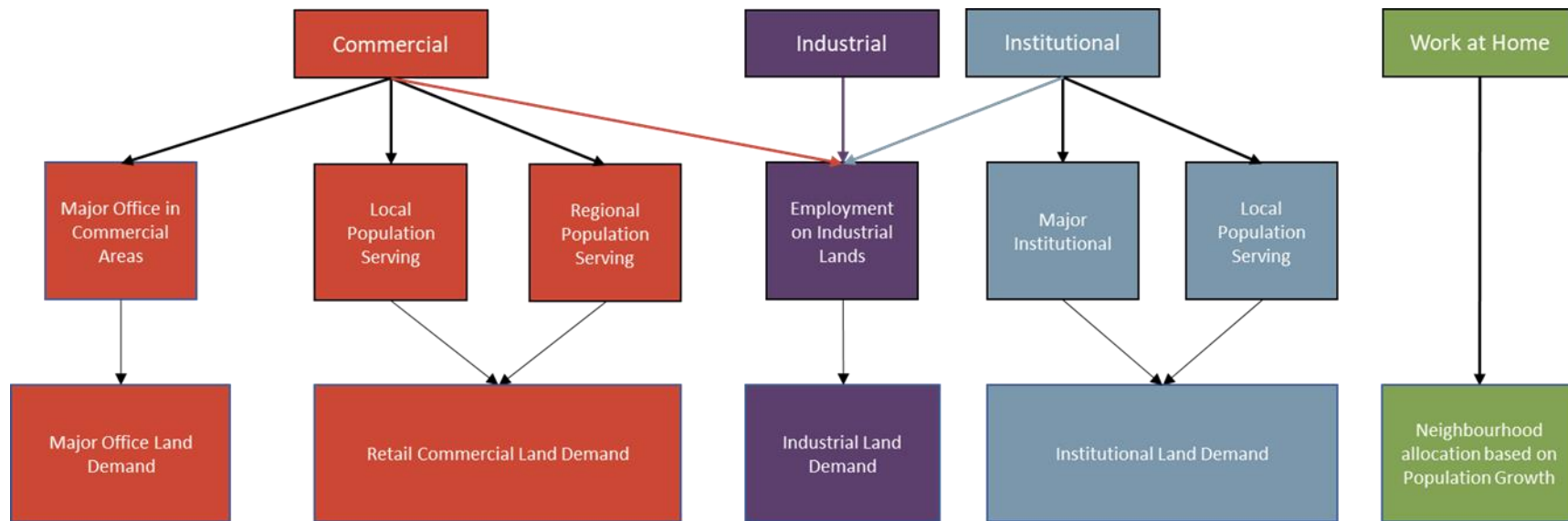


throughout the City and the surrounding market area. As such, industrial lands and major office employment is not anticipated to increase in direct proportion to population growth and has been based on a review of the following:

- Macro-economic trends influencing Employment Area development (i.e. industrial and office employment) within Edmonton and the surrounding market area);
- Historical employment trends (i.e. review of established and emerging employment clusters), non-residential construction activity and recent industrial land absorption rates; and
- Availability of serviced industrial land supply (i.e. shovel-ready employment land) and future planned greenfield development opportunities on vacant designated industrial lands within Edmonton.



Figure 51
Schematic on Employment Growth Allocations by Neighbourhood





5.5.3 Employment on Industrial Lands

This section summarizes total employment growth on industrial lands and corresponding industrial land demand within the City of Edmonton to 2065, based on the employment forecast presented in section 5.3. Building on the long-term employment forecast, anticipated industrial land needs requirements are then identified based on consideration of the following:

- Estimating the share of employment growth on industrial lands by I.C.I. (industrial, commercial and institutional);
- Historical and forecast absorption on industrial lands by employment type (i.e. general versus prestige and sector (i.e. manufacturing, warehousing and distribution, office commercial, etc.); and
- The amount of long-term net developable vacant industrial lands within the City of Edmonton.

Determine the Amount of Industrial, Commercial and Institutional (I.C.I.) Employment to be Located on Industrial Lands

Current definitions of industrial lands have broadened to include a number of commercial uses, including major office and employment-supportive uses (and to a lesser extent, institutional uses), in addition to traditional industrial development. For example, a number of commercial and institutional uses (as defined by Statistics Canada) are permitted on lands designated/zoned industrial lands. Figure 52 presents the percentage breakdown by major sector (I.C.I.) on industrial lands used for the forecast period (2018 to 2065). The allocation by I.C.I. is based on a review of recent development trends in the City of Edmonton and a review of permissible uses on industrial zoned lands.

Figure 52
Share of Employment Growth on Industrial Lands by Sector

Employment Sector	Percentage of Total Employment on Industrial Lands				
	2018-2025	2025-2035	2035-2045	2045-2055	2055-2065
Industrial	100%	100%	100%	100%	100%
Commercial	23%	25%	27%	28%	28%
Institutional	9%	10%	11%	12%	13%

Source: Watson & Associates Economists Ltd., 2018.



Total employment growth on industrial lands over the forecast period is summarized in Figure 53.

Figure 53
Forecast Employment Growth on Industrial Lands

Period	Employment Growth on Industrial Lands	% of City Wide Employment
2018-2025	18,600	27%
2025-2035	36,500	32%
2035-2045	35,100	34%
2045-2055	40,400	34%
2055-2065	45,300	32%

Source: Watson & Associates Economists Ltd.

Determine the Amount of Employment on Industrial Lands Allocated by Geographic Area

As previously identified, Edmonton has a diversified industrial base and there are opportunities to accommodate future industrial growth in a number of areas. Each area, including Northwest, Northeast, South/Southeast, EETP and the Annexation area, has varying market prospects and corresponding land need requirements. Forecast employment growth on industrial lands by geographic area is summarized in Figure 54.

Figure 54
Forecast Proportionate Share of Employment on Industrial Lands by Geographic Area

Period	Proportionate Share of Employment on Industrial Lands by Geographic Area					
	Northwest	Northeast	South/Southeast	Edmonton Energy & Technology Park	South Annexation	Total
2018-2025	45%	5%	45%	5%	0%	100.00%
2025-2035	42%	5%	35%	9%	9%	100.00%
2035-2045	39%	6%	28%	9%	18%	100.00%
2045-2055	0%	0%	0%	30%	70%	100.00%
2055-2065	0%	0%	0%	30%	70%	100.00%

Source: Watson & Associates Economists Ltd.



These allocations were then proportioned at the neighbourhood level based on the following considerations:

- **2018 to 2025:** Employment allocations guided by recent development activity (2011 to 2018 building permit activity) and zoned vacant industrial land supply;
- **Post-2025:** Allocations were based on the share of available industrial lands, with zoned lands being absorbed over the medium term and future industrial lands supply and market opportunities guiding growth over the long-term; and
- **Post-2035:** Limited industrial land supply remaining in existing industrial districts (i.e. Northwest, Northeast and South/Southeast) with the majority of employment growth allocated to EETP and the South Annexation area.

5.5.4 Major Office Commercial Employment

Based on the existing major office inventory in Edmonton, and historical and forecast development trends in the sector, a forecast for major office employment as a subset of commercial employment growth was generated. The forecast City-wide major office employment growth and allocation by geographic area is summarized in Figure 55.

Figure 55
Forecast Proportionate Share of Major Office Employment
Growth by Geographic Area

Neighbourhood Type	Major Office Growth 2018-2065	% Share 2018-2065
Core Area Neighbourhoods	64,800	45%
Industrial Neighbourhoods	53,600	38%
Other	24,500	17%
Total	142,900	100%

Source: Watson & Associates Economists Ltd.

The following is noted:

- Major office employment within the Core Area and suburban locations outside of Industrial Neighbourhoods such as TODs were allocated based on identified market opportunities; and



- Major office employment within Industrial Neighbourhoods is embedded in the commercial employment allocations identified in section 5.5.3 with no additional land demand analysis required.

5.5.5 Population-Related Commercial Employment

The commercial employment forecast (excluding major office employment and a portion of commercial employment allocated to industrial lands) was disaggregated into two categories: Local Population Serving; and Regional Population Serving commercial employment.

- a) Local Population Serving commercial employment was allocated to neighbourhoods that had available commercial lands and was allocated based on the proportion of neighbourhood level population growth (i.e. if Neighbourhood X received 10% of the City-wide population growth between 2018 and 2025, then it would also receive 10% of the City-wide local serving commercial employment growth, assuming there is sufficient designated land to support growth).
- b) Regional Population Serving commercial employment was allocated to neighbourhoods that were identified as containing a major retail commercial base (such as shopping malls and large format “big box” stores) and neighbourhoods that are planned to host such land uses in the future. These allocations were driven by market/development opportunities and land supply availability.

The City-wide Local Population Serving and Regional Population Serving commercial employment growth over the 2019 to 2065 period is summarized in Figure 56.

Figure 56
Population-Related Commercial Employment

Population Serving	2018-2065
Local Serving	58,562
Regional Serving	49,316
Total Population Serving	107,878



5.5.6 Institutional Employment

Similar to commercial employment, forecast institutional employment growth was split into two subcategories: Local Serving and Regional Serving institutional employment. Regional Serving institutional employment includes major government, health and higher-level educational employers, such as the City and the provincial government, universities/colleges, and hospitals.

- a) Local Serving institutional employment growth was allocated to all neighbourhoods based on the allocation of forecast local population growth.
- b) Regional Serving institutional employment growth was allocated to the major institutional nodes, based on a high-level review of expansion/growth opportunities for existing facilities and new/planned facilities.

Figure 57
Population-Related Institutional Employment

Population Serving	2018-2065
Local Serving	57,228
Regional Serving	86,087
Total Population Serving	143,314

5.5.7 Total Employment by Neighbourhood

Based on the analysis presented in sections 5.5.3 through 5.5.6, the total employment increase over the 2018 to 2065 period by neighbourhood is illustrated in Figure 58. Total employment by neighbourhood in 2065 is presented in Figure 59. Neighbourhoods with notable concentrations of employment growth over the period are presented in Figure 60 and discussed below.



Figure 58
Total Employment Increase, 2018 to 2065 by Neighbourhood Map

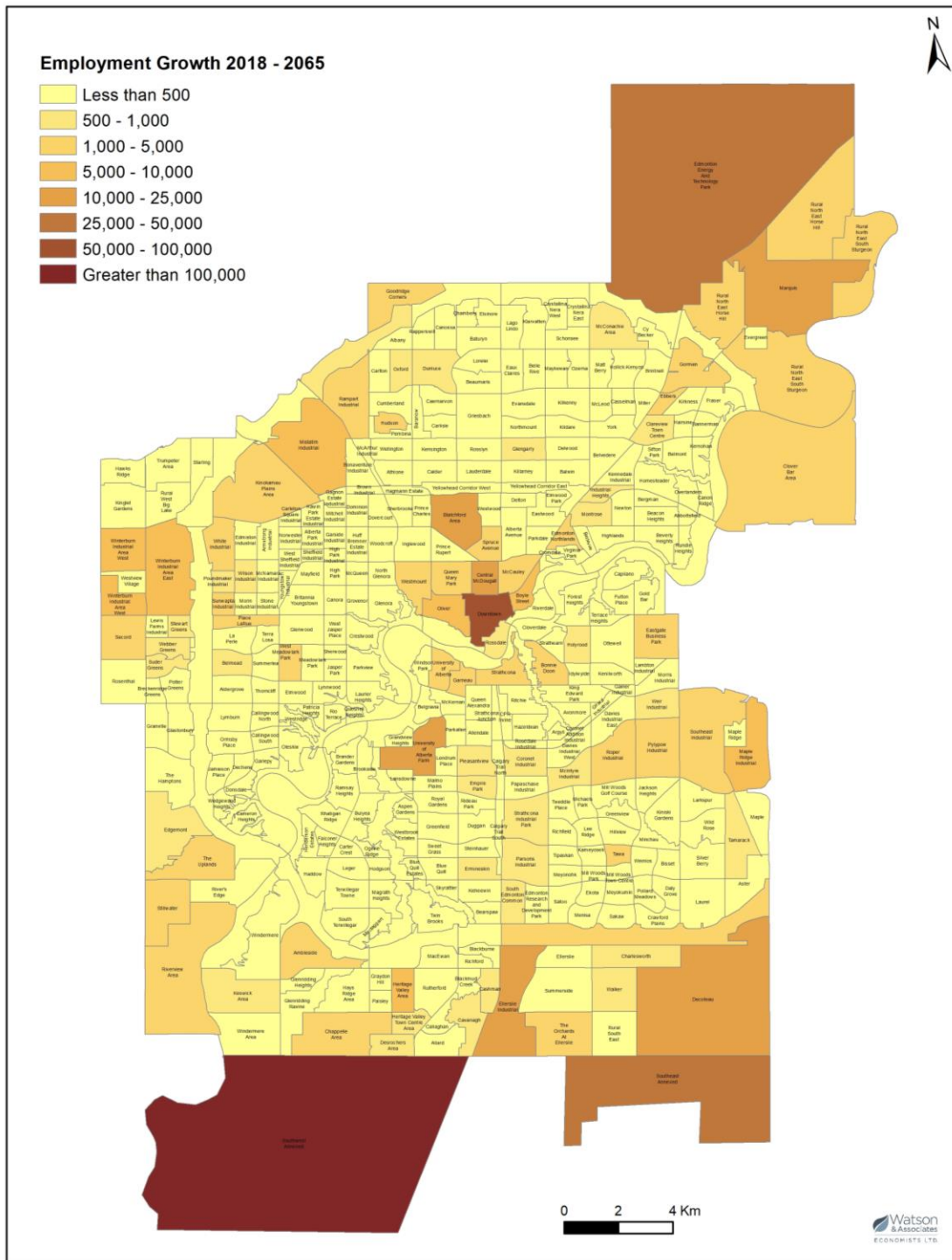
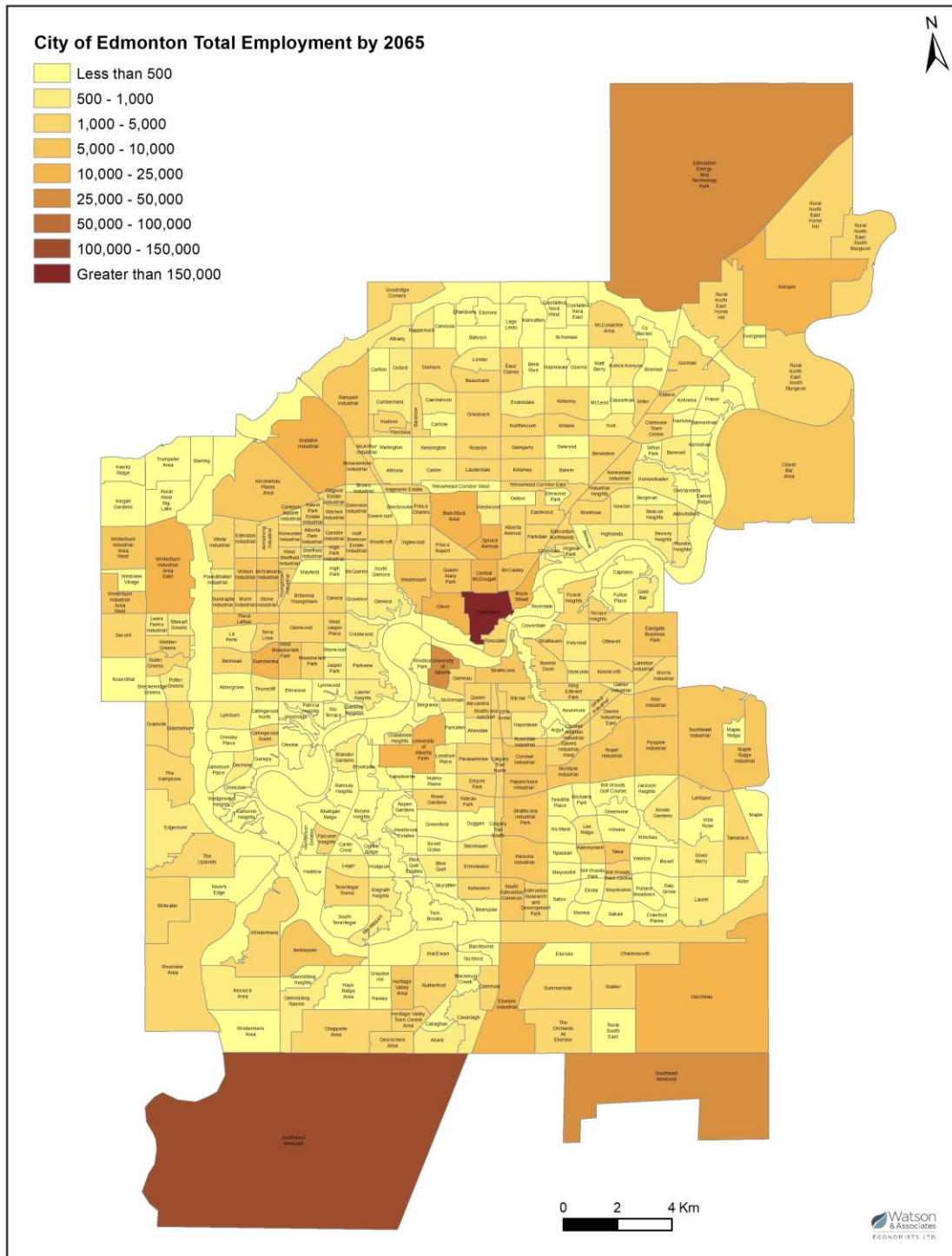




Figure 59
Total Employment in 2065 by Neighbourhood Map





Blatchford: Blatchford was home to the Edmonton City Centre Airport, which closed in 2013. As the largest redevelopment area in Edmonton, the neighbourhood is anticipated to accommodate 13,100 new jobs over the 2018 to 2065 forecast period. This land is being redeveloped and currently is home to NAIT (Northern Alberta Institute of Technology). NAIT has acquired an additional 13 ha of land which it is planning to utilize to expand the campus post-2025. These lands will account for growth in institutional employment of approximately 4,000. In addition to NAIT, approximately 8,000 commercial jobs (largely major office) will be accommodated on land redeveloped on the western side of the neighbourhood. The area is expected to also experience a significant increase in population, which will drive growth in population-related employment.

Boyle Street: Located in the Central Area and bordering the Downtown neighbourhood (east), Boyle Street's employment base is anticipated to grow by approximately 5,900 jobs, with a large share related to major office and major institutional development (e.g. Edmonton police headquarters).

Central McDougall: Located in the Central Area and bordering the Downtown neighbourhood (north), Central McDougall is home to Macewan University's campus and is expected to grow by 13,300 jobs, comprised largely of major office and institutional employment.

Decoteau: Decoteau is a large new growth area located in southeast Edmonton, with significant residential and non-residential land supply opportunities. Development is expected to start post-2025 and extend through 2045. Employment growth is expected to total 14,300 jobs, comprised largely of population-related commercial and institutional employment.

Downtown: The Downtown neighbourhood is located in the central core of Edmonton, representing the financial, cultural, and entertainment hub of the City with a significant population and employment base. Home to a sizeable major office and institutional sector, this neighbourhood is expected to experience growth of 75,800 jobs comprised largely of major office and institutional employment over the 2018 to 2065 period.

Edmonton Energy and Technology Park: The EETP represents the last remaining large greenfield area within Edmonton that is available for industrial development. Anticipated to accommodate development over a long-term time horizon, this industrial



park and is expected to be developed in phases, with growth ramping up post-2025 and accommodating 33,100 jobs by 2065.

Ellerslie Industrial: A highly marketable industrial neighbourhood in South Edmonton with notable greenfield land supply, the area is expected to accommodate a notable amount of industrial and commercial development over the short to medium term. The area is expected to accommodate job growth of 11,500 over the forecast period.

Heritage Valley: Plans for this new growth area in south Edmonton include a large-scale health services complex, with some related institutional and commercial employment, to be built by 2025 which will account for approximately 10,000 jobs.

Maple Ridge Industrial: A largely undeveloped industrial neighbourhood in southeast Edmonton, the area is anticipated to experience employment growth of 6,300 from 2025 to 2045, largely accommodated on industrial lands.

Marquis: A large new growth area in southwest Edmonton with a notable long-term residential and non-residential growth potential, the area is expected to accommodate 9,800 jobs through 2055, largely populated related.

Mistatim Industrial: A highly marketable industrial neighbourhood in northwest Edmonton with a large amount of industrial lands available for development, the area is anticipated to accommodate 8,515 jobs over the 2018 to 2045 period.

Oliver: Located in the Central Area, the neighbourhood is projected to experience steady growth through intensification totalling 7,700 jobs. This includes a large share of major office employment as well as institutional growth.

South Annexation Area: The South Annexation area is anticipated to accommodate a significant share of the City's employment growth totalling 174,900 jobs. This includes 149,600 jobs within the Southwest and 25,300 in the Southeast jobs. The forecast employment growth within the South Annexation area is discussed in more detail in Section 6.2.

University of Alberta Farm: With expected expansion of the University of Alberta, a second campus is projected to be established in the University of Alberta Farm neighbourhood over the long term, accommodating approximately 16,400 new institutional jobs.



Winterburn Industrial Area (East and West): Located on the west side of Edmonton, this large-scale industrial park with significant land supply opportunities will experience long-term growth of approximately 8,100 and 5,600 in the Winterburn Industrial Area East and West, respectively.

Figure 60
Employment Growth by Neighbourhood, 2018 to 2065

Neighbourhood	Total Employment	Total Employment Growth	Total Employment
	2018	2018-2065	2065
Blatchford Area	3,000	13,100	16,100
Boyle Street	4,600	5,900	10,500
Central McDougall	10,700	13,400	24,100
Decoteau	100	14,300	14,400
Downtown	81,100	75,700	156,800
Edmonton Energy & Technology Park	400	33,200	33,600
Ellerslie Industrial	7,400	11,500	18,900
Heritage Valley Area	0	10,000	10,000
Maple Ridge Industrial	800	6,300	7,100
Marquis	0	10,100	10,100
Mistatim Industrial	7,500	8,600	16,100
Oliver	8,800	7,700	16,500
Southeast Annexation Area	0	25,300	25,300
Southwest Annexation Area	0	149,600	149,600
University of Alberta Farm	1,900	16,400	18,300
Winterburn Industrial Area East	2,200	8,100	10,300
Winterburn Industrial Area West	1,700	5,600	7,300

Includes neighbourhoods with employment growth greater than 5,000.

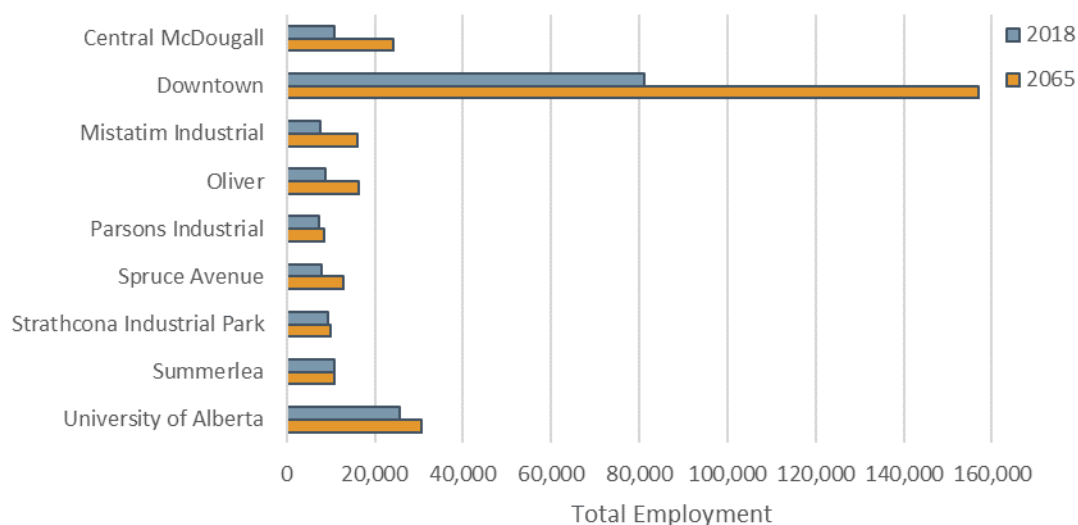
Figure 61 summarizes the neighbourhoods in Edmonton with high concentrations of employment in both 2018 and 2065. Key observations include the following:

- Edmonton’s largest existing employment node (the Downtown neighbourhood) is anticipated to have its employment base nearly double from approximately 80,000 in 2018 to 156,000 in 2065;



- Other key neighbourhoods, including Central McDougall, Mistatim Industrial, Oliver and Spruce Avenue, are expected to experience notable increases in employment over the forecast period; and
- Many large employment nodes, including University of Alberta, Summerlea and Strathcona Industrial Park, are expected to experience modest employment growth.

Figure 61
Employment by Neighbourhood, 2018 and 2065



6. City of Edmonton Long-Term Residential and Non-Residential Land Needs

6.1 Residential Land Needs

Given that a primary objective of the City is to house the forecast population within the current City boundaries (including the annexation areas to the south), the residential land needs will not differ from those already planned for new neighbourhoods as well as those previously estimated for the annexation lands.

If the City is unable to house the forecast population within current City boundaries, additional residential land will be required. Previous work completed for the annexation



lands suggests that to achieve a dwelling unit density of 35 units per net ha, the following housing mix can be used:

Figure 62
City of Edmonton Housing Mix – Target Density = 35 du/net ha

Unit Type	Unit Density (du/net ha)	Household Size
LDR	30	2.8
MDR-R	60	2.8
MDR-A	125	1.8
HDR	225	1.5
Average	35	-

At the above-described density, 1.2 net ha of additional residential land will house approximately 1,000 persons. In terms of gross area, previous work completed for the annexation lands suggests that an estimated 2.2 gross ha are required for the development of one net hectare of residential land. As such, approximately 2.7 gross ha of residential lands are required to house 1,000 persons. In the baseline market scenario, the City would require approximately 535 gross ha of residential land to house the 200,000 people that are expected to seek housing outside the City.

6.2 Non-Residential Land Needs

Based on the employment growth allocations and employment density assumptions identified below, corresponding non-residential land requirements (in net ha) for each neighbourhood by land use have been identified to accommodate growth over the 2018 to 2025, 2018 to 2035, 2018 to 2045, 2018 to 2055 and 2018 to 2065 periods. This includes land needs for industrial land, commercial land (excluding major office), major office commercial, and institutional.

6.2.1 Industrial Lands

Building on recent historical trends, it is anticipated that future industrial land absorption in Edmonton will be comprised of a broad range of industrial uses, including logistics/distribution, warehousing, manufacturing and construction. The City is also expected to



accommodate a growing share of medium and heavy industrial uses (accommodated within the EETP) which typically have relatively low employment densities.

The City's knowledge-based sectors will continue to expand, accommodated largely through office development and multi-tenant commercial development. Most of these sectors have relatively high employment densities which should generate relatively high average employment densities on industrial lands in relation to the existing City-wide average. Further, continued upward pressure on industrial land values, driven by the continued long-term strength of the local and regional economies, will also encourage increased land utilization and corresponding higher employment densities relative to what has been experienced in the past.

Based on a review of recent development trends and the forecast land-use mix accommodated on industrial lands, an overall average density of 42 jobs per net ha (15 jobs per net acre) is forecast over the 2018 to 2065 period for industrial lands within the City of Edmonton. Employment density on industrial lands is expected to vary significantly by geographic area. Employment densities are anticipated to be highest in the South/Southeast and Northwest Districts with an average of 49 jobs per net ha (20 jobs per net acre) and 42 jobs per net ha (17 jobs per net acre) over the forecast period, respectively. Industrial land employment density is anticipated to be moderately lower within the Northeast District and the EETP, with employment densities expected to average 28 jobs per net ha (11 jobs per net acre) and 25 jobs per net ha (10 jobs per net acre), respectively. Average employment within the South Annexation area is expected to average 45 jobs per net ha.

It is recognized that a portion of forecast employment growth on industrial lands will be accommodated through intensification. Over the 2018 to 2065 period, an estimated 20-25% of employment growth on industrial lands within the established industrial districts (i.e. Northwest, South/Southeast and Northeast Districts) is expected to be accommodated through intensification. Moderate infill and expansion of existing developed sites within developed industrial areas has been occurring to-date and is expected to increase as Edmonton matures and industrial land prices remain high.

Over the 2018 to 2065 forecast period, industrial land demand in Edmonton is expected to total approximately 4,196 net ha, of which 17% (696 net ha) is anticipated to be accommodated in the Northwest, 3% (138 net ha) in the Northeast, 12% (496 net ha) in



the South/Southeast, 32% (1,323 net ha) in the EETP and 37% (1,543 net ha) in the South Annexation area.

Based on the above-mentioned assumptions, the following summarizes the anticipated forecast industrial land demand by geographic area over the forecast period. Based on the industrial land supply identified, it is anticipated that the Northwest, South/Southwest and Northeast will be built out by approximately 2045.

Figure 63
Forecast Industrial Land Demand by Geographic Area, 2018 to 2065

Geography	Industrial Land Demand (net ha)
Northwest	696
Northeast	138
South/Southeast	496
Edmonton Energy and Technology Park	1,323
South Annexation	1,543
Edmonton Total	4,196

6.2.2 Commercial Lands

Population-related commercial employment growth identified in section 5.5.5 is expected to largely drive commercial land absorption over the 2018 to 2065 period. It is anticipated that this employment growth will be accommodated at a density of 65 jobs per net ha. In addition, a large share of major office employment and a small share of institutional uses are anticipated to be accommodated on designated commercial lands. It is assumed that institutional uses on commercial lands will primarily include uses that will have a comparable density to office uses, including government/public administration offices and health care/medical offices.

The total demand for commercial designated land is anticipated at approximately 1,741 ha, over the 2018 to 2065 period, as summarized in Figure 64. This includes 700 net ha in the existing City and 1,041 net ha within the South Annexation area.



Figure 64
Forecast Commercial Land Demand by Geographic Area,
2018 to 2065

Geography	Land Needs (Ha) 2018-2065
Existing City of Edmonton	700
South Annexation Area	1,041
Total	1,741

Source: Watson & Associates Economists Ltd., 2019.

6.2.3 Institutional Lands

Edmonton's institutional lands are intended to accommodate significant community or institutional uses such as government facilities, hospitals, seniors' homes, schools, places of worship, cemeteries, and EMS facilities. Based on the institutional employment forecast and allocation of growth identified herein, land demand for institutional employment growth is summarized in Figure 65.

Figure 65
Forecast Institutional Land Demand by Geographic Area,
2018 to 2065

Geography	Land Needs (Ha) 2018-2065
Existing City of Edmonton	288
South Annexation Area	777
Total	1,065

Source: Watson & Associates Economists Ltd., 2019.

6.2.4 Potential Capacity of South Annexation Area to Accommodate Forecast Growth

As identified in section 5, based on the market-based analysis presented herein, to meet the City's employment forecast target of 1.1 million jobs by 2065, approximately 175,000 jobs will need to be accommodated within the South Annexation lands over the 2018 to 2065 period. This includes 149,600 jobs within the Southwest Annexation lands and 25,300 jobs in the Southeast Annexation lands.

A large share of forecast employment growth within the South Annexation lands is expected to be driven by population growth over the forecast period. This includes



significant local population serving employment to meet the needs of the approximately 200,000 people the area is expected to accommodate over the 2018 to 2065 period. It is also recognized that the Southwest Annexation area has strong market attributes for industrial and major office development, as well as regional serving retail commercial and institutional uses.

The Southwest Annexation lands are well positioned geographically to accommodate light and medium industrial and business park development. The area is located in the south part of the Edmonton Metropolitan Region between two large industrial areas – Nisku and the existing Edmonton South/Southeast District. The area has excellent access to and visibility from Highway 2. It is in proximity to the Edmonton International Airport and the CP intermodal centre, and is along a high-load route corridor serving the oil sands industry in Fort McMurray. A number of under-construction and planned industrial/business parks along the QE II corridor in Leduc County demonstrate the strong market potential of the area.

The area also has market potential for regional population serving retail commercial uses given its access/proximity to the Highway 2 corridor and established major retail nodes in South Edmonton (South Edmonton Common) and the newly established Premium Outlet Collection Edmonton International Airport in neighbouring Leduc County.

Based on the market-based analysis and employment growth allocations presented herein, and a review of developable non-residential land supply identified in the 2018 City of Edmonton Growth Study, a summary of non-residential land needs within the Southeast and Southwest Annexation lands is provided in Figure 66. As shown:

- The Southeast Annexation area has sufficient non-residential lands to accommodate the forecast commercial and institutional land demand with a surplus of 112 net ha by 2065;
- The Southwest Annexation area has sufficient industrial land to accommodate forecast industrial land demand through 2065 (surplus of 327 ha);
- Within the Southwest Annexation area, there is a significant shortage of commercial land to accommodate future growth through 2065 (deficit of 635 net ha) and a small deficit of institutional land (24 net ha); and
- The deficit of commercial land to accommodate future growth is attributed largely to the significant allocation of regional retail commercial employment growth.



Figure 66
City of Edmonton South Annexation Area Non-Residential Land Needs,
2018 to 2065

**Southeast Annexation Lands
Non-Residential Land Needs, 2018-2065 (Net Ha)**

	Industrial	Commercial	Institutional	Total
Land Demand ¹	-	181	276	457
Land Supply ²	-	185	384	569
Surplus/(Deficit)	-	4	108	112

1. Watson & Associates Economists Ltd.

2. Derived from Table 5.9, City of Edmonton Growth Study, Nichols Applied Management Inc., March 8, 2018. Assumes that Institutional land supply represents 60% of Non-Residential Area (640 net ha).

**Southwest Annexation Lands
Non-Residential Land Needs, 2018-2065 (Net Ha)**

	Industrial	Commercial	Institutional	Total
Land Demand ¹	1,543	860	501	2,904
Land Supply ²	1,870	225	477	2,572
Surplus/(Deficit)	327	(635)	(24)	(332)

1. Watson & Associates Economists Ltd.

2. Derived from Table 5.9, City of Edmonton Growth Study, Nichols Applied Management Inc., March 8, 2018. Assumes that Institutional land supply represents 60% of Non-Residential Area (795 net ha).

As demonstrated, there is a shortage of non-residential land within the Southwest Annexation area to support the forecast employment growth by 2065. While the reference scenario identifies employment growth of 149,600 (146,300 excluding work at home employment) within the Southwest Annexation area, the potential employment capacity of the area by 2065 is estimated to be 107,300 (104,000 excluding work at home employment), based on the non-residential land-use supply identified in the 2018 Growth Study, as illustrated in Figure 67.

This analysis assumes that the identified developable commercial and institutional land supply is built-out by 2065 while industrial land demand of 1,543 net ha over the 2018 to 2065 period leaves 327 net ha of industrial land available for development post-2065.



Figure 67
Southwest Annexation Area Estimate of Employment Capacity by 2065

Land Use	Net Ha	Employment
Industrial	1,543	69,400
Commercial	225	14,600
Institutional	477	20,000
Total (Excluding Work at Home)	2,245	104,000
Work at Home	-	3,300
Total	2,245	107,300

Source: Watson & Associates Economists Ltd.

As illustrated in Figure 68, to accommodate the employment growth within land capacity identified in Figure 67, a downward adjustment of approximately 42,300 jobs to the employment allocation for the South Annexation area for the 2018 to 2065 period will be required, reducing the overall employment forecast from 169,600 to 127,300. This downward adjustment in employment growth to the South Annexation area is hereafter referred to as the Alternative Scenario.

Figure 68
South Annexation Area Employment Capacity by 2065 (Excluding Work at Home)

	Reference Scenario	Alternative Scenario	Required Adjustment
Southeast Annexation Area	23,300	23,300	-
Southwest Annexation Area	146,300	104,000	(42,300)
Total South Annexation Area	169,600	127,300	(42,300)

Source: Watson & Associates Economists Ltd.

Under the Alternative Scenario, the excess employment (totalling 42,300 as illustrated in Figure 68) would need be accommodated within the former City of Edmonton municipal boundary through either higher density of development on greenfield lands and or through higher rates of intensification.

Establishing and achieving employment density targets is challenging since it is not possible in a market-oriented economy to mandate the number of employees that free market enterprises employ. Instead, potential actions are largely limited to regulating built form and strategies to encourage more employment-intensive uses. These measures have to be considered in balance of other municipal objectives, including



expanding economic development and activity to strengthen the municipal tax base, increase employment opportunities and maintain community economic sustainability.

Intensification, including infill and redevelopment of existing non-residential lands, is one means of achieving improved land utilization resulting in higher employment density. Most municipalities, including Edmonton, have existing developed lands within their built boundaries that can accommodate employment growth through intensification.

Under the reference scenario, of the job growth of 526,100 (excluding work at home employment) anticipated over the 2018 to 2065 period, 68% (356,500 jobs) is anticipated to be accommodated within the former City of Edmonton and 32% (169,600 jobs) within the South Annexation area, as illustrated in Figure 69. This requires 40% of employment growth to be accommodated through intensification.

To reflect the downward adjustment in employment to the South Annexation area, as illustrated through the Alternative Scenario, the share of City-wide employment growth over the forecast period accommodated within the Annexation area will be reduced from 32% to 24%, as illustrated in Figure 69. To accommodate this shift in distribution of employment, a greater level of intensification of employment will be required than what is presented under the reference scenario. Under the Alternative Scenario, 48% of City-wide employment growth over the forecast period will need to be accommodated through intensification.

Figure 69
City of Edmonton, 2018 to 2065 Employment Growth by Geographic Location
(Excluding Work at Home)

	Former City	Annexation Area	Edmonton Total	% Share
Reference Scenario				
Greenfield/Vacant Lands	148,100	169,600	317,700	60%
Intensification	208,400	-	208,400	40%
Total Employment Growth	356,500	169,600	526,100	100%
% Share	68%	32%	100%	
Alternative Scenario				
Greenfield/Vacant Lands	148,100	127,300	275,400	52%
Intensification	250,700	-	250,700	48%
Total Employment Growth	398,800	127,300	526,100	100%
% Share	76%	24%	100%	

Source: Watson & Associates Economists Ltd.



7. City of Edmonton S.W.O.T. Analysis

Building on sections 2 through 6, an overall assessment of the City of Edmonton, comprised of a high-level S.W.O.T. (strengths, weaknesses, opportunities and threats) analysis within the baseline and forecast time horizon context, was prepared. The S.W.O.T. analysis is intended to help assess how well-positioned Edmonton is to meeting its growth targets, and it will serve as input for the City in its generation of long-term growth scenarios.

The S.W.O.T. addresses in part the following:

- What are the City's strengths with respect to attracting residential and non-residential development? What assets can the City leverage to maximize its growth potential?
- What are Edmonton's weaknesses and how may these impede or limit the City's growth over the long term?
- Are there opportunities for Edmonton to capitalize on, that will help the City optimize its growth potential?
- Are there threats or constraints, either macro-level, regional or local in nature that may disrupt the City's growth patterns?



Figure 70
City of Edmonton S.W.O.T. Analysis

	Strengths	Weaknesses	Opportunities	Threats
Residential	<ul style="list-style-type: none"> The City has a considerable housing supply across various unit types and in all directions. The City's future land supply is relatively unconstrained in terms of natural barriers to growth (i.e. no bodies of water, mountains, or other undevelopable terrain). A ready supply of land contributes to lower housing prices and diversity in a future choice set. 	<ul style="list-style-type: none"> Neighbourhood planning (e.g. target densities) and forecasted population do not fully align with current and anticipated future preferences in the housing market. For example, the densities being planned for include relatively more high-density units than the market is currently absorbing. This may contribute to delays in the development of high-density units and downwards price pressure. Targets for infill development do not fully align with market dynamics (e.g. land prices) and the corresponding infill saturation levels in a given neighbourhood. 	<ul style="list-style-type: none"> There is sufficient time to react to develop policies that can result in less population "leakage" to communities outside of the City limits. Policies may be developed to influence housing preferences, nuance planning, and nudge the population toward higher-density housing types. 	<ul style="list-style-type: none"> Infill development has been heavily concentrated in the higher-priced segment of the market (i.e. skinny homes selling for \$500k+). Accommodating a larger population may be difficult if the infill market does not respond with more reasonably priced units. Comparatively lower priced low-density units in outlying municipalities may draw population out of the City's higher-density suburbs.



Figure 70 (Cont'd)
City of Edmonton S.W.O.T. Analysis

	Strengths	Weaknesses	Opportunities	Threats
Non-Residential	<ul style="list-style-type: none"> • Diversified economic base. • Largest industrial and major office market in the regional market. • Strong employment growth in “knowledge-based” and creative-economy sectors. • Extensive major highway network and intermodal facilities serving City. • The City’s retail base serves a large regional population base. 	<ul style="list-style-type: none"> • Generally, less cost competitive for development than neighbouring municipalities. • Limited non-residential development base at TOD locations. • Diminishing greenfield supply opportunities within existing City boundaries. 	<ul style="list-style-type: none"> • Strong regional long-term growth outlook. • Opportunities for value-added petro-chemical and hydrocarbon processing. • Growing downtown with strong potential for major office development. • EETP offers significant opportunities to accommodate a broad range of industrial uses over the long-term. • Southwest Annexation area has strong locational attributes for industrial and office development. • LRT improvements will improve accessibility, accommodating potential major office and retail opportunities within mature communities. • Economic disruptors such as e-commerce offers growth opportunities in select sectors (e.g. goods movement). 	<ul style="list-style-type: none"> • Increasingly protectionist global trade policies may limit growth potential in key export sectors. • Long-term capacity constraints for oil shipments may limit production growth in Alberta. • Growing industrial areas outside Edmonton with strong market attributes (e.g. Acheson, Leduc). • Economic disruptors such as e-commerce and sharing economy will have an impact on growth potential of key economic sectors and future non-residential land demand. • Communities within the Edmonton Region are increasing their supply of regional serving retail uses (e.g. Premium Outlet Collection Mall in Leduc, expansion of retail base in Sherwood Park and St. Albert).



8. Conclusions

Over the past decade, the Alberta and Edmonton economies have experienced periods of strong economic growth and contraction. During that period, the economy also experienced structural changes which have influenced growth patterns in Edmonton.

Despite some immediate economic challenges, long-term growth prospects remain positive for the City of Edmonton. The City is expected to accommodate significant population and employment growth over the long term, building on the strong growth exhibited over the past decade. It is recognized that a number of factors, including economic disruptors, are impacting growth patterns and influencing the distribution of future growth in Edmonton and corresponding urban land needs.

The City has been the major urban core within the Edmonton Metropolitan Region for decades and has historically housed over 70% of the Region's population. It is expected that this trend will carry into the future and the City will continue to accommodate approximately 70% of the Region's population. As identified by the Chief Economist's Office, Edmonton's population is expected to increase from 977,600 to 2,005,000 over the 2018 to 2065 period, representing an average annual growth rate of 1.5%.

Under this full population scenario, it is expected that the City will house an additional 1.05 million persons in about 430,000 new housing units across a broad range of housing typologies. While a large share of development will be accommodated through greenfield supply, about one-third of housing growth is anticipated to be accommodated through intensification. A large share of housing growth is anticipated to be accommodated in the Southeast, Southwest, West, and Northeast where there is substantial greenfield supply remaining, as well as intensification areas in the Downtown and along the L.R.T. corridors. The South Annexation area is expected to also accommodate a significant share of City-wide housing growth over the forecast period.

With respect to employment, growth is expected across a wide range of sectors driven by continued diversity of the regional and local economic base and steady local population growth. Edmonton is expected to experience growth across a broad range of industry sectors. Over the 2018 to 2065 period, the City is anticipated to have its employment base expand from 550,000 in 2018 to 1.1 million by 2065, representing an



annual employment growth rate of 1.5%. Over the forecast period, the City's employment activity rate (ratio of jobs to population) is forecast to decline slightly from 56% to 55%.

Industrial lands are expected to continue to form a key component of the City of Edmonton's economic structure. Looking forward, employment growth within the City's Industrial Districts will ultimately be driven by demand from a broad range of goods-producing, knowledge-based and employment-supportive sectors. Over the 2018 to 2065 period, Edmonton's industrial lands are anticipated to accommodate approximately 176,000 jobs, largely within the Northwest, South/Southeast, EETP and the South Annexation area.

The City's knowledge-based sectors will continue to expand, accommodated largely through office development and multi-tenant commercial development. A large share of this will be accommodated through major office development. A significant share of new major office growth is anticipated in the Downtown area, TODs and industrial neighbourhoods.

Population growth is anticipated to drive the demand for population-related commercial and institutional employment in Edmonton. This will drive demand for commercial and institutional building space both within greenfield areas as well as intensification areas.

Neighbourhoods that are anticipated to experience significant employment growth over the forecast period include the Downtown area, University of Alberta Farm, Decoteau, Central McDougall and Blatchford. A notable share of future employment growth in Edmonton is expected to be accommodated within the South Annexation area.

While a significant share of forecast employment growth is identified for the South Annexation area, a portion of the reference forecast allocation cannot physically be accommodated based on the developable land supply identified in the 2018 Growth Study. This requires that this excess employment be accommodated within the former City of Edmonton municipal boundary through either higher density of development on greenfield lands and or through higher rates of intensification than what is presented herein.