CITY OF EDMONTON

INDUSTRIAL LAND SUPPLY AND DEMAND ANALYSIS STUDY

October 7, 2011

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Planning for growth

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Disclaimer

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EXECUTIVE SUMMARY

The City of Edmonton retained Watson & Associates Economists Ltd. (Watson & Associates) and Bourgeois & Company Ltd. in the summer of 2011 to prepare an Industrial Land Supply and Demand Analysis Study.

The Industrial Land Supply and Demand Analysis Study encompasses a review of the City's industrial land structure, including a detailed developed and vacant industrial land inventory and recent absorption trends. Further, the study presents a ten-year (2011-2021) industrial land absorption forecast for the City based on a ten-year employment forecast. Based on the identified industrial land demand and vacant industrial land inventory, a City-wide industrial land needs analysis for the 2011-2021 period is presented. In addition, the study explores the industrial land structure in select neighbouring municipalities in the Edmonton Capital Region.

A key objective of the study is to determine if Edmonton has sufficient vacant industrial land opportunities to accommodate growth over the next decade and when the City should initiate the development of the Edmonton Energy and Technology Park. The study is intended to support the City in its development of an Industrial Land Strategy and Strategic Marketing Plans.

The following provides a brief overview of our key findings:

Macro Economic Trends and Growth Drivers

- **Over the 2003-2010 period, the Edmonton CMA (Census Metropolitan Area) and Alberta economies, expressed in GDP (Gross Domestic Product), grew at a significantly faster rate than the Canadian average.** This included a period of unprecedented growth between 2003 and 2007 which was fuelled by strong global demand (and high prices) for oil. Though the global economic recession resulted in economic contraction within the Edmonton CMA in 2009, growth rebounded in 2010 which has continued into 2011.

- **Economic growth within the City of Edmonton over the next decade is expected to be strong**, building on the economic expansion experienced during the 2003-2007 period.

- **Growth over the next decade in Edmonton is expected to be largely associated directly and indirectly with the anticipated growth in the energy sector.** Growing global demand, led by emerging economies including China and India, is expected to contribute to the continued steady upward trend in the demand and price of oil. The favourable outlook for the energy sector is expected to drive investment and production

in the oil sands of Northern Alberta, which is anticipated to have a direct positive effect on employment growth and industrial land demand in Edmonton.

- **The Edmonton economic base is expected to continue to generate a high proportionate share of goods-producing sector jobs, which will drive the demand for industrial land**. Further, employment growth is expected across a wide range of sectors as the economic base continues to diversify. Strong annual employment growth is anticipated in industrial sectors, such as manufacturing and construction, and in "knowledge-based" sectors, including business services, information and culture, educational services and professional, scientific and technical services.

Edmonton's Industrial Lands Structure

- **The City of Edmonton has three designated Industrial Districts**, including the Northwest District, South/Southeast District and Northeast District. The Districts are comprised of a series of industrial and mixed-use neighbourhoods, which collectively accommodate a range of industrial zoned lands and corresponding land uses.

- **The City's developed industrial lands cover an area of 5,253 net ha (12,980 net acres)**, of which over 90% are situated in the Northwest and South/Southeast Districts.

- **Edmonton has a broad and diverse industrial lands base offering opportunities for a wide range of sectors.** This includes general and prestige industrial and commercial and limited institutional uses. Major industrial sectors include wholesale trade, logistics/distribution, warehousing, manufacturing and construction.

- **A significant share (26%) of the City's total developed industrial lands is considered underutilized.** This reflects parcels which have relatively low building coverage or sites which are currently used exclusively for storage and/or parking. Given the large number of identified underutilized parcels, a wide array of opportunities for intensification exists.

- **The City's employment on industrial lands has an average employment density of 32 jobs per net ha (13 jobs per net ha).** Employment densities are relatively higher in research and development/office development (which includes employment in financial and business services), manufacturing and construction. In comparison, wholesale trade and transportation/warehousing have a significantly lower employment density.

Development Trends on Industrial Lands

- **Over the past decade, annual average absorption of industrial lands in Edmonton has averaged 77 net ha (190 net acres).** The City experienced particularly strong growth in industrial development between 2005 and 2008, when annual absorption averaged 124 net ha (306 net acres). The recent global economic recession resulted in a decline in activity during the post-2008 period.

- **The majority of development on industrial lands in the past decade has occurred in the South/Southeast District and Northwest District on Medium Industrial (IM) and Industrial Business (IB) zoned lands.** Over this ten year period, warehousing/logistics/ storage has accounted for the majority of development, largely in the form of prestige large-scale multi-bay industrial condos. The City also experienced growth in the office and "knowledge-based" sectors (concentrated in the South/Southeast District) and construction, manufacturing and retail/service trade.

- **Over the past five years, the average employment density of new developments has averaged 37 jobs per net ha (15 jobs per net acre)**, moderately higher than the City-wide average.

- **Over the past decade, approximately 95% of development on industrial lands has occurred in greenfield areas, while 5% has been accommodated through intensification** (i.e. development on existing developed parcels).

Edmonton's Vacant Industrial Land Inventory

- **From a market choice perspective, one of the most important industrial site selection criteria which is largely controllable by the City relates to ensuring that an ample supply of suitable vacant serviced (and serviceable) industrial land is available for purchase and absorption.**

- **Edmonton has 2,515 <u>gross</u> ha (6,214 gross acres) of vacant industrial land, excluding the Edmonton Energy and Technology Park.** With the Edmonton and Technology Park, the total gross supply increases to 7,071 ha (17,472 acres).

- **The City's <u>net vacant</u> industrial land supply, reflecting non-developable features including municipal reserve lands, environmental constraints, provisions for internal infrastructure and major utilities corridors is estimated at 1,675 net hectares (4,139 net acres) excluding the Edmonton Energy and Technology Park**. With the Edmonton Research and Technology Park, the City-wide net vacant industrial land supply increases to 4,986 net ha (12,321 net acres).

- **Reflecting lands that are considered unlikely to develop and factoring in a land vacancy adjustment, the City's net developable vacant industrial land inventory totals 1,360 net hectares (3,361 net acres), excluding the Edmonton Energy and Technology Park**. The total net developable vacant industrial land inventory totals 4,175 net ha (10,315 net acres) with the inclusion of the Edmonton Research and Technology Park.

- **Of the City's developable vacant industrial lands outside of the Edmonton Research and Technology Park, the majority (50%) is situated in the Northwest District**, followed by 38% in the South/Southeast District and 12% in the Northeast District. Nearly half (46%) the vacant developable industrial land supply is currently districted but not zoned (i.e. AGI/AG).

- **The City has a total of 856 net ha (2,115 net acres) of zoned developable vacant industrial land**, which represents the City's current short-term to medium-term supply of developable vacant industrial lands. Of the zoned developable vacant industrial lands, roughly 67% (577 net ha) are considered "shovel ready."

- **Medium Industrial (IM) represents the largest share of zoned land, comprising 28% of the total vacant developable industrial land supply**, followed by Industrial Business (IB) at 14%. In comparison, Light Industrial (IL) and Heavy Industrial (IH) represent a relatively small share of the total, at 4% and 3%.

- **Despite the availability of vacant industrial land, market choice is becoming more limited.** The analysis suggests that there is generally an insufficient supply of parcels sized 2-5 ha, particularly in the Medium Industrial (IM) and Business Industrial (IB) designations, and a lack of parcels zoned Industrial Business (IB) within the South/Southeast District. Further, the City has a shortage of larger sized Heavy Industrial (IH) zoned vacant developable parcels.

- **If Edmonton is to have an adequate supply of industrial land over both the short- and long-term planning period, then it needs to have a full range of industrial land sites on the market.**

City of Edmonton Population and Employment Forecast

- **Population growth drives employment growth in population-related employment sectors and the corresponding demand for non-residential lands.** As such, understanding population growth trends within the City of Edmonton is important for this study.

- **Over the 2011-2021 period, the City's population is expected to grow by 124,600, increasing from 804,100 to 928,700 in 2021**, consistent with the Capital Region Growth Plan forecast.

- **Future demand for industrial lands within the City of Edmonton is ultimately driven by forecast employment growth within the City.** The City of Edmonton's total employment is forecast to increase from 450,250 in 2011 to 553,150 in 2021, an increase of nearly 103,000 over the ten year period;

- **The industrial sector represents the largest employment growth sector in Edmonton, comprising approximately 36% of total forecast employment growth.** Significant employment opportunities will exist in sectors related to warehousing, logistics/distribution, manufacturing and construction.

- **Future demand for population-related/commercial employment growth in Edmonton is anticipated to be strong, accounting for 33% of employment growth.** Though a large portion of this employment growth is directly related to population-related employment uses such as retail and accommodation/food services, the City is expected to experience a significant increase in "knowledge-based" employment. This includes growth in business services, professional and technical services including engineering and environmental services, and research and development, which will largely be accommodated on industrial lands.

City of Edmonton Industrial Land Needs

- **Approximately 45% of forecast total employment growth (46,415 jobs) for the City of Edmonton from 2011 to 2021 is anticipated to be accommodated on industrial lands.** This includes the vast majority of City-wide industrial employment and a moderate share of commercial employment and a limited amount of institutional employment.

- **Average annual industrial land absorption over the 2011-21 period is expected to be 119 net ha (294 net acres)**. This is based on a forecast density on industrial lands (i.e. employees/net acre or hectare) of 37 jobs/net ha (15 jobs/net acre).

- **Industrial land demand is anticipated to total 1,192 net ha (2,945 net acres) from 2011 to 2021.**

- **In accordance with the vacant industrial land supply identified (excluding the Edmonton Energy and Technology Park lands), by 2016 Edmonton is expected to have a surplus of 792 net ha (1,957 net acres) of industrial land. The surplus is expected to decrease to 168 net ha (415 net acres) by 2021.**

- **Despite the identified surplus by 2021, based on the forecast annual land absorption, the City's supply of vacant developable industrial land inventory will fall below the recommended threshold (i.e. five years of unconstrained supply) to allow for sufficient market choice by 2017-18. As such, to allow for sufficient market choice in the industrial market, the City will need to prepare to have the first phase of the Edmonton Energy and Technology Park available for development by 2017-18.**

- **It is further recommended that the City monitor shovel-ready and long-term industrial lands inventory, at minimum every five years, to determine if additional industrial lands are required to accommodate forecast demand.**

Industrial Lands Structure in Surrounding Market Area

- A review of the industrial land structure of select surrounding market municipalities/areas, including Acheson Industrial Area (Parkland County), City of Fort Saskatchewan, City of Leduc, Nisku Industrial Area (Leduc County), Sherwood Park (Strathcona County), City of St. Albert and Sturgeon County was undertaken. The analysis excluded industrial lands associated with Alberta's Industrial Heartland. The areas encompass the vast majority of existing industrial lands within the Edmonton Capital Region.

- **The review identified that the surrounding market area (including the City of Edmonton) contains 8,923 ha (20,049 acres) of developed industrial land.** The City of Edmonton accounts for 59% of this total.

- **The surrounding market area contains a total net vacant industrial inventory of 5,665 net ha (excluding the Edmonton Energy and Technology Park), of which nearly 30% (1,675 net ha) is located within the City of Edmonton.** Next to Edmonton, the largest inventories are located in Acheson (1,145 net ha), Sturgeon County (880 net ha), Sherwood Park (838 net ha) and Nisku (672 net ha).

- **Of the total net vacant industrial inventory of the municipalities surveyed, 43% is zoned land.** Edmonton holds the largest share (33%) of the total zoned vacant industrial land inventory in the surrounding market area. Outside Edmonton, the largest zoned vacant industrial inventories are located in Nisku (672 net ha), Acheson (463 net ha) and Sherwood Park (358 net ha).

- **In terms of "shovel ready" lands, Edmonton accounts for 56% (577 net ha) of the total 1,027 net ha identified.** In comparison, the next largest supply is located in Sherwood Park (138 net ha) followed by Nisku (125 net ha) and Acheson (84 net ha).

The other areas/municipalities surveyed have relatively small supplies of “shovel ready” vacant industrial lands.

- **Edmonton offers the largest and most diverse range of industrial land opportunities within the Edmonton Capital Region and can accommodate a wide range of sectors.**

1. INTRODUCTION

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1.1 Terms of Reference

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1.2 Background

The Industrial Land Supply and Demand Analysis Study encompasses a review of the City's industrial land structure, including a detailed developed and vacant industrial land inventory and summary of recent absorption trends. Further, the study presents a ten-year (2011-2021) industrial land absorption forecast for the City based on a ten-year employment forecast. Based on the identified industrial land demand and vacant industrial land inventory, a City-wide industrial land needs analysis for the 2011-2021 period is presented. In addition, the study explores the industrial land structure in select neighbouring municipalities in the Edmonton Capital Region.

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1.3 Report Structure

The report is structured as follows:

1. Introduction
2. Review of Macro Economic Trends Influencing Growth of Industrial Sector
3. Edmonton Industrial Market Review
4. Edmonton Industrial Lands Structure
5. Edmonton Population and Employment Forecast and Industrial Land Needs Analysis, 2011-2021
6. Industrial Land Structure in Surrounding Market Area
7. Conclusions.

2. REVIEW OF MACRO ECONOMIC TRENDS INFLUENCING GROWTH OF THE INDUSTRIAL SECTOR

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This chapter provides an overview of historical economic trends from a provincial and regional perspective. This includes an analysis of the macro economic growth drivers which are anticipated to influence regional and local growth trends.

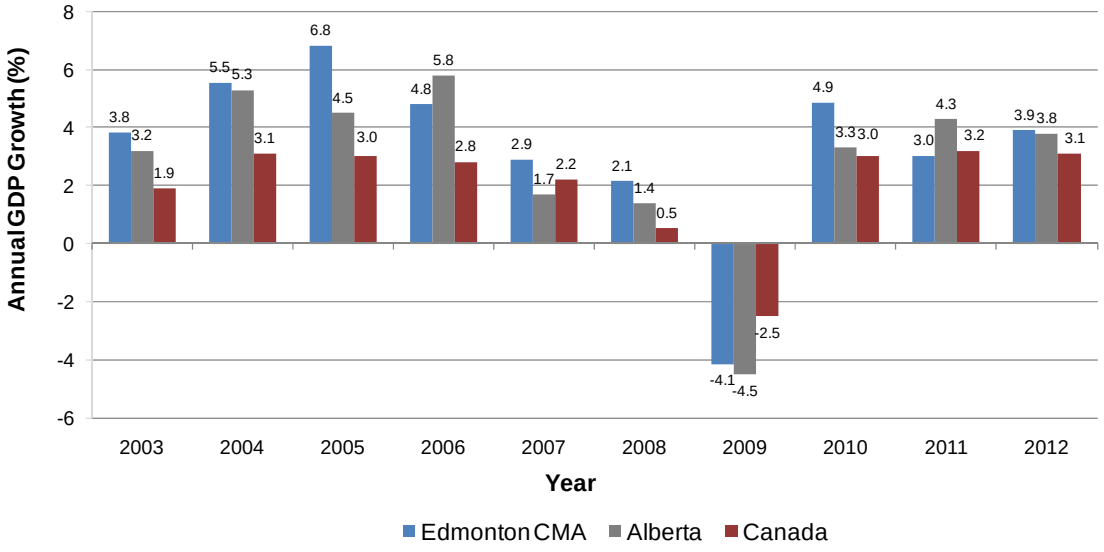
2.1 Macro Economic Growth Trends

Figure 2-1 summarizes the Alberta and Edmonton CMA (Census Metropolitan Area) historical and forecast annual GDP growth over the 2003 through 2012 period in relation to the national average. As illustrated, over the 2003-2010 period, Alberta's economy grew at an annual rate of 2.6%, the highest of any Province and a rate significantly higher than the Canadian average of 1.8%. Over the same period, the GDP for the Edmonton CMA grew by an average of 3.3% annually. The Edmonton CMA experienced relatively strong GDP growth between 2003 and 2007, with average annual GDP growth of 4.8%. In comparison, the Alberta and Canadian economies posted average annual growth rates over the same period of 4.1% and 2.6%, respectively.

For both the Edmonton CMA and the Province of Alberta, strong GDP growth from 2003 through 2007 was fuelled by an unprecedented global demand for oil, which led to dramatic price increases and expanded provincial production and development activity, through massive capital investment in this sector. However, the global financial crisis, which started in the fourth quarter of 2008, had a strong negative impact on the Edmonton CMA and provincial economy. GDP for the Edmonton CMA and the Province of Alberta contracted 4.1% and 4.5%, respectively in 2009, which was a steeper decline than in the rest of Canada. In 2010, the Edmonton CMA, provincial and national economies rebounded from the economic recession, exhibiting relatively strong growth. In 2011 and 2012, the Edmonton CMA and Alberta economies are expected to continue to expand at a strong rate. GDP growth for the Edmonton CMA is forecast to remain strong through the 2013-2015 period, ranging between 3.2 and 3.7% annually.[1]

[1] Conference Board of Canada.

Figure 2-1
Edmonton CMA, Alberta and Canada Annual GDP Growth
Historical 2003-2010 and Forecast 2010-2012



Source: RBC Economics, OECD, Conference Board of Canada

2.2 Economic Growth Drivers

There are a number of factors which indicate that economic growth within the City of Edmonton over the next decade will be strong, building on the economic expansion experienced during the 2004-2008 period. In turn, new industrial and office commercial development will generate demand for both employees and industrial land. These factors are discussed below.

Growth Potential of Energy Sector

Alberta is the largest oil producer in Canada, accounting for 39% of domestic conventional oil production and all non-conventional production.[1] Alberta's oil reserves are the second largest in the world, after Saudi Arabia.[2] The majority of the reserves are within the oil sands, a region covering 140,000 sq. km. located within the Athabasca, Cold Lake and Peace River areas of northern Alberta.

Alberta's oil sands have been the leading pocket of growth within the energy sector.[3] The majority of current oil sands production is centred in the Athabasca Region (Fort McMurray area), located 400 km northeast of Edmonton.

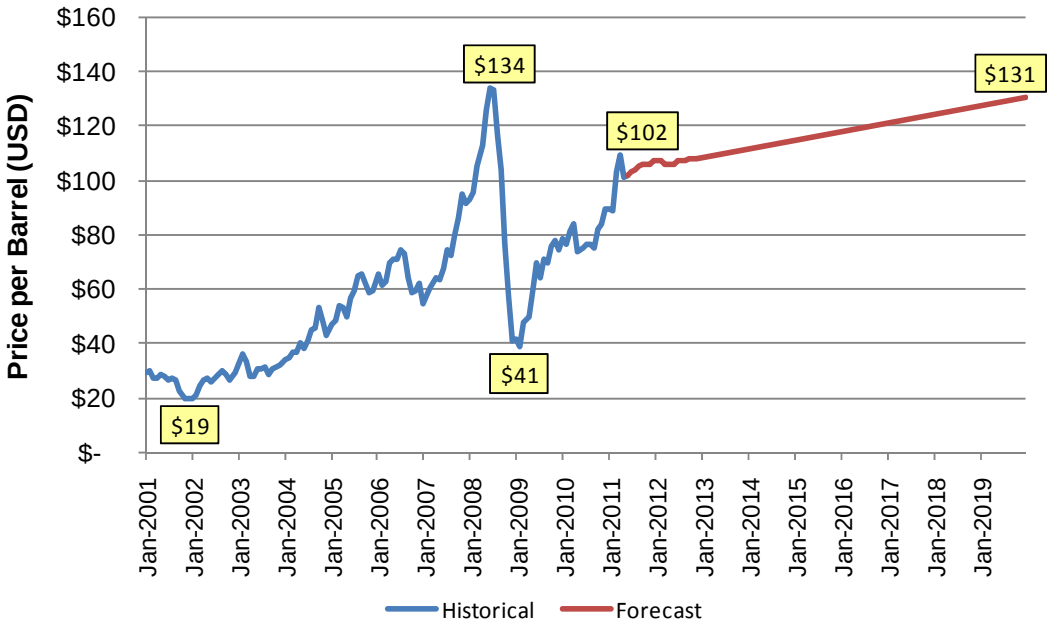
[1] Canadian Association of Petroleum Producers

[2] EIA

[3] Alberta Industry Sector Performance and Prospects, Alberta Finance and Enterprise, May 2009

Production and investment in Alberta's oil industry, particularly in the more capital-intensive oil sands, has been driven by an appreciation in the price of oil over the past decade. Oil prices rose from $19 per barrel in late 2001 to a peak of $134 per barrel in June 2008, as illustrated in Figure 2-2. During that time, investment in capital projects in the oil sands rose sharply and was a boon to the Alberta economy. The price of crude oil sharply declined during the 2008-2009 economic recession, reaching a low of $41 per barrel in January 2009, which led to a sharp drop in investment activity in the energy sector and had a strong negative impact on the provincial economy. This was followed by a pronounced price rebound coinciding with the economic recovery. As of June 2011, the price of oil is at $102 per barrel and is forecast to appreciate to $131 per barrel (in nominal dollars) by 2020.

Figure 2-2
Price of West Texas Intermediate, Historical and Forecast



Source: EIA, reflects Cushing, OK WTI Spokt Price, FOB. Note: Long-term forecast reflects Reference Scenario

Growing demand from emerging economies led by China and India, are expected to contribute to the continued steady upward trend in the price of oil. The price outlook for oil is pivotal to oil sands production which is considerably more expensive than conventional oil to produce. With the economic viability of the oil sands anticipated to be supported by rising world oil prices and advances in production technology, it is expected that oil sands production will reach 5.1 million barrels per day by 2035.[1] This is a more than three-fold increase from 2009 production of 1.5 million barrels per day.[2]

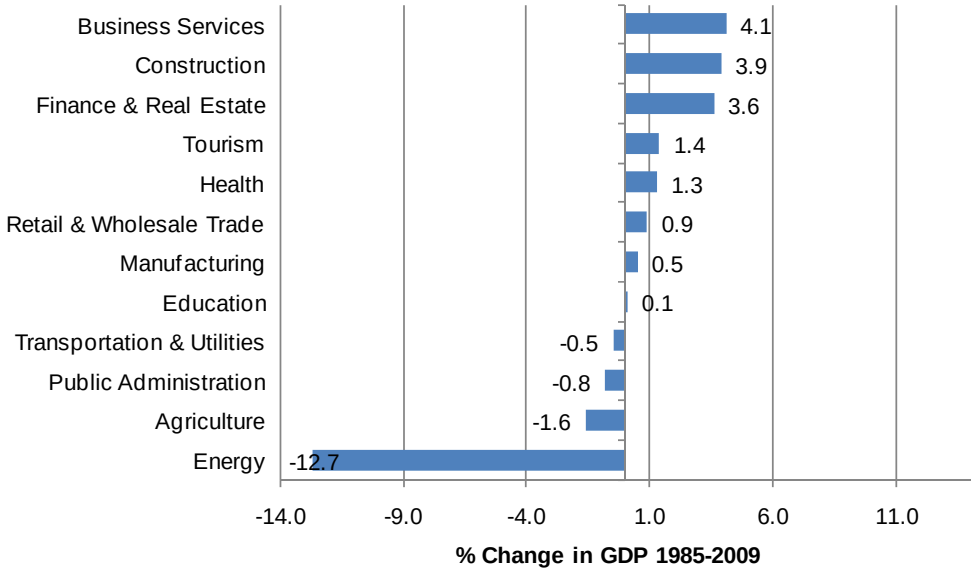
[1] EIA, International Energy Outlook 2011.
[2] Alberta's oil sands production in 2009 of 1.5 million barrels per day, source: Government of Alberta, Department of Energy website.

The Edmonton Capital Region's economy is largely tied to the energy sector, serving 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, bitumen upgrading and spinoff sectors such as metal fabrication, construction and business, technical and financial services. The anticipated increase in oil sands production over the medium and long term will have a direct positive effect on employment growth and increase industrial land demand in Edmonton.

Diversification of Economic Base

Despite the reliance on the energy sector, the provincial economy has become increasingly diversified to include other value-added sectors. As summarized in Figure 2-3, the energy sector's share of the provincial GDP decreased by 12.7% between 1985 and 2009, declining from 36.1% to 23.4%. In contrast, business services, construction, finance and insurance have seen significant increases in their proportionate share of GDP.

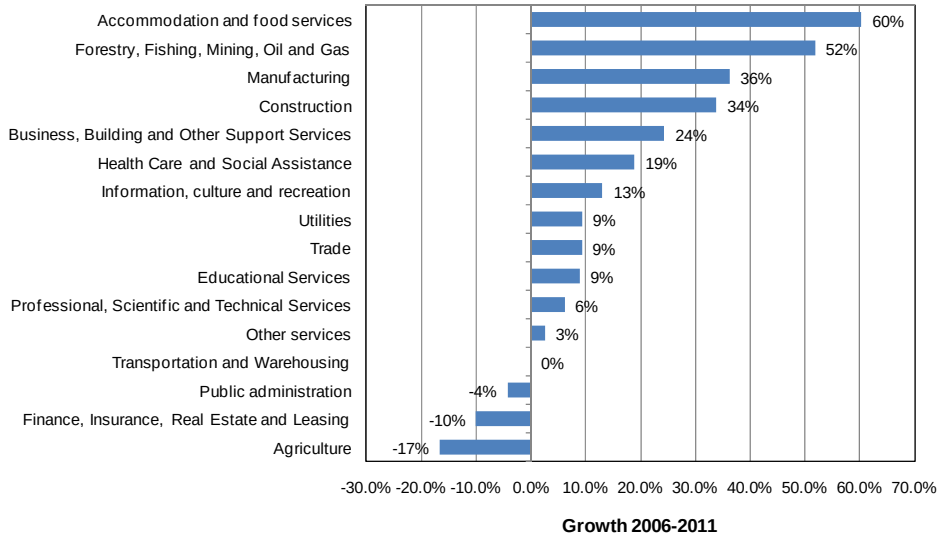
Figure 2-3
Alberta Economic Structure
Change in Share of GDP 1985-2009



Source: Government of Alberta, Economic Development.

This diversification of the provincial economy is evident in the employment growth in economic sectors within the Edmonton CMA. Between 2006 and 2011, the Edmonton CMA experienced strong annual employment growth in not only oil and gas extraction, but also in industrial sectors including manufacturing and construction and "knowledge-based" sectors, including business services, information and culture, educational services and professional, scientific and technical services, as illustrated in Figure 2-4.

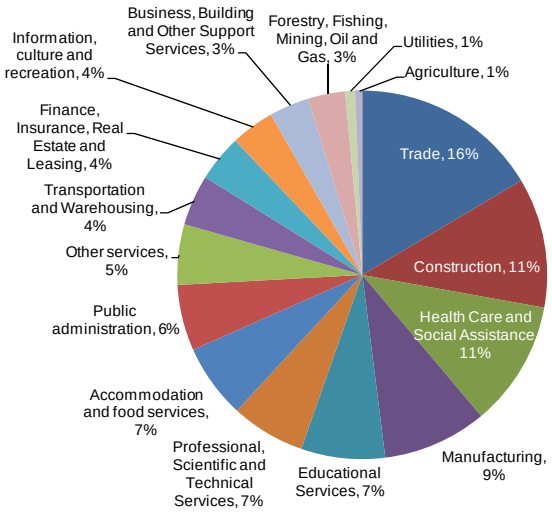
Figure 2-4
Edmonton CMA
Employment Growth by Sector, 2006 - 2011



Source: Adapted from Statistics Canada, Labour Force Survey by Watson & Associates Economists Ltd. Growth based on employment data for May 2006 and May 2011.

The employment growth patterns over the past decade reflect a diversifying economic base within the Edmonton CMA. The Edmonton CMA has a strong employment presence in a number of industrial sectors including construction, manufacturing, wholesale trade, and transportation and warehousing, and "knowledge-based" sectors such as educational services and professional, scientific and technical services. As of 2011, the largest sectors by share of total employment in the Edmonton CMA include trade (retail and wholesale trade sectors) (16%), construction (11%), health care and social assistance (11%), manufacturing (9%), educational services (7%) and professional, scientific and technical services (7%), as illustrated in Figure 2-5.

Figure 2-5
Edmonton CMA Employment Structure, 2011



Source: Source: Statistics Canada, Labour Force Survey.

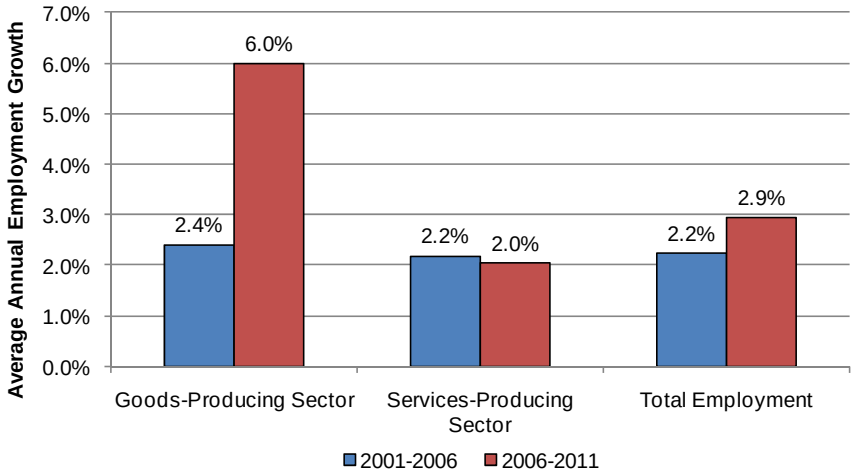
Strong Growth Potential of Goods Producing Sectors

Employment sectors can be more generally categorized as either "goods producing" or "service producing." Goods producing sectors include traditional industrial sectors such as manufacturing, utilities, construction, and primaries industries such as oil and gas and agriculture, which are typically accommodated on industrial lands. In contrast, service producing sectors largely encompass commercial and institutional sectors including education, health care, professional, scientific and technical services, financial and business services, food and accommodation and public administration.

Over the past decade, "goods producing" sectors in the Edmonton CMA have demonstrated strong employment growth relative to total employment growth. Figure 2-6 illustrates the average annual growth in total employment and in the "goods producing" and "service producing" sectors over the 2001-2006 and 2006-2010 periods. As illustrated, between 2001 and 2006, total employment growth averaged 2.2% annually compared to 2.9% between 2006 and 2011. Over the period, employment growth in the service producing sectors remained relatively stable, averaging 2.2% and 2.0% annually over the 2001-2006 and 2006-2011 periods, respectively. In contrast, growth in the goods producing sector averaged 2.4% annually between 2001 and 2006 which accelerated to 6.0% average annual growth over the 2006-2010 period.

The analysis suggests that the Edmonton CMA economy is well positioned to continue to generate a high proportionate share of goods producing sector jobs, which will drive the demand for industrial land in the Region.

Figure 2-6
Edmonton CMA Average Annual Employment Growth, 2001-2011

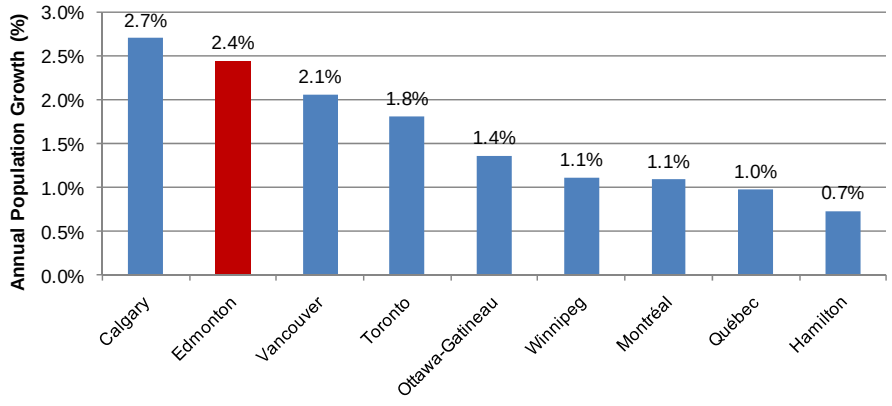


Source: Source: Statistics Canada, Labour Force Survey.

Population Growth of the Edmonton Capital Region

The Edmonton Capital Region, which includes the City of Edmonton, is a metropolitan area with a population of over 1.17 million, the sixth largest metropolitan area in Canada.[1] As illustrated in Figure 2-8, the Capital Region had the second highest population growth rate of large Census Metropolitan Areas (CMA's) in Canada over the 2005-2010 period, second only to Calgary.

Figure 2-8
Fastest Growing Large Census Metropolitan Areas in Canada, 2005-2010



Source: Statistics Canada Catalogue 91-214-XWE
1.Large Census Metropolitan Areas include those 500,000 and larger in population

According to the Capital Region Growth Plan, the Capital Region's population is expected to grow at an annual rate of between 1.5% and 1.7% through 2019, a rate marginally lower than in the past five years, but higher than during the 2000-2005 period.[2]

2.3 Future Growth Prospects

Based on the identified economic growth drivers discussed herein, the long-term employment growth prospects and potential industrial land demand for the Capital Region are favourable. It is expected that as macro economic conditions continue to improve and oil prices remain strong, energy investment and production in the oil sands will continue to expand in northern Alberta. With this, the Capital Region's role as a servicing centre for the energy sector will continue to grow. Further, employment growth is expected across a wide range of sectors as the economic base continues to diversify and the population base expands at a healthy rate. As such, the City of Edmonton, as the largest municipality within the Capital Region, is well positioned to capitalize on the anticipated long-term regional employment growth potential.

[1] Statistics Canada 91-214-XWE, based on Edmonton Census Metropolitan Area (CMA)
[2] Forecast population growth rates as per the Capital Region Growth Plan Addendum, December 2009. 2001-2005 Edmonton CMA annual average population growth rate of 1.2% derived from Statistics Canada data by Watson & Associates Economists Ltd.

3. EDMONTON INDUSTRIAL MARKET REVIEW

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This chapter provides an overview of City of Edmonton's existing industrial structure and recent development trends.

3.1 Industrial Zone Designations

The City of Edmonton identifies four land use zoning designations which fall under the general category of industrial lands (as defined herein), including "Industrial Business Zone" (IB), "Light Industrial Zone" (LI), "Medium Industrial Zone" (IM) and "Heavy Industrial Zone" (IH).[1] The following provides a summary of the permitted uses within each respective zone, as per the City's zoning by-law:[2]

- **IB - Industrial Business Zone** - intended for businesses which generate no nuisance outside an enclosed building and is compatible with any adjacent non-industrial zones. The IB zone is well suited for prestige industrial uses such as research and development, office and quasi commercial uses.
- **IL- Light Industrial Zone** – designed for high quality, light industrial developments with limited accessory outdoor activities which generate no nuisance outside an enclosed building.
- **IM - Medium Industrial Zone** – suited for manufacturing, processing, assembly, distribution, service and repair uses that carry out part of their operation outdoors or require outdoor storage areas. Nuisances associated with business operations are not to extend beyond the site.
- **IH - Heavy Industrial Zone** – appropriate for industrial uses that due to their appearance, noise, odour, risk of toxic emissions or fire and explosion hazards are incompatible with residential, commercial and other land uses.

The City also has an urban reserve land use category under the AGI (Agricultural Industrial Reserve) class which reflects rural lands which are intended for future industrial development but are currently not zoned for industrial purposes.

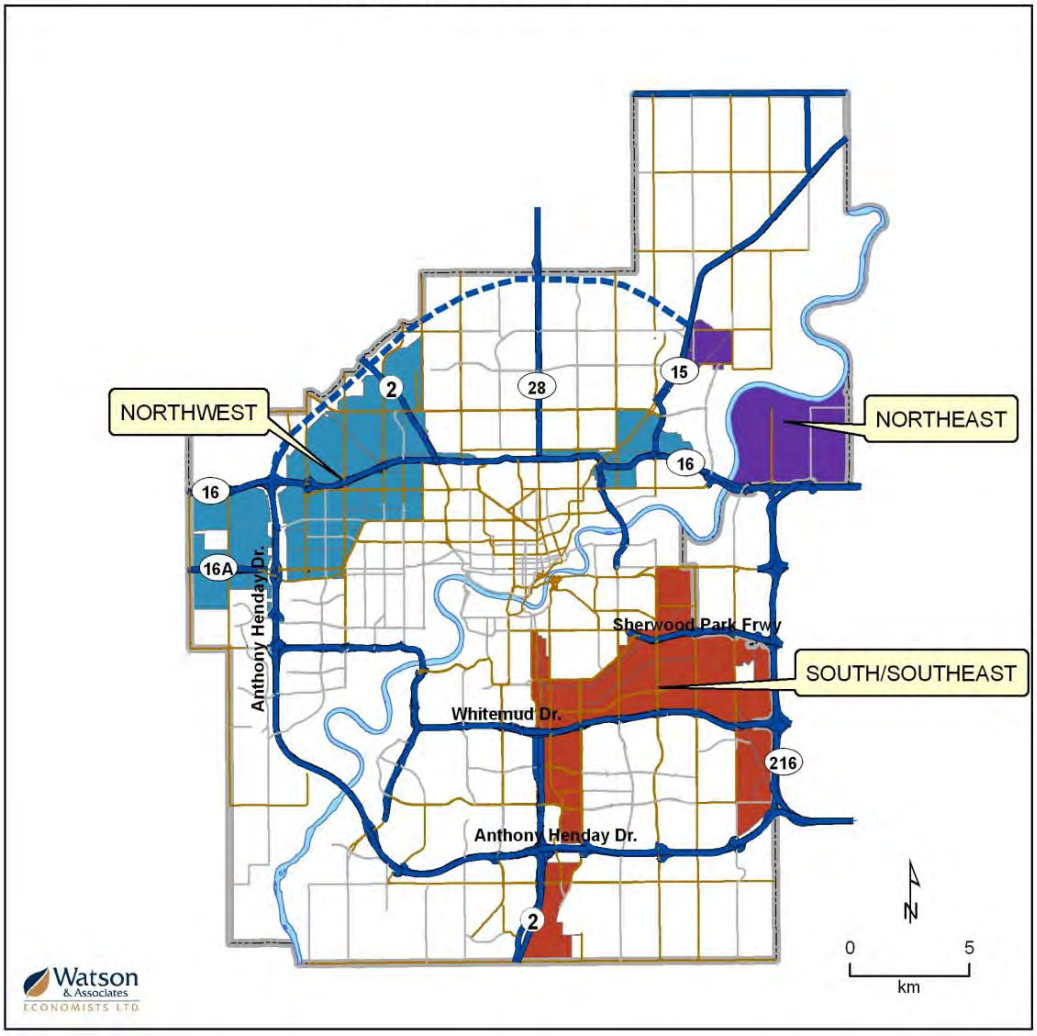
[1] For the purposes of this study, the Ellerslie Industrial Neighbourhood includes "EIB" (Ellerslie Industrial Business) and "EIM" (Ellerslie Medium Industrial zoning designations are reflected under the "IB" and "IM" designations, respectively.

[2] Edmonton Zoning By-law 12800, Section 400.

3.2 Industrial Districts Overview

The City of Edmonton's industrial base is the largest within the Capital Region, with a total industrial GFA (gross floor area) inventory of 78.5 million square feet.[1] The City has a strong and diverse industrial base; key sectors include manufacturing, construction and distribution/logistics. Edmonton's industrial land base is delineated into three main geographic areas: Northwest District, Northeast District and South/Southeast District, as illustrated in Map 3-1.[2]

Map 3-1
City of Edmonton
Major Industrial Districts



[1] Colliers International, Edmonton Industrial Market Report, Q1 2011.

[2] This study excludes the Central District, a mature industrial area located between the Edmonton downtown core and the Yellowhead Highway which is built out and offers limited opportunities to accommodate future development.

The following provides a profile of the City's three main industrial districts:

3.2.1 Northwest Industrial District

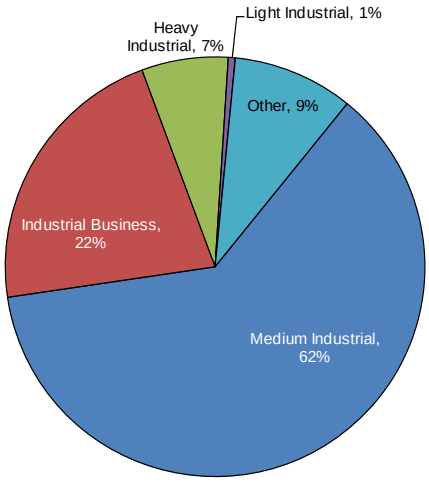
The Northwest Industrial District (Northwest District) is located in northwest Edmonton, extending east-west along the Yellowhead Trans-Canada Highway (Highway 16) and north-south along the Anthony Henday Drive corridor. The District encompasses 2,434 net ha of developed industrial land. As illustrated in Figure 3-1, 62% of the developed industrial land within the District is zoned Medium Industrial (IM), 22% Industrial Business (IB), 7% Heavy Industrial (IH) and 1% Light Industrial (IL).

The Northwest District contains 38.8 million square feet of industrial GFA, representing 57% of the City-wide total.[1] The District has a large concentration of industries related to logistics, transportation warehousing and light manufacturing. Of the District's developed industrial land area, 51% is utilized for wholesale trade/warehousing/storage, 14% for manufacturing, 11% for transportation and 6% for construction, as illustrated in Figure 3-2. The District also accommodates some non-industrial uses including retail trade (6%), service trade (5%) and office (3%). The majority of the City's transportation and logistics land uses are located in northwest Edmonton, within proximity of the CN Intermodal facility and major highways, such as the Yellowhead Trans-Canada which serves as a major connection to the Canadian west coast. The recent construction of Anthony Henday Drive further strengthens the highway connections to this area and the area's competitive advantage in the transportation and logistics sectors.

The District's more mature industrial areas are located east of 170th Street and adjacent to and/or south of Yellowhead Highway. The areas exhibit a largely general industrial character and are largely built out. The District's newer areas are located west of 170th Street and north of the Yellowhead Highway.

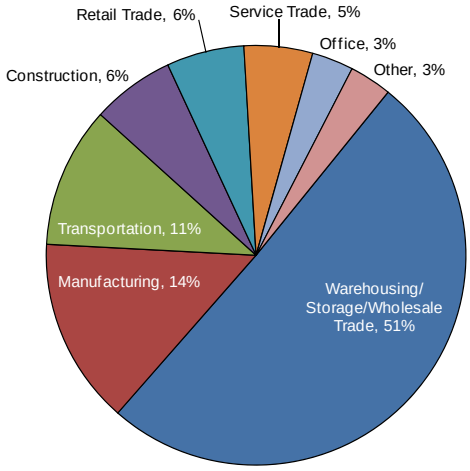
[1] Colliers International, Edmonton Industrial Market Report, Q1 2011.

Figure 3-1
Northwest District
Proportionate Share of Developed Industrial Land by Zoning



Source: Watson & Associates Economists Ltd.

Figure 3-2
Northwest District
Proportionate Share of Developed Industrial Land by Land Use



Source: Watson & Associates Economists Ltd.

3.2.2 South/Southeast Industrial District

The South/Southeast Industrial District (South/Southeast District) is situated in southeast Edmonton and extends south along the east side of the Highway 2 corridor and eastward from the Highway 2 corridor along the Sherwood Park Freeway and Whitemud Drive corridor. The area is well connected by major highways and also benefits from proximity to the Edmonton International Airport.

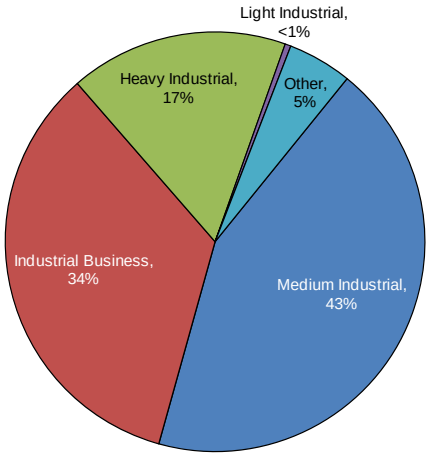
The District has a total of 2,327 net ha of developed industrial lands. Of the District's developed industrial land, 42% is zoned Medium Industrial (IM), 34% Industrial Business (IB), 17% Heavy Industrial (IH) and 5% other, as illustrated in Figure 3-3. Light Industrial zoned land accounts for less than 1% of the District total. 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 south and southeast Edmonton predominately have light industrial and business park designations, which accommodate a broad mix of uses including "knowledge-based" sectors such as business services and research and development, advanced manufacturing, construction and logistics/distribution.

The District contains 32.5 million square feet of industrial GFA, accounting for 41% of the City-wide total.[1] Of the developed industrial land base, 48% is utilized for warehousing/wholesale trade/storage followed by 18% for manufacturing, 9% for office, and 7% for construction, as summarized in Figure 3-4. Retail and service trade account for a combined 9% of the total.

The District has a diverse range of industrial uses. The south part of the District, extending south of Whitemud Drive along the east side of the Highway 2 corridor, has a significant share of the Region's suburban office and prestige industrial areas, accommodating business and financial services and research and development sectors. Key prestige business parks in the area include the Parsons Business Park and Gateway Business Park which have a significant office component and accommodate a large share of business services and quasi commercial services. The area is also home to the Edmonton Research Park, a prestige employment area which caters to research and development in the biotechnology, life sciences and energy sectors. Southeast Edmonton has a strong prestige industrial base that is highly oriented to business services and logistics sectors. Industrial lands north of Anthony Henday Drive are largely built out, with future development potential largely located south of the highway.

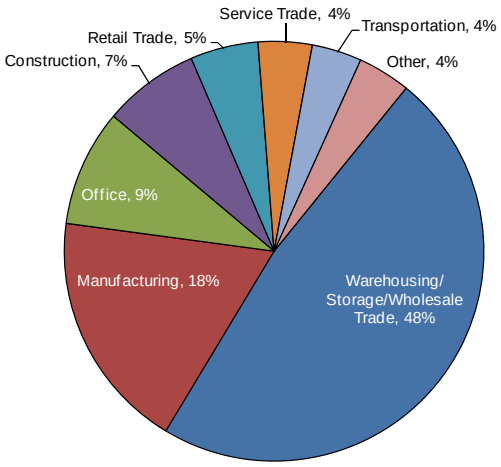
[1] Colliers International, Edmonton Industrial Market Report, Q1 2011.

Figure 3-3
South/Southeast District
Proportionate Share of Developed Industrial Land by Zoning



Source: Watson & Associates Economists Ltd.

Figure 3-4
South/Southeast District
Proportionate Share of Developed Industrial Land by Land Use



Source: Watson & Associates Economists Ltd.

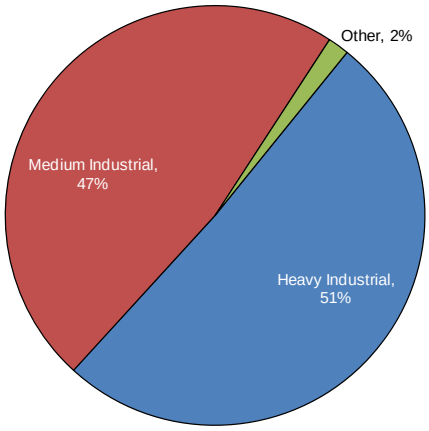
3.2.3 Northeast Industrial District

The Northeast Industrial District (Northeast District) is located in northeast Edmonton and has a developed industrial land base of 491 net ha. The Northeast District contains 1.3 million square feet, representing 2% of the City-wide total.[1] The District's industrial base is relatively small compared to Northwest and South/Southeast Districts. Further, the composition of the District is

[1] Colliers International, Edmonton Industrial Market Report, Q1 2011.

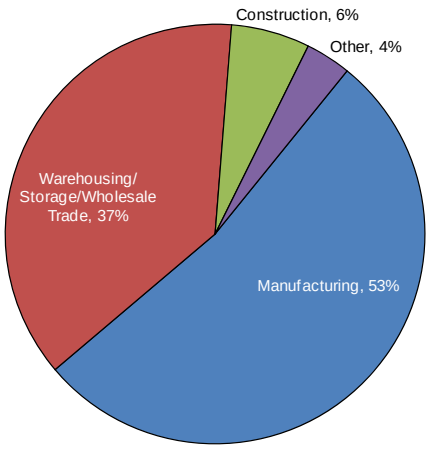
highly oriented to medium and heavy industries. Of the developed industrial lands, 51% is zoned Heavy Industrial (IH), 47% Medium Industrial (IM) and 2% other, as shown in Figure 3-5. Manufacturing accounts for 53% of the existing industrial land uses followed by 37% for warehousing/storage/wholesale trade and 6% for construction, as illustrated in Figure 3-6.

Figure 3-5
Northeast District
Proportionate Share of Developed Industrial Land by Zoning



Source: Watson & Associates Economists Ltd.

Figure 3-6
Northeast District
Proportionate Share of Developed Industrial Land by Land Use



Source: Watson & Associates Economists Ltd.

3.3 Industrial Lands Employment Density

Average employment density on industrial lands by District and the City-wide average is presented in Table 3-1. As shown, City-wide employment density (on designated industrial lands) is 32 jobs per net ha (13 jobs per net acre). Employment density is highest in the Northwest District and South/southeast District with an average 34 jobs per net ha (14 jobs per net acre) and 32 jobs per net ha (13 jobs per net ha), respectively. In contrast, average employment density in the Northeast District averages 20 jobs per net ha (8 jobs per net acre), In general, employment densities tend to be higher in the more urban industrial neighbourhoods and lower in industrial areas located on the urban fringe, such as Winterburn and Clover Bar where building coverage tends to be lower.

Table 3-1
City of Edmonton
Average Employment Density on Industrial Lands by District

District	Average Employment per net Ha	Average Employment per net Acre
Northwest	34	14
South/Southeast	32	13
Northeast	20	8
City-wide Average	**32**	**13**

Source: Watson & Associates Economists Ltd.

Derived from 2006 employment data from Harris Consulting Ltd. and industrial land use statistics compiled by Watson & Associates Economists Ltd.

Table 3-2 summarizes average employment density by select employment sectors in Edmonton, based on a survey of businesses within the City. The highest employment density is found in research and development/office development (which includes employment in financial and business services) with 83 jobs per net ha (34 jobs per net acre). This is followed by manufacturing with 44 jobs per net ha (18 jobs per net acre) and construction with 41 jobs per net ha (16 jobs per net ha). In comparison, wholesale trade and transportation/warehousing have a significantly lower employment density of 33 jobs per net ha (13 jobs per net acre) and 26 jobs per net ha (10 jobs per net acre), respectively.

Table 3-2
City of Edmonton
Average Employment Density by Select Sector/Land Use

District	Average Employment per net Ha	Average Employment per net Acre
Research & Development/Office	83	34
Manufacturing	44	18
Construction	41	16
Wholesale Trade	33	13
Transportation and Warehousing	26	10

Source: Watson & Associates Economists Ltd. based on Edmonton business survey

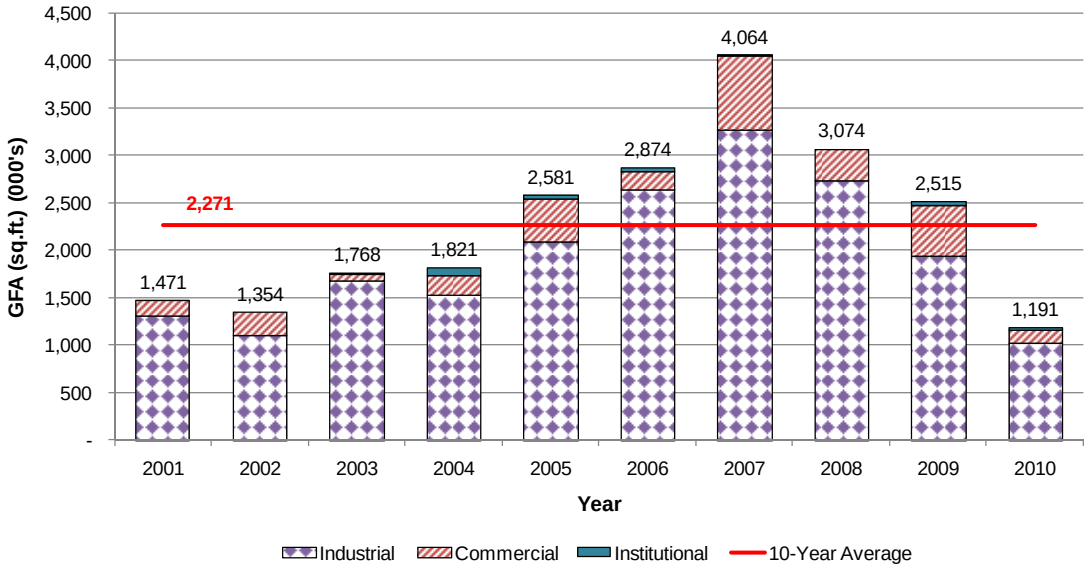
3.4 Recent Development Activity and Trends by Industrial District

This section provides a review of recent development activity on industrial lands within the City of Edmonton by Industrial District and by sector.

3.4.1 Development Activity, 2001-2010

Figure 3-7 summarizes new building construction on Edmonton's industrial lands during the 2001-2010 period, expressed in GFA (Gross Floor Area), based on building permit data provided by the City of Edmonton. As illustrated, Edmonton has averaged 2.271 million sq.ft. of building activity on industrial lands annually over the past decade. The City experienced considerably strong growth in industrial development between 2005 and 2009, which peaked in 2007 at 4.064 million sq.ft. The recent global economic recession resulted in a decline in activity during the post-2007 period. In 2010 construction activity was below the 10-year historical average.

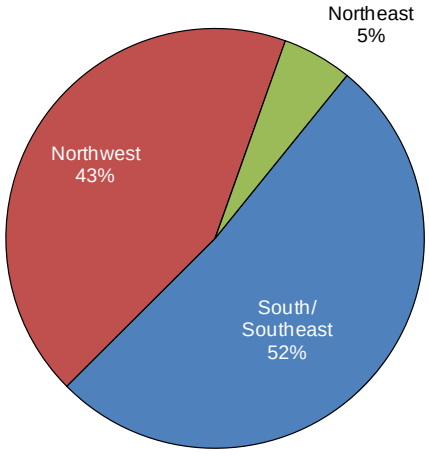
Figure 3-7
City of Edmonton
Historical Building Permit Activity, on Industrial Lands,
Annual GFA by Sector, 2001 - 2010



Source: Adapted from City of Edmonton building permit data by Watson & Associates Economists Ltd.

As summarized in Figure 3-8, over the past five years, 95% of City-wide industrial lands development has occurred in the South/Southeast and Northwest Districts. The two Districts have accounted for 55% and 40% of the five-year total, respectively. This is compared to 5% in the Northeast District. The following section provides further detail on the composition of development by sector in each District.

Figure 3-8
City of Edmonton
Proportionate Share of Building Permit Activity (GFA)
on Industrial Lands, 2006 - 2010 by District

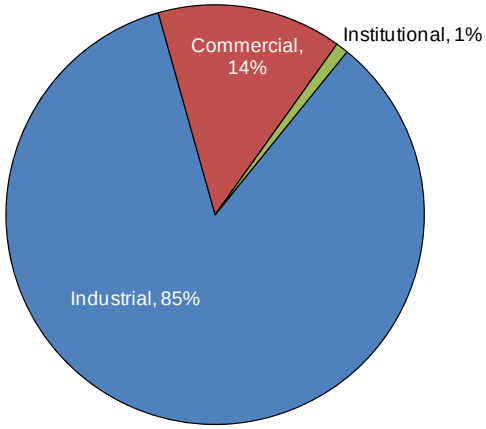


Source: Adapted from City of Edmonton building permit data by Watson & Associates Economists Ltd.

3.4.2 Development Activity by Sector

Over the 2006-2010 period, 85% of development on industrial lands has been in the industrial sector compared to 14% in the commercial sector and 1% in the institutional sector, as illustrated in Figure 3-9.

Figure 3-9
City of Edmonton
Proportionate Share of Building Permit Activity (GFA) on Industrial Lands, 2006 - 2010 by Major Sector



Source: Adapted from City of Edmonton building permit data by Watson & Associates Economists Ltd.

Though industrial development is the primary use on industrial lands, the above analysis suggests that the City's industrial lands are accommodating a moderate amount of commercial development and some institutional development. Table 3-3 summarizes the share of District-wide commercial and institutional GFA that was accommodated on industrial lands over the 2006-2010 period. As illustrated, within the Northwest District, 19% of District-wide commercial development and 5% of District-wide institutional development was accommodated on industrial lands. In comparison, the share of District-wide commercial and institutional development on industrial lands in the South/Southeast District was 32% and 7%, respectively. Meanwhile, no commercial or institutional development within the Northeast District was accommodated on industrial lands during the 2006-2010 period.

Table 3-3
Share of Commercial and Institutional GFA
on Industrial Lands, 2006-2010

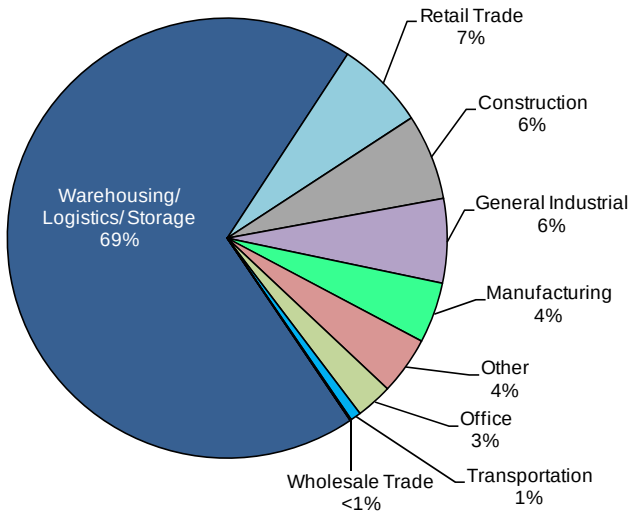
District	% Share of Commercial GFA	% Share of Institutional GFA
Northwest	19%	5%
South/Southeast	32%	7%
Northwest	0%	0%

Source: Derived from City of Building Permit Data by Watson & Associates Economists Ltd.

Figures 3-10 through 3-12 summarize the proportionate share of development activity (expressed in GFA) by sector over the 2001-2011 period within the Northwest District, South/Southeast District and Northeast District, respectively. Key observations include:

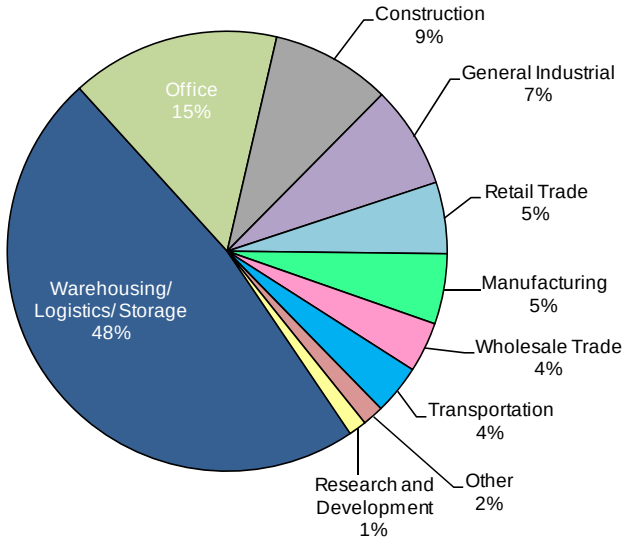
- Over the past decade, warehousing/logistics/storage has accounted for the majority of development in the Northwest and Northeast Districts, accounting for 69% and 73% of development, respectively;
- Within the Northwest District, next to warehousing/logistics/storage, the most active sectors in terms of recent development include retail trade (7%), construction (6%), general industrial (6%) and manufacturing (4%);
- In the past decade, development activity within the Northwest District has been concentrated in large-scale multi-bay industrial condos serving the logistics/distribution sector. These developments are largely located in proximity to the CN Intermodal facility and are of prestige character;
- Within the South/Southeast District, warehousing/logistics/storage has accounted for 48% of development over the past decade followed by office (15%), construction (9%) and general industrial (7%), retail trade (5%), manufacturing (5%) and wholesale trade (4%); and
- The South/Southeast District's strong growth in the warehousing/logistics/storage sector has been concentrated in the form of prestige multi-bay industrial condominium development within the Roper Business Park and Pylypow Business Park. Meanwhile south Edmonton has seen significant development in the office and "knowledge-based" sectors, largely driven by proximity to the Edmonton International Airport.

Figure 3-10
Northwest District
Industrial Lands GFA Development by Sector, 2001 - 2011



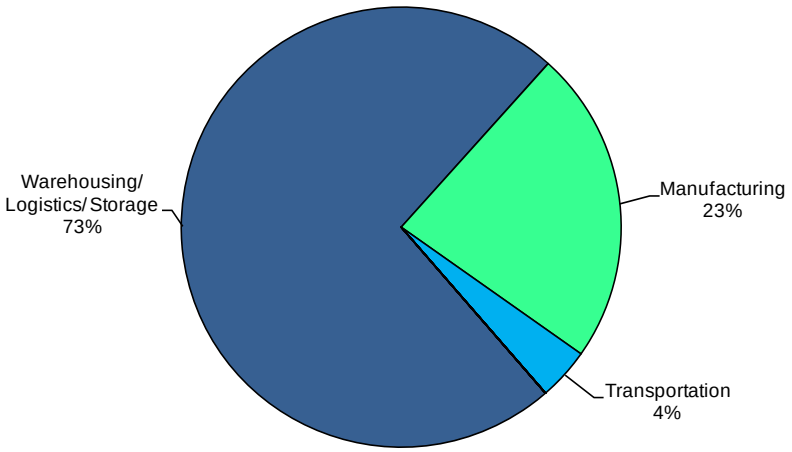
Source: Watson & Associates Economists Ltd., 2011

Figure 3-11
South Southeast District
Industrial Lands GFA Development by Sector, 2001 - 2011



Source: Watson & Associates Economists Ltd., 2011

Figure 3-12
Northeast District
Industrial Lands GFA Development by Sector, 2001 - 2011



Source: Watson & Associates Economists Ltd., 2011

3.5 Industrial Land Absorption Trends

Based on the building permit data obtained from the City of Edmonton, the Consulting Team identified the industrial land parcels absorbed over the 2001-2011 (YTD) period. The Consulting Team spatially mapped the parcels absorbed, identified their respective land areas, zoning and land use and summarized land area totals by District and year of absorption. The following provides a summary of key findings.

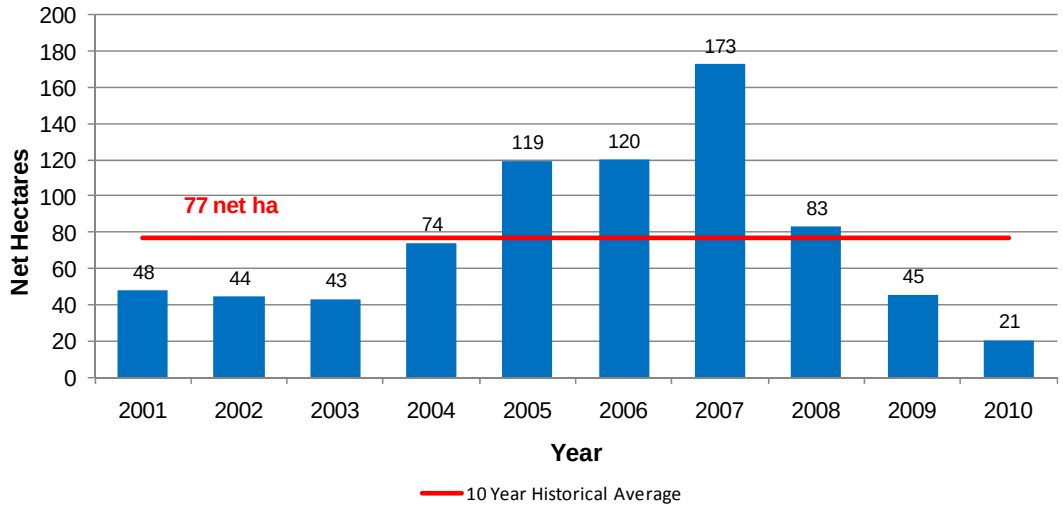
3.5.1 Industrial Land Absorption by District

The total industrial land absorbed (expressed in net ha) in Edmonton annually over the 2001-2010 period is illustrated in Figure 3-13. Figures 3-14 through 3-16 summarize the total industrial land absorbed within the Northwest, South/Southeast and Northeast Districts, respectively, over the 2001-2010 period. Figure 3-17 summarizes the proportionate share of City-wide industrial land absorption by District over the 2006-2010 period and Map 3-2 identifies the lands absorbed geographically. Key observations include:

- Over the 2001-2010 period, industrial land absorption averaged 77 net ha (190 net acres) annually for the City of Edmonton;
- Annual City-wide industrial land absorption increased rapidly between 2003 and 2007, increasing from 43 net ha (106 net acres) per year in 2003 to 173 net ha (427 net acres) in 2007. With the onset of the economic recession in 2008-09, industrial land absorption declined sharply in 2008 to 83 net ha (205 net acres) followed by 45 net ha (111 net acres) in 2010 and 21 net ha (52 net acres) in 2010;

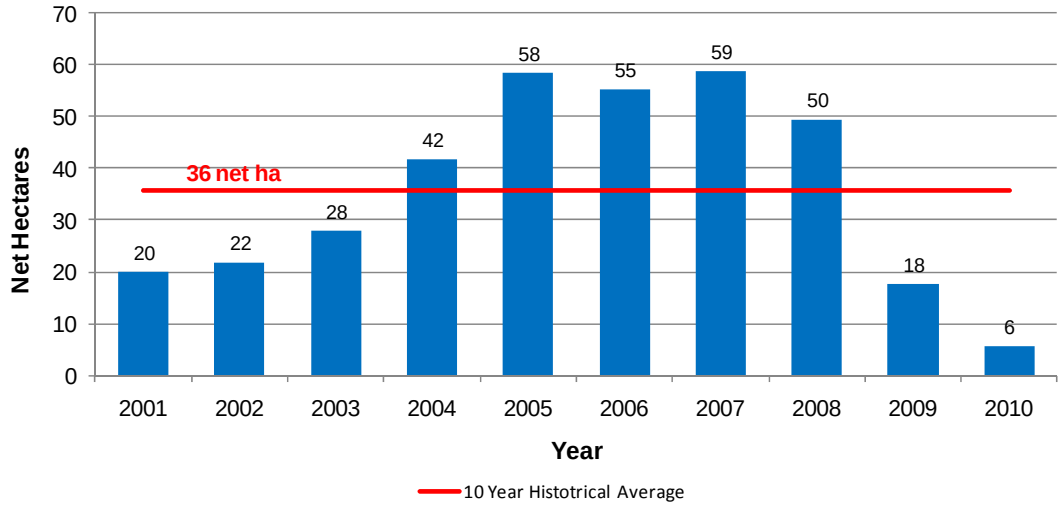
- During the 2001-2010 period, industrial land absorption in the Northwest and South/Southeast Districts have averaged 36 net ha (89 net acres) and 34 net ha (84 net acres), respectively. This is compared to 7 net ha in the Northeast District;
- Over the past five years, 49% of industrial lands absorbed have been located in the South/Southeast District followed by 42% in the Northwest District and 9% in the Northeast District;
- Recent development in the Northwest District has been focused primarily west of 170th Street, south of the Yellowhead Highway and east of Anthony Henday Drive. Major developments in the area include the Sunwapta Business Park and Yellowhead Crossing. Industrial development has been shifting north of the Yellowhead Highway, in response to the Anthony Henday Drive extension. This includes the Yellowhead Transportation Depot, Northport Business Park and Horizon Business Park, IG Northwest Business Park (Giffels Business Park). Further, the Winterburn Industrial Area, located west of Anthony Henday Drive between the Yellowhead Highway and Highway 16A, has also been active in more general industrial uses. The area's transportation access and competitive land prices have made it attractive for general industrial uses;
- Within the South/Southeast District, recent development has been concentrated to the south of Anthony Henday Drive within the Ellerslie Industrial Park and Gateway Business Park and north of Whitemud Drive, east of the 75th Street and west of 34th Street within the Roper Business Park and Pylypow Business Park. These developments represent examples of highly successful prestige industrial areas in the City.

Figure 3-13
City of Edmonton
Industrial Land Absorbed per Year (net ha), 2001-2010



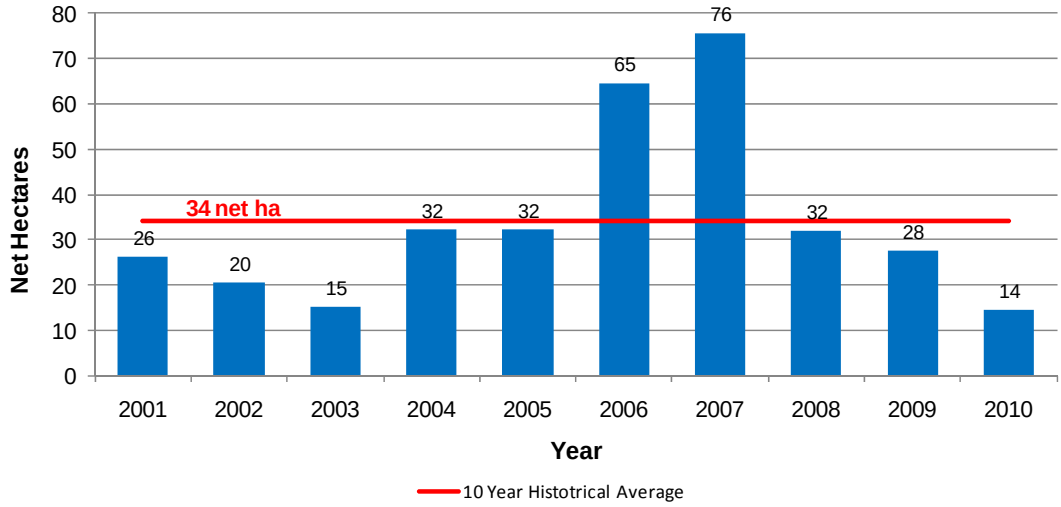
Source: Watson & Associates Economists Ltd., 2011

Figure 3-14
Northwest District
Industrial Land Absorbed per Year (net ha), 2001-2010



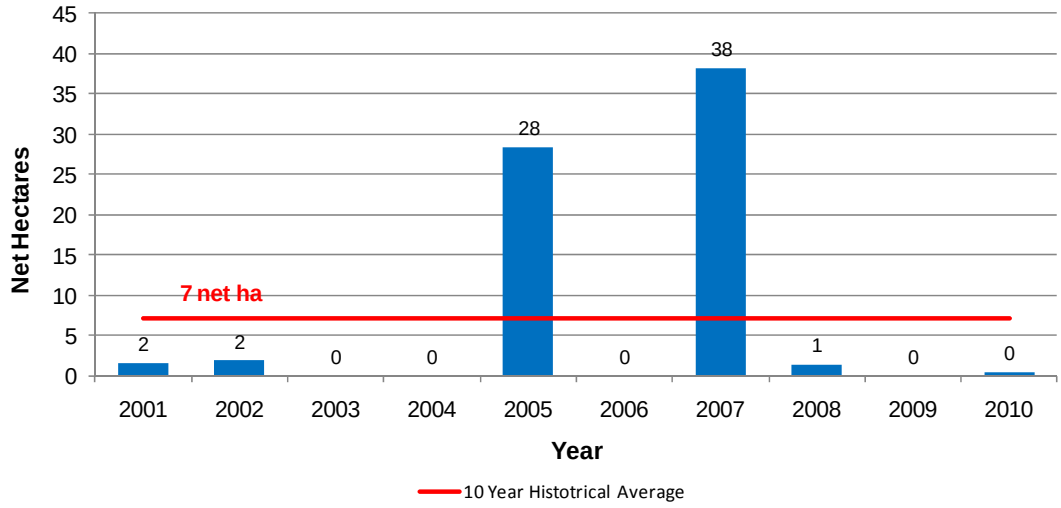
Source: Watson & Associates Economists Ltd., 2011

Figure 3-15
South/Southeast District
Industrial Land Absorbed per Year (net ha), 2001-2010



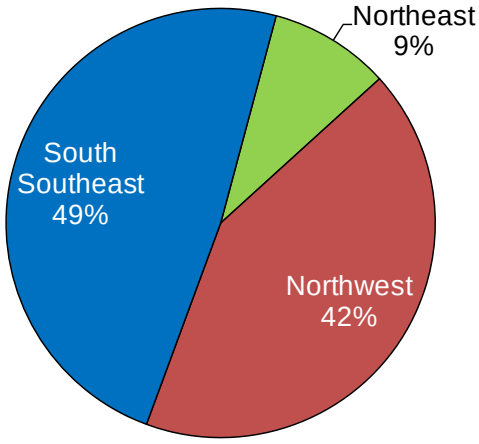
Source: Watson & Associates Economists Ltd., 2011

Figure 3-16
Northeast District
Industrial Land Absorbed per Year (net ha), 2001-2010



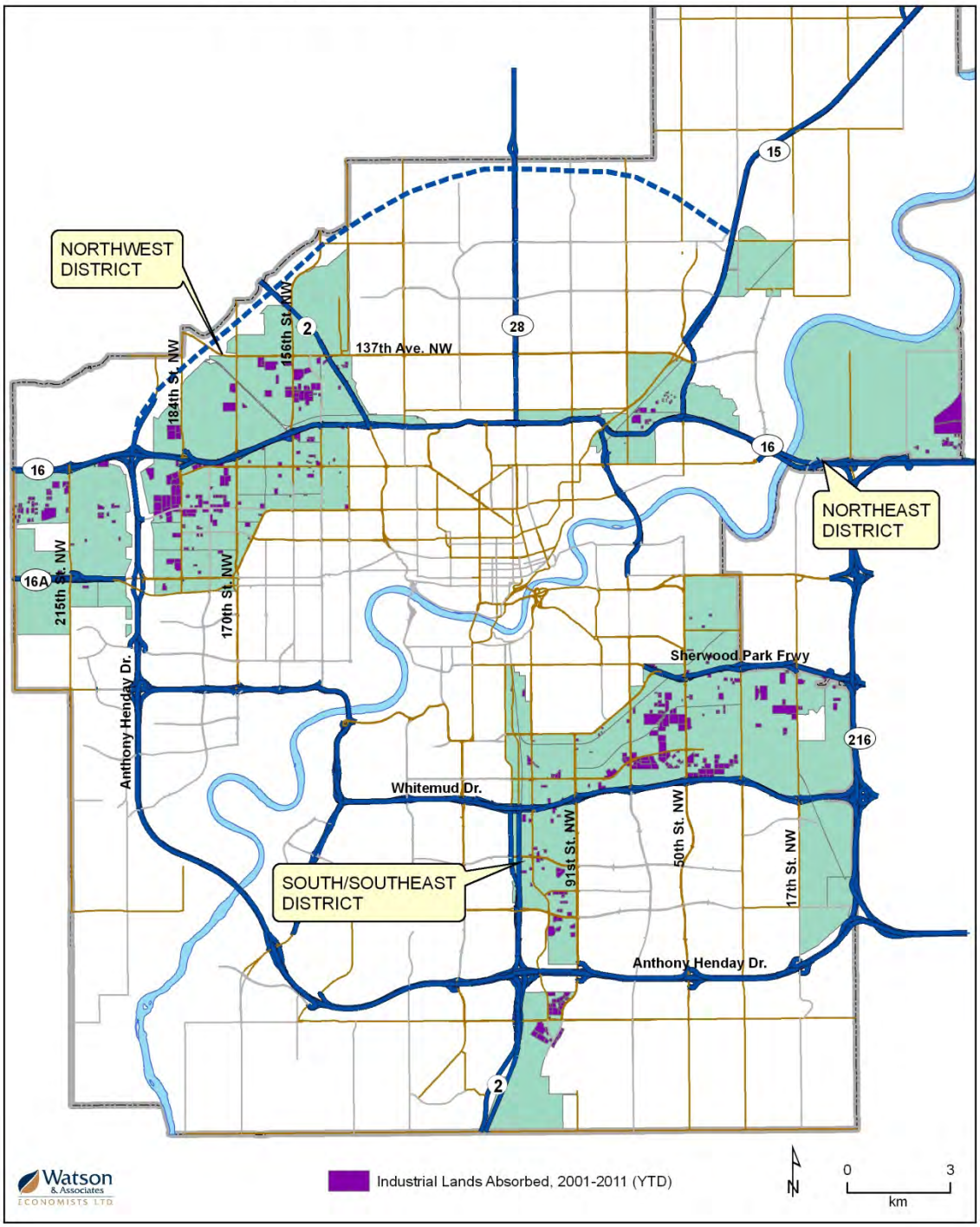
Source: Watson & Associates Economists Ltd., 2011

Figure 3-17
City of Edmonton
Proportionate Share of Total Industrial Land Absorbed by District, 2006 - 2010



Source: Watson & Associates Economists Ltd., 2011

Map 3-2
City of Edmonton
Industrial Lands Absorbed, 2001-2011 (YTD)

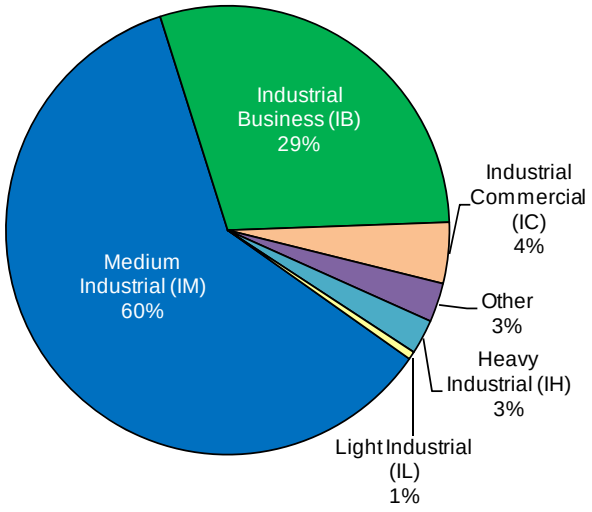


3.5.2 Industrial Land Absorption by Zoning

Figures 3-18 through 3-20 summarize the industrial lands absorbed by zoning type over the 2001-2011 period in the Northwest, South/Southeast and Northwest Districts, respectively. Key observations include:

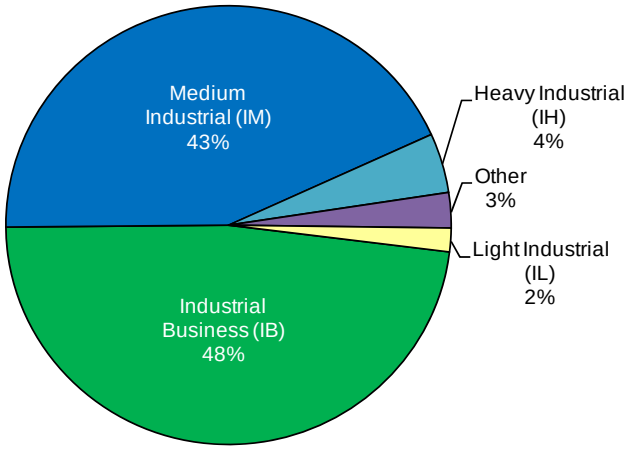
- Medium Industrial (IM) zoned land has accounted for 60% of the industrial lands absorbed within the Northwest District over the 2001-2011 period, followed by 29% for Industrial Business (IB). In contrast, Heavy Industrial (IH) and Light Industrial (IL) accounted for 3% and 1%, respectively, of the total industrial land area absorbed, a relatively small share of the total;
- Within the South/Southeast District, Industrial Business (IB) zoned land has accounted for 48% of the total absorbed industrial land, followed by 43% for Medium Industrial (IM), 4% for Heavy Industrial (IH) and 2% of Light Industrial (IL); and
- In comparison, within the Northeast District, all industrial lands absorbed over the period have been Medium Industrial (IM) zoned lands.

Figure 3-18
Northwest District
Industrial Lands Absorption by Zoning, 2001-2011



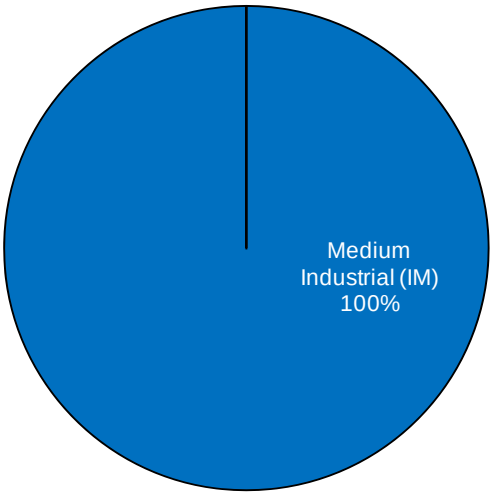
Source: Watson & Associates Economists Ltd., 2011

Figure 3-19
South Southeast District
Industrial Lands Absorption by Zoning, 2001-2011



Source: Watson & Associates Economists Ltd., 2011

Figure 3-20
Northeast District
Industrial Lands Absorption by Zoning , 2001-2011



Source: Watson & Associates Economists Ltd., 2011

3.5.3 Industrial Land Absorption by Parcel Size

Tables 3-4 through 3-7 summarize the City-wide and District level industrial lands absorbed between 2001 and 2011 by parcel size, respectively. Key observations include:

- As summarized in Table 3-2, slightly more than half (57%) of City-wide absorbed industrial parcels between 2001 and 2011 consisted of parcels less than 1 net ha in size. Meanwhile, parcels of 1-2 net ha and 2-5 ha in size accounted for 20% and 18% of the total, respectively. Larger parcels (greater than 5 net ha) account for only 5% of absorbed parcels;
- Parcels measuring less than 1 ha in size were the dominant parcel type in all three Districts, accounting for 59% of parcels absorbed in the Northwest District, 54% in the South/Southeast District and 69% in the Northeast District;
- In terms of total land area absorbed, parcels sized 2-5 ha accounted for 34% of industrial land absorbed City-wide, followed by 19% for parcels sized less than 1ha, 17% for parcels 1-2 ha in size, 16% for parcels 5-10 ha in size and 14% for parcels 10 ha or larger;
- Within the Northwest and South/Southeast Districts, parcels 2-5 ha in size accounted for the largest share of total land area absorbed, accounting for 45% and 30%, respectively; and
- In contrast, within the Northeast District, parcels measuring 10 ha or greater in size accounted for 87% of the total industrial land area absorbed.

Table 3-4
City of Edmonton
Industrial Lands Absorption by Parcel Size, 2001-2011

Parcel Size	Parcels		Land Area	
	Parcels (#)	Share of Parcels (%)	Ha	Share of Land Area (%)
Less than 1 ha	270	57%	145	19%
1 - 2 ha	95	20%	134	17%
2 - 5 ha	85	18%	269	34%
5 - 10 ha	19	4%	126	16%
10 ha and greater	5	1%	106	14%
Total	**474**	**100%**	**780**	**100%**

Source: Watson & Associates Economists Ltd., 2011

Table 3-5
Northwest District
Industrial Lands Absorption by Parcel Size, 2001-2011

Parcel Size	Parcels		Land Area	
	Parcels (#)	Share of Parcels (%)	Ha	Share of Land Area (%)
Less than 1 ha	139	59%	70	19%
1 - 2 ha	36	15%	51	14%
2 - 5 ha	50	21%	162	45%
5 - 10 ha	9	4%	64	18%
10 ha and greater	1	0%	13	4%
Total	**235**	**100%**	**360**	**100%**

Source: Watson & Associates Economists Ltd., 2011

Table 3-6
South/Southeast District
Industrial Lands Absorption by Parcel Size, 2001-2011

Parcel Size	Parcels		Land Area	
	Parcels (#)	Share of Parcels (%)	Ha	Share of Land Area (%)
Less than 1 ha	122	54%	70	20%
1 - 2 ha	58	26%	81	23%
2 - 5 ha	34	15%	104	30%
5 - 10 ha	10	4%	63	18%
10 ha and greater	2	1%	31	9%
Total	**226**	**100%**	**348**	**100%**

Source: Watson & Associates Economists Ltd., 2011

Table 3-7
Northeast District
Industrial Lands Absorption by Parcel Size, 2001-2011

Parcel Size	Parcels		Land Area	
	Parcels (#)	Share of Parcels (%)	Ha	Share of Land Area (%)
Less than 1 ha	9	69%	6	8%
1 - 2 ha	1	8%	1	1%
2 - 5 ha	1	8%	3	4%
5 - 10 ha	0	0%	0	0%
10 ha and greater	2	15%	63	87%
Total	**13**	**100%**	**72**	**100%**

Source: Watson & Associates Economists Ltd., 2011

3.5.4 Employment Density Trends

The average employment density on absorbed industrial lands between 2006 and 2010 is approximately 37 jobs per net ha (15 jobs per net acre), moderately higher than the existing City-wide average of 32 jobs per net ha (13 jobs per net acre). The higher employment density of newer development is largely influenced by key structural changes in the local economy over the past decade, including:

- Increased demand for more prestige industrial development, which typically has higher employment densities than general industrial development;
- Increase in "knowledge-based" economy – highly human capital intensive characterized by high employment densities;
- Growing demand in manufacturing and construction sectors which tend to have higher employment densities;
- Significant increases in industrial land values over the past decade which tend to improve land utilization and increase employment density.

3.6 Intensification

As part of the industrial absorption analysis, the Consulting Team also reviewed industrial building permit activity on existing developed industrial lands (identified as intensification) in relation to greenfield lands. An analysis of development over the 2001-2010 period determined that intensification of the City's developed industrial lands is occurring at a moderate level. As identified in Table 3-8, approximately 5% of the total new GFA on industrial lands over the 2001-2010 period occurred on developed parcels, largely underutilized parcels.

Table 3-8
City of Edmonton
Intensification of Industrial Lands , 2001-2010

	GFA (sq ft)	% of GFA Total
Intensification	1,121,395	5%
Development in greenfield areas	22,434,605	95%
Total New GFA on Industrial Lands	**23,556,000**	**100%**

Source: Watson & Associates Economists Ltd.

4. EDMONTON INDUSTRIAL LANDS STRUCTURE

4. EDMONTON INDUSTRIAL LANDS STRUCTURE

The City's three existing industrial districts (discussed in Chapter 3) are comprised of a series of industrial and mixed-use neighbourhoods, as delineated by the City of Edmonton. The neighbourhoods and their respective industrial lands which were included in the development of the industrial land structure profiles presented herein are identified in Table 4-1. Industrial neighbourhoods are comprised predominantly by industrial zoned lands, while mixed use neighbourhoods are typically in-transition areas between industrial and non-industrial areas and include a broad range of zoned lands including industrial, commercial and residential. The Northwest District is comprised of 41 neighbourhoods while the South/Southeast District includes 29 neighbourhoods. Meanwhile, the Northeast District encompasses two neighbourhoods.

Table 4-1
City of Edmonton
Neighbourhoods by District

	Northwest District	South/ Southeast District	Northeast District
Industrial Neighbourhoods	• ALBERTA PARK INDUSTRIAL • ARMSTRONG INDUSTRIAL • BONAVENTURE INDUSTRIAL • BROWN INDUSTRIAL • CARLETON SQUARE INDUSTRIAL • DOMINION INDUSTRIAL • EDMISTON INDUSTRIAL • GAGNON ESTATE INDUSTRIAL • GARSIDE INDUSTRIAL • HAGMANN ESTATE INDUSTRIAL • HAWIN PARK ESTATE INDUSTRIAL • HIGH PARK INDUSTRIAL • HUFF BREMNER ESTATE INDUSTRIAL • KENNEDALE INDUSTRIAL • LEWIS FARMS INDUSTRIAL • MCARTHUR INDUSTRIAL • MCNAMARA INDUSTRIAL • MISTATIM INDUSTRIAL • MITCHELL INDUSTRIAL • MORIN INDUSTRIAL • NORWESTER INDUSTRIAL • POUNDMAKER INDUSTRIAL • RAMPART INDUSTRIAL • SHEFFIELD INDUSTRIAL • STONE INDUSTRIAL • SUNWAPTA INDUSTRIAL • WEST SHEFFIELD INDUSTRIAL • WHITE INDUSTRIAL • WILSON INDUSTRIAL • WINTERBURN INDUSTRIAL AREA EAST • WINTERBURN INDUSTRIAL AREA WEST • YOUNGSTOWN INDUSTRIAL	• CORONET ADDITION INDUSTRIAL • CORONET INDUSTRIAL • DAVIES INDUSTRIAL EAST • DAVIES INDUSTRIAL WEST • ELLERSLIE INDUSTRIAL • GAINER INDUSTRIAL • GIRARD INDUSTRIAL • LAMBTON INDUSTRIAL • MAPLE RIDGE INDUSTRIAL • MCINTYRE INDUSTRIAL • MORRIS INDUSTRIAL • PAPASCHASE INDUSTRIAL • PARSONS INDUSTRIAL • PYLYPOW INDUSTRIAL • ROPER INDUSTRIAL • ROSEDALE INDUSTRIAL • SOUTHEAST INDUSTRIAL • STRATHCONA INDUSTRIAL PARK • WEIR INDUSTRIAL	• CLOVER BAR AREA • GORMAN INDUSTRIAL WEST
Mixed Use Neighbourhoods	• BELVEDERE • HOMESTEADER • INDUSTRIAL HEIGHTS • KINOKAMAU PLAINS AREA • MONTROSE • PLACE LARUE • SECORD • STEWART GREENS • YELLOWHEAD CORRIDOR EAST	• CALGARY TRAIL NORTH • CALGARY TRAIL SOUTH • CPR IRVINE • CPR WEST • EASTGATE BUSINESS PARK • DEVELOPMENT PARK • SUMMERSIDE	

Source: Watson & Associates Economists Ltd., 2011

The future industrial lands within the Edmonton Energy and Technology Park, though part of the City's long-term industrial land supply, were not subject to extensive examination herein. Instead, the Consulting Team relied on the recently completed Area Structure Plan for the Park for gross and net industrial land supply data and incorporated this into the summary tables.

Each neighbourhood was assessed in terms of its developed industrial land base, the amount of vacant zoned industrial lands by zoning classification and the amount of land that is districted for industrial uses but not currently zoned. To generate the industrial land structure profiles, the Consulting Team reviewed all parcels designated for industrial development within the City's three existing industrial districts. The City's industrial lands were inventoried in terms of a number of criteria, including:

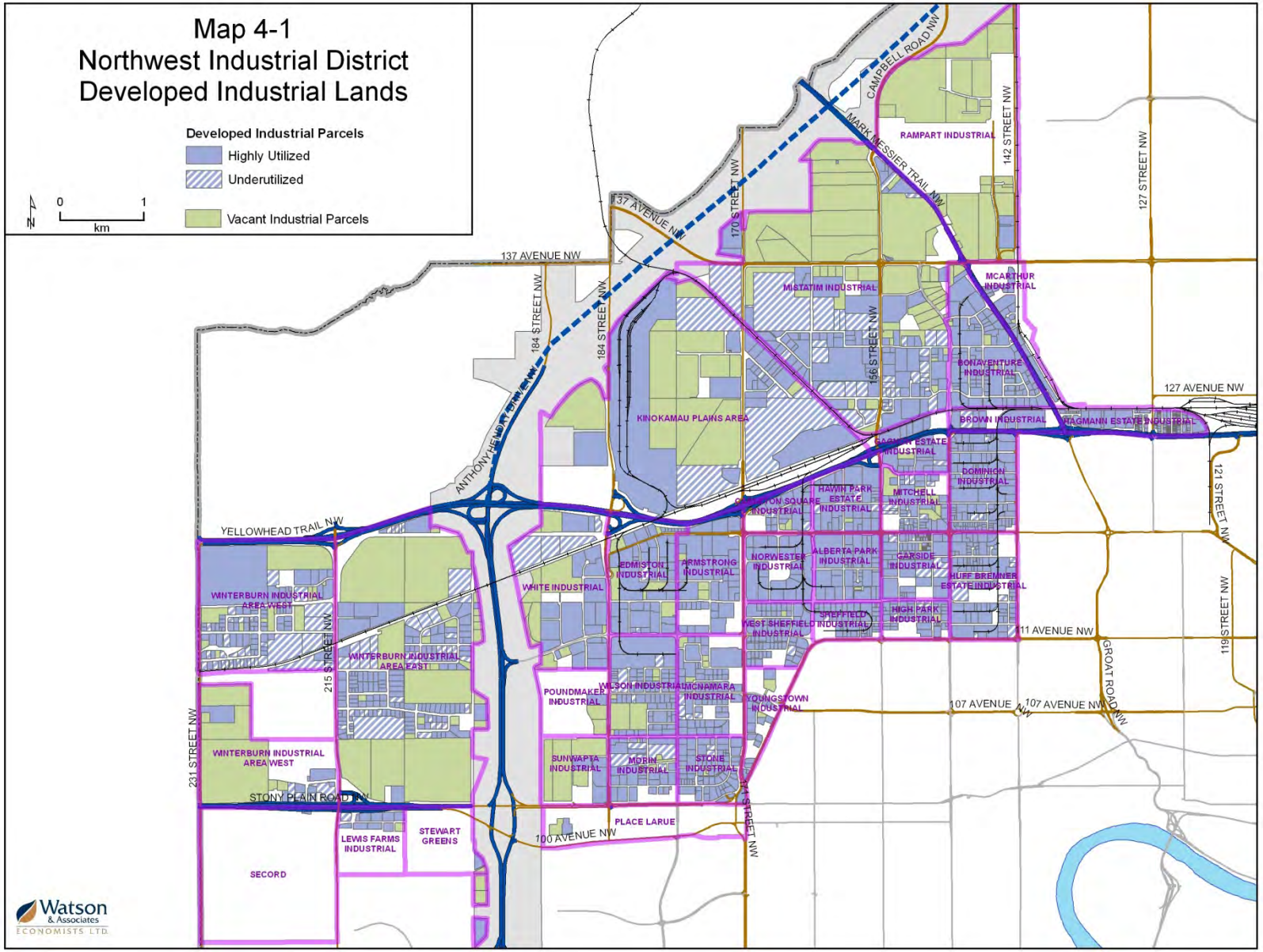
- Developed vs. vacant industrial lands;
- Zoning designation (i.e. zoned by class, districted but not zoned);
- Physical site data (e.g. site size); and
- Identification by street address, title and PGM.

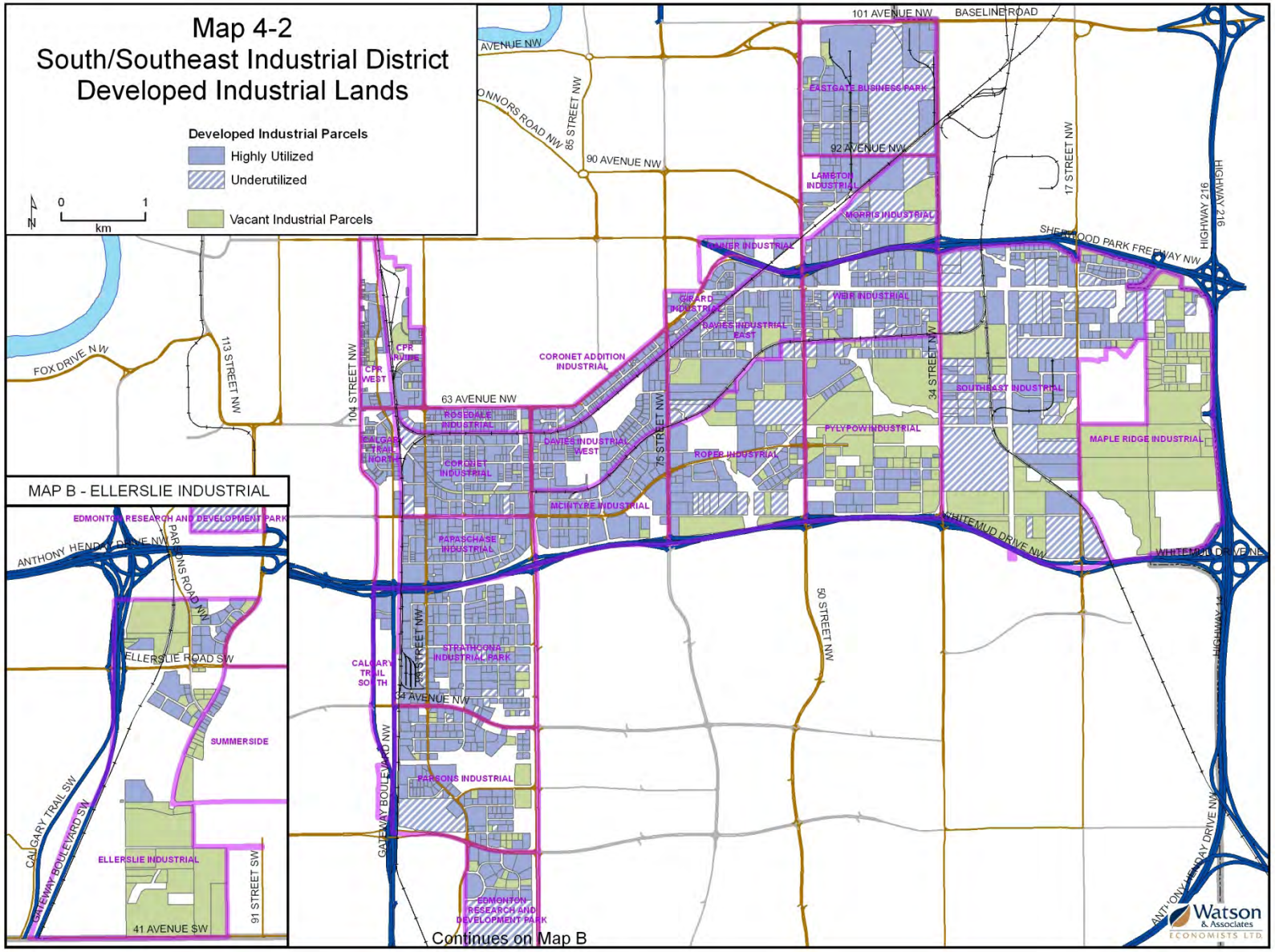
The industrial land structure analysis and data compilation used to assess and develop the industrial profiles for each of the City's industrial neighbourhoods was completed primarily through a desktop review using GIS mapping software. Spatial overlays utilized included parcel fabric (assessment and title parcels), zoning, building footprints, street network, hydrology, environmental constraints, reserve lands and orthophotos. Further, Area Structure Plans (ASP) and Neighbourhood Structure Plans (NSP) were reviewed in combination with ground truthing and primary research in select sites/areas where necessary.

The following provides a summary of the findings of this compilation with detailed tables. Further, a discussion on the supply of vacant industrial lands relative to recent industrial land absorption (discussed in Chapter 3) is also provided.

4.1 Developed Industrial Lands

The City of Edmonton has a total of 5,253 net ha (12,980 net acres) of developed industrial land of which 48% (2,434 net ha) is located in the Northwest District, 43% (2,327 net ha) in the South/Southeast District and 10% (491 net ha) in the Northeast District. Maps 4-1 through Maps 4-3 illustrate the geographic distribution of the developed industrial lands within the Northwest, South/Southeast and Northeast Districts, respectively, and their corresponding industrial neighbourhoods.


Map 4-1
Northwest Industrial District
Developed Industrial Lands
Developed Industrial Parcels
Highly Utilized
Underutilized
Vacant Industrial Parcels
0
1
km
CAMPBELL ROAD NW
MARK MESSIER TRAIL NW
137 AVENUE NW
170 STREET NW
142 STREET NW
127 STREET NW
RAMPART INDUSTRIAL
MISTATIM INDUSTRIAL
MCARTHUR INDUSTRIAL
184 STREET NW
156 STREET NW
BONAVENTURE INDUSTRIAL
127 AVENUE NW
KINOKAMAU PLAINS AREA
BROWN INDUSTRIAL
STAGMANN ESTATE INDUSTRIAL
ANTHONY HENDAY DRIVE NW
DOMINION INDUSTRIAL
MITCHELL INDUSTRIAL
HAWN PARK ESTATE INDUSTRIAL
YELLOWHEAD TRAIL NW
121 STREET NW
EDMISTON INDUSTRIAL
ARMSTRONG INDUSTRIAL
NORWESTER INDUSTRIAL
ALBERTA PARK INDUSTRIAL
CARSIDE INDUSTRIAL
HUFF BREMNER ESTATE INDUSTRIAL
WHITE INDUSTRIAL
WINTERBURN INDUSTRIAL AREA WEST
SHEFFIELD INDUSTRIAL
HIGH PARK INDUSTRIAL
WEST SHEFFIELD INDUSTRIAL
111 AVENUE NW
119 STREET NW
WINTERBURN INDUSTRIAL AREA EAST
215 STREET NW
POUNDMAKER INDUSTRIAL
WILSON INDUSTRIAL
MCNAMARA INDUSTRIAL
YOUNGSTOWN INDUSTRIAL
107 AVENUE NW
GROAT ROAD NW
231 STREET NW
WINTERBURN INDUSTRIAL AREA WEST
SUNWAPTA INDUSTRIAL
MORIN INDUSTRIAL
STONE INDUSTRIAL
STONY PLAIN ROAD NW
PLACE LARUE
100 AVENUE NW
LEWIS FARMS INDUSTRIAL
STEWART GREENS
SECORD
Watson & Associates ECONOMISTS LTD.


Map 4-2
South/Southeast Industrial District
Developed Industrial Lands
Developed Industrial Parcels
Highly Utilized
Underutilized
Vacant Industrial Parcels
0
1
km
MAP B - ELLERSLIE INDUSTRIAL
Continues on Map B
101 AVENUE NW
BASELINE ROAD
90 AVENUE NW
92 AVENUE NW
63 AVENUE NW
34 AVENUE NW
41 AVENUE SW
FOX DRIVE NW
113 STREET NW
104 STREET NW
85 STREET NW
75 STREET NW
50 STREET NW
34 STREET NW
17 STREET NW
91 STREET SW
ELLERSLIE ROAD SW
ANTHONY HENDAY DRIVE NW
CALGARY TRAIL SW
GATEWAY BOULEVARD SW
GATEWAY BOULEVARD NW
PARSONS ROAD NW
WHITEMUD DRIVE NW
SHERWOOD PARK FREEWAY NW
HIGHWAY 216
EASTGATE BUSINESS PARK
LAMETON INDUSTRIAL
MORRIS INDUSTRIAL
SHERWOOD INDUSTRIAL
GIRARD INDUSTRIAL
WEIR INDUSTRIAL
DAVIES INDUSTRIAL EAST
CORONET ADDITION INDUSTRIAL
SOUTHEAST INDUSTRIAL
PYLYPOW INDUSTRIAL
MAPLE RIDGE INDUSTRIAL
ROPER INDUSTRIAL
CPR MAINLINE
CPR WEST
ROSEDALE INDUSTRIAL
CALGARY TRAIL NORTH
CORONET INDUSTRIAL
DAVIES INDUSTRIAL WEST
MCINTYRE INDUSTRIAL
PAPASCHASE INDUSTRIAL
EDMONTON RESEARCH AND DEVELOPMENT PARK
STRATHCONA INDUSTRIAL PARK
CALGARY TRAIL SOUTH
PARSONS INDUSTRIAL
SUMMERSIDE
ELLERSLIE INDUSTRIAL
Watson & Associates
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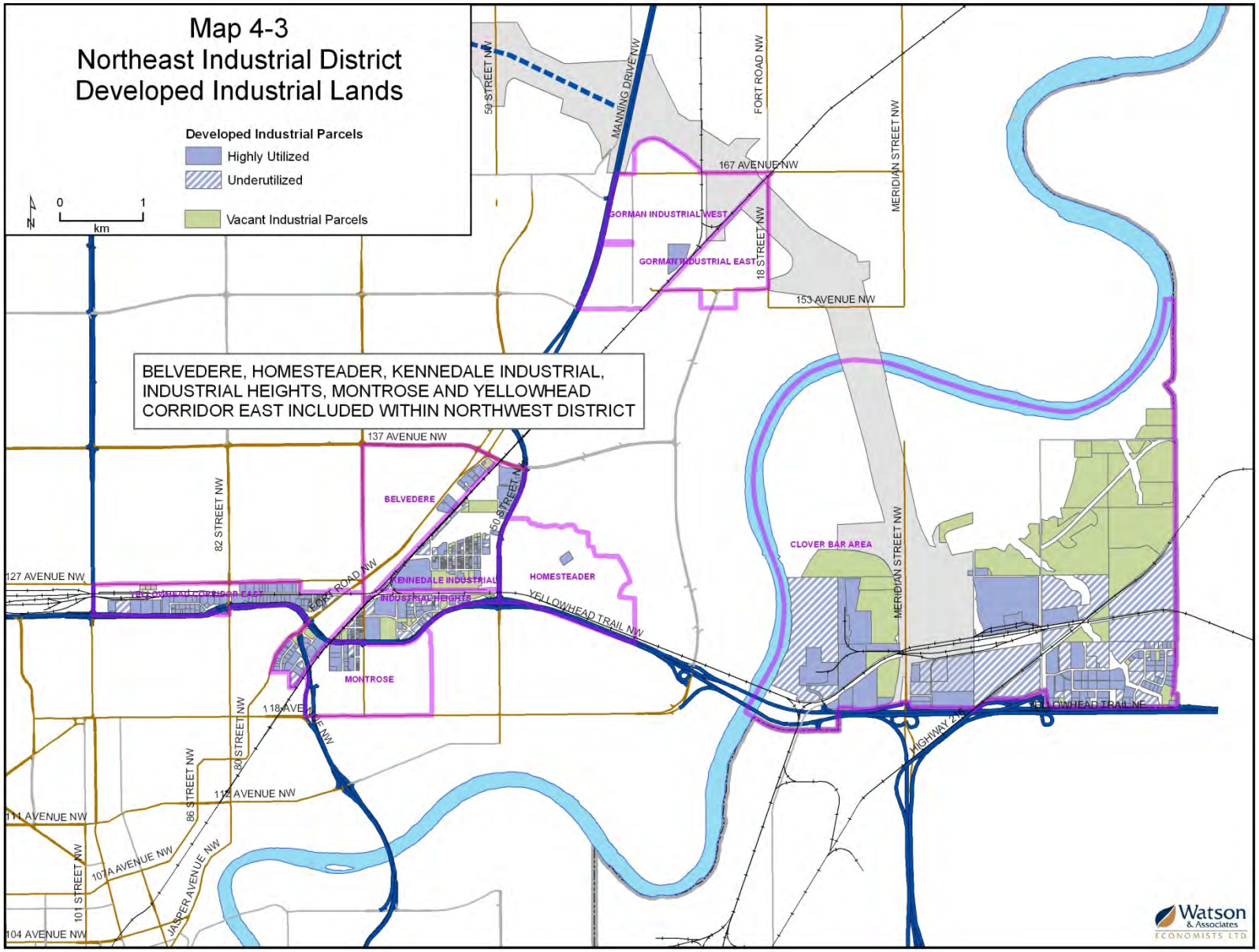
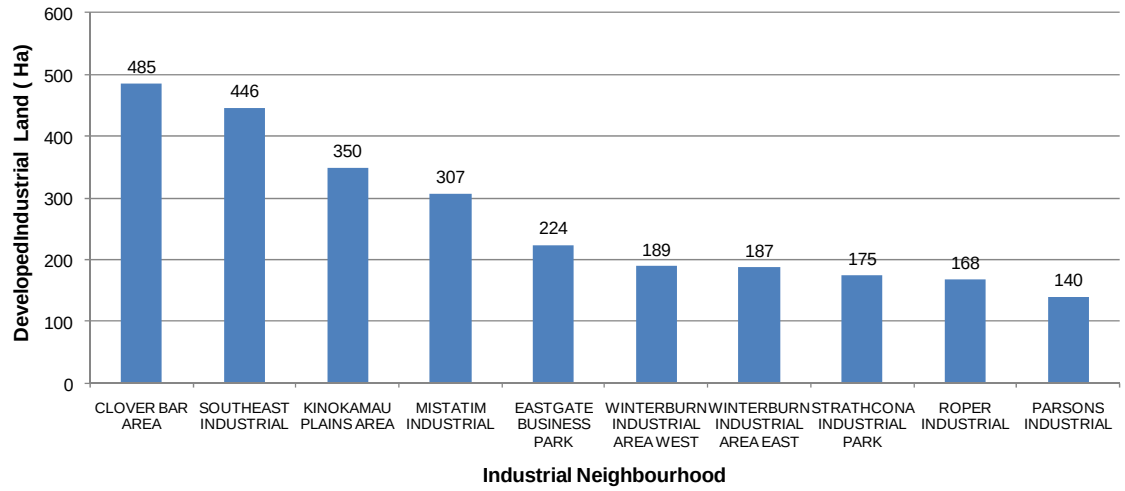

Map 4-3
Northeast Industrial District
Developed Industrial Lands
Developed Industrial Parcels
Highly Utilized
Underutilized
Vacant Industrial Parcels
0
1
km
BELVEDERE, HOMESTEADER, KENNEDALE INDUSTRIAL, INDUSTRIAL HEIGHTS, MONTROSE AND YELLOWHEAD CORRIDOR EAST INCLUDED WITHIN NORTHWEST DISTRICT
50 STREET NW
MANNING DRIVE NW
FORT ROAD NW
MERIDIAN STREET NW
167 AVENUE NW
GORMAN INDUSTRIAL WEST
GORMAN INDUSTRIAL EAST
18 STREET NW
153 AVENUE NW
137 AVENUE NW
82 STREET NW
BELVEDERE
50 STREET NW
CLOVER BAR AREA
127 AVENUE NW
YELLOWHEAD CORRIDOR EAST
KENNEDALE INDUSTRIAL
INDUSTRIAL HEIGHTS
HOMESTEADER
YELLOWHEAD TRAIL NW
MONTROSE
118 AVENUE NW
80 STREET NW
112 AVENUE NW
86 STREET NW
111 AVENUE NW
107A AVENUE NW
101 STREET NW
JASPER AVENUE NW
104 AVENUE NW
HIGHWAY 2
Watson & Associates ECONOMISTS LTD.

Figure 4-1 summarizes the neighbourhoods which have the largest inventory of developed industrial lands. As illustrated, the largest neighbourhoods in terms of developed industrial lands include the Clover Bar Area with 485 net ha, followed by Southeast Industrial (446 net ha), the Kinokamau Plains Area (350 net ha) and Mistatim Industrial (307 net ha). These neighbourhoods tend to have a large share of general industrial uses which are land expansive. A complete summary of the total developed land area by industrial neighbourhood, with a breakdown by zoning classification.

Figure 4-1
City of Edmonton
Largest Developed Industrial Land Inventory by Neighbourhood



Source: Watson & Economists Ltd., 2011

The identified developed industrial parcels were also subject to a high level assessment of utilization of developed sites to identify utilized vs. underutilized parcels. The following section provides a summary of key observations.

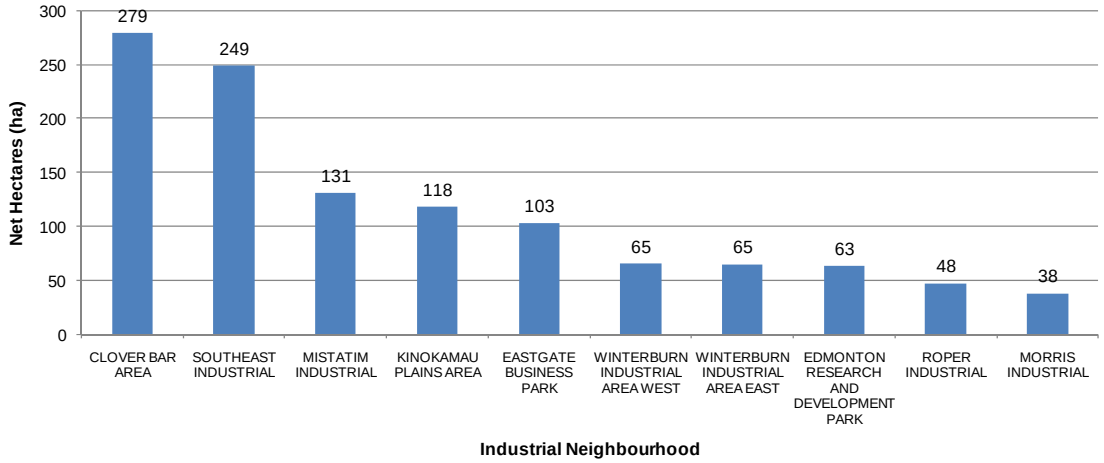
4.2 Underutilized Developed Industrial Lands

Though it was beyond the scope of this assignment to complete an industrial intensification study, the Consulting Team reviewed, on a high-level, the degree to which developed industrial sites are utilized. Through a desktop review, using the developed industrial parcels, building footprints and orthophotos overlays, the Consulting Team identified a total of 1,377 ha (3,403 acres) of developed industrial land within the City which are considered underutilized, which represents 26% of the total developed industrial land base. This reflects parcels which have relatively low building coverage or sites which are currently used exclusively for storage and/or parking. This included 495 ha (1,223 acres) within the Northwest District, 603 ha (1,490 acres) in the South/Southeast District and 279 ha (689 acres) in the Northeast District. Figure 4-2 summarizes the industrial neighbourhoods with the largest amount of identified underutilized

lands. Figure 4-3 summarizes the neighbourhoods with the highest proportionate share of underutilized land relative to the total developed industrial land base. Maps 4-1 through 4-3 illustrate the geographic location of the underutilized parcels identified within the Northwest, South/Southeast and Northeast Districts, respectively. Key observations include:

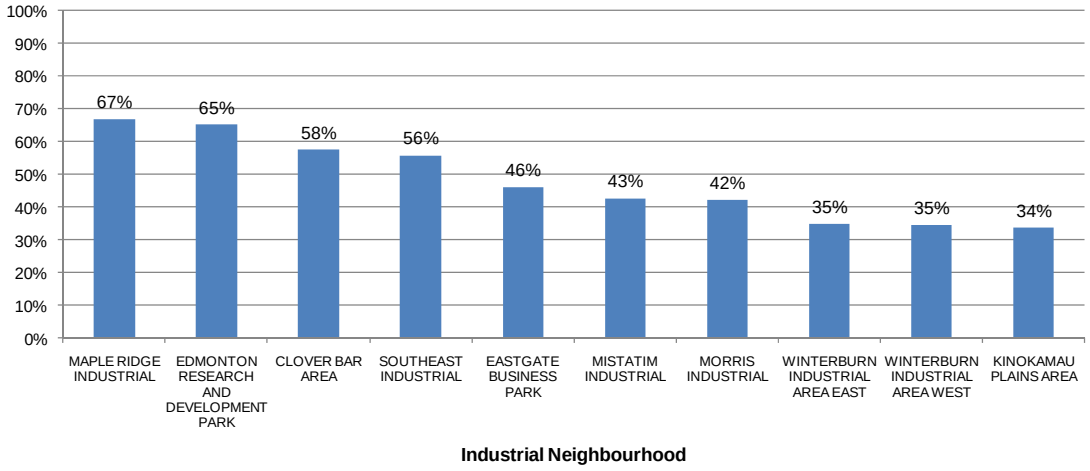
- The Clover Bar Area and Southeast Industrial neighbourhoods have the highest amount of underutilized industrial lands, totalling 279 and 249 ha, respectively. The Clover Bar Area and Southeast Industrial Area are comprised largely of land expansive medium and heavy industrial uses which include many larger parcels which are poorly utilized;
- Neighbourhoods with the largest share of underutilized lands as a share of total developed industrial lands include Maple Ridge Industrial (67%), Edmonton Research and Development Park (65%), the Clover Bar Area (58%) and Southeast Industrial (56%).

Figure 4-2
City of Edmonton
Underutilized Industrial Lands by Neighbourhood



Source: Watson & Associates Economists Ltd., 2011

Figure 4-3
City of Edmonton
Underutilized Industrial Lands as a Share of Total Developed Industrial Land



Source: Watson & Associates Economists Ltd., 2011

Given the large number of identified underutilized parcels, a wide array of opportunities for intensification exists. Intensification can take a number of forms, including development of underutilized lots (infill) and the expansion (horizontal or vertical) of existing buildings.

In addition to accommodating future employment growth, intensification offers the potential to optimize land utilization on existing employment lands which can lead to more effective use of existing infrastructure (roads, water/sewer servicing, etc.), increased employment densities, a built form that is more conducive for public transit, and communities that are more functional, complete and aesthetically pleasing.

Identifying and evaluating intensification opportunities against market demand are significant tasks. Furthermore, the intensification potential of the underutilized industrial lands will largely be determined by future development plans of existing or future landowners of these identified sites and results would still be subject to a high degree of market uncertainty. To effectively assess and evaluate intensification potential and opportunities in Edmonton, a comprehensive City-wide industrial lands intensification strategy is required, which is beyond the scope of this study. A "stand-alone" industrial lands intensification strategy would involve a site-by-site analysis of potential intensification sites that would include, but not be limited to:

- Assessment of site conditions (e.g. contamination);
- Parcel configuration/size;
- Suitability of building stock for expansion (where applicable);
- Parcel ownership and landowner intentions, future development/expansion;
- Land use zoning, possible restrictions on use, etc.;

- Review of infrastructure (e.g. condition, capacity); and
- The potential for severance of unutilized portions of lots for new development.

A summary of the total parcels (and land area) identified as underutilized lots is provided.

4.3 Vacant Industrial Land Inventory

A major factor in the future competitiveness of Edmonton's economic base is the supply and quality of its industrial lands. This section provides a comprehensive assessment of the City's vacant developable industrial land supply by District and neighbourhood, zoning designation and parcel size. Further, the methodology and approach undertaken to compile the vacant industrial land inventory is documented in Appendix A.

4.3.1 Net Developable Vacant Industrial Land Inventory

This section provides an assessment of the City's vacant industrial land supply by industrial District and neighbourhood, in terms of what is both vacant and developable. This assessment builds on and updates the Edmonton Industrial Vacant Land Supply analysis report prepared by the City of Edmonton in December, 2009.

To complete this analysis, steps were taken to appropriately net down the gross vacant industrial land inventory, where applicable, to a net developable figure for the City's long-term planning purposes.

Table 4-2 summarizes total gross and net vacant industrial lands supply for the City of Edmonton (as of May 2011) by Industrial District. As illustrated, the City has 2,515 gross ha (6,214 gross acres) of vacant industrial land, excluding the Edmonton Energy and Technology Park. With the Edmonton and Technology Park, the total gross supply increases to 7,071 ha (17,472 acres). Table 4-3 summarizes the net developable vacant industrial lands supply within the City. The following highlights the steps taken to identify the net vacant industrial land supply and net developable vacant industrial land supply.

Table 4-2
City of Edmonton
Supply of Net Vacant Industrial Lands (ha) (As of May, 2011)

Industrial District	Total Gross Vacant (A)	Reserve Lands (B)[1]	Environmental Constraints (C)[2]	Major Utilities Corridors (D)	Adjustment for Roads and other Internal Infrastructure (E)[3]	Net Vacant Industrial Land Supply (F = A-B-C-D-E)
Northwest Industrial District	1,266	16	76	0	339	834
South/Southeast Industrial District	908	18	16	13	208	653
Northeast Industrial District	341	0	35	23	96	187
Total (without Edmonton Energy & Technology Park	**2,515**	**34**	**127**	**36**	**643**	**1,675**
Edmonton Energy & Technology Park[4]	4,556					3,311
Total (with Edmonton Energy & Technology Park	**7,071**					**4,986**

Source: Watson & Associates Economists Ltd.

1. Reflects vacant industrial zoned lands that are reserved as Municipal Reserves or Public Utility Reserve Lands

2. Reflects environmental takeout of vacant industrial lands encroached by environmentally sensitive lands identified through Environmentally Sensitive Areas - Natural Areas (ESA) and North Saskatchew an River Valley and Ravine System and Flood Plain Control overlays and hydrological features.

3. A dow nw ard adjustment of 35% to subdivided parcels and urban reserve lands (after environmental takeouts) has been applied to account for internal infrastructure and municipal reserve requirements.

4. Edmonton Energy and Technology Park gross and vacant land areas derived from Edmonton Energy and Technology Park Area Structure Plan, December 2009, Office Consolidation, May 2011.

Table 4-3
City of Edmonton
Supply of Net Developable Vacant Industrial Lands (As of May, 2011)

Industrial District	Net Vacant Industrial Land Supply (A)	Unlikely to Develop Due to Physical Constraints (B)[1]	Unlikely to Develop Due to Existing Non-Industrial Land Uses (C)	Net Developable Vacant Industrial Land Supply (D = A-B-C)	Long-term Land Vacancy Adjustment (E)[2]	Net Developable Vacant Industrial Land Supply Adjusted for Long-Term Vacancy (F = D - E)
Northwest Industrial District	834	2	32	801	120	680
South/Southeast Industrial District	653	14	25	615	92	523
Northeast Industrial District	187	3	0	185	28	157
Total (without Edmonton Energy & Technology Park	**1,675**	**19**	**56**	**1,600**	**240**	**1,360**
Edmonton Energy & Technology Park	3,311			3,311	497	2,814
Total (with Edmonton Energy & Technology Park	**4,986**			**4,911**	**737**	**4,175**

Source: Watson & Associates Economists Ltd.

1. Reflects sites unlikely to develop due to small size,site configuration and access.

2. Long-term employment land vacancy adjustment - 15% of net developable vacant lands. Accounts for employment land sites, w hich may not develop over the long-term (i.e. 2021) due to underutilization of employment sites and sites inactive/land banking.

Non-Developable Lands/Features

Within the gross industrial land inventory (excluding the Edmonton Energy and Technology Park) presented in Table 4-2, 27 parcels were identified as City of Edmonton reserve lands (i.e. municipal reserve and public utility reserve lots) totalling 34 ha (85 acres) and were removed from the inventory and from any further analysis.

The supply of vacant industrial lands, excluding the Edmonton Energy and Technology Park, has also been adjusted to exclude Environmentally Sensitive Areas based on the City of Edmonton Natural Areas Inventory and North Saskatchewan River Valley and Ravine System. In addition, hydrological features, such as lakes and ponds were removed from the inventory. Collectively, a total of 127 ha (313 acres) of Environmentally Sensitive Areas and hydrological features were removed from the vacant industrial land supply. The environmental takeouts/hydrological features impacting industrial lands are located primarily in the Northwest and Northeast Districts. Further, major utilities corridors, consisting of oil/gas pipelines located in the Northeast and South/Southeast Districts, were also considered, reducing the total inventory by an additional 36 ha (88 acres).

For larger non-subdivided vacant lands districted for future industrial use and urban reserve lands (i.e. AGI, AG), it is estimated that, after adjusting the gross supply (net of environmental and hydrological features) for internal roads, stormwater, open space, easements/corridors and municipal reserve requirements, the net industrial land supply would be approximately 65% of the gross inventory. Accordingly, larger vacant parcels (i.e. typically 10 ha or greater) were subject to an additional downward adjustment with a net to gross adjustment of 65%, removing 643 ha (1,588 acres) from the vacant industrial land inventory.

In accordance with the aforementioned adjustments, the City's net vacant industrial land supply, excluding the Edmonton Energy and Technology Park, is estimated at 1,675 net hectares (4,139 net acres), as summarized in Table 4-2. With the Edmonton Research and Technology Park, which has a net vacant industrial inventory of 3,311 ha (based on the ASP), the City-wide net vacant industrial land supply is 4,986 net ha (12,321 net acres).

Developable Vacant Industrial Lands Inventory

Some vacant parcels, due to small size, fragmentation, odd configuration, access issues, etc., will likely not develop. Based on a broad level review of zoned industrial lands, 73 parcels were identified as unlikely to develop due to these physical constraints. This reduces the total vacant industrial land inventory by 19 net ha (46 net acres), as summarized in Table 4-3. Further, the Consulting Team identified a number of AGI designated parcels that currently have existing non-industrial uses and are considered unlikely to redevelop into industrial uses over the next decade. This includes the AGI (Industrial Reserve) lands which encompass the Twin Willows

golf course in the Mistatim Industrial Area and Hurstwood Park rural residential subdivision located within the Maple Ridge neighbourhood. Collectively, these total 56 net ha (139 net acres). Reflecting the identified lands which are unlikely to develop over the forecast period, the developable vacant industrial land inventory (excluding the Edmonton Energy and Technology Park) totals 1,600 net ha (3,954 net acres).

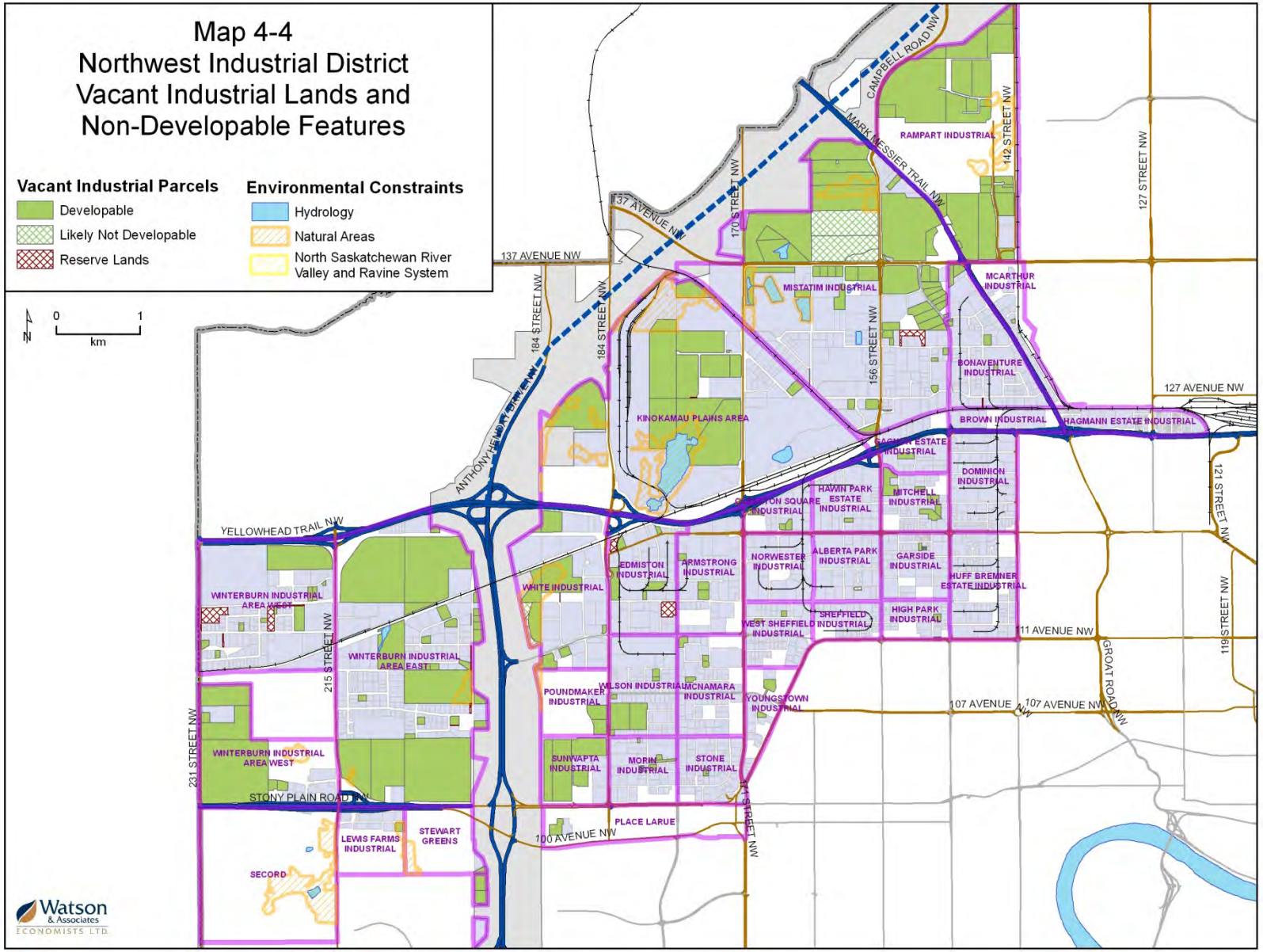
Adjustment for Long-Term Vacancy

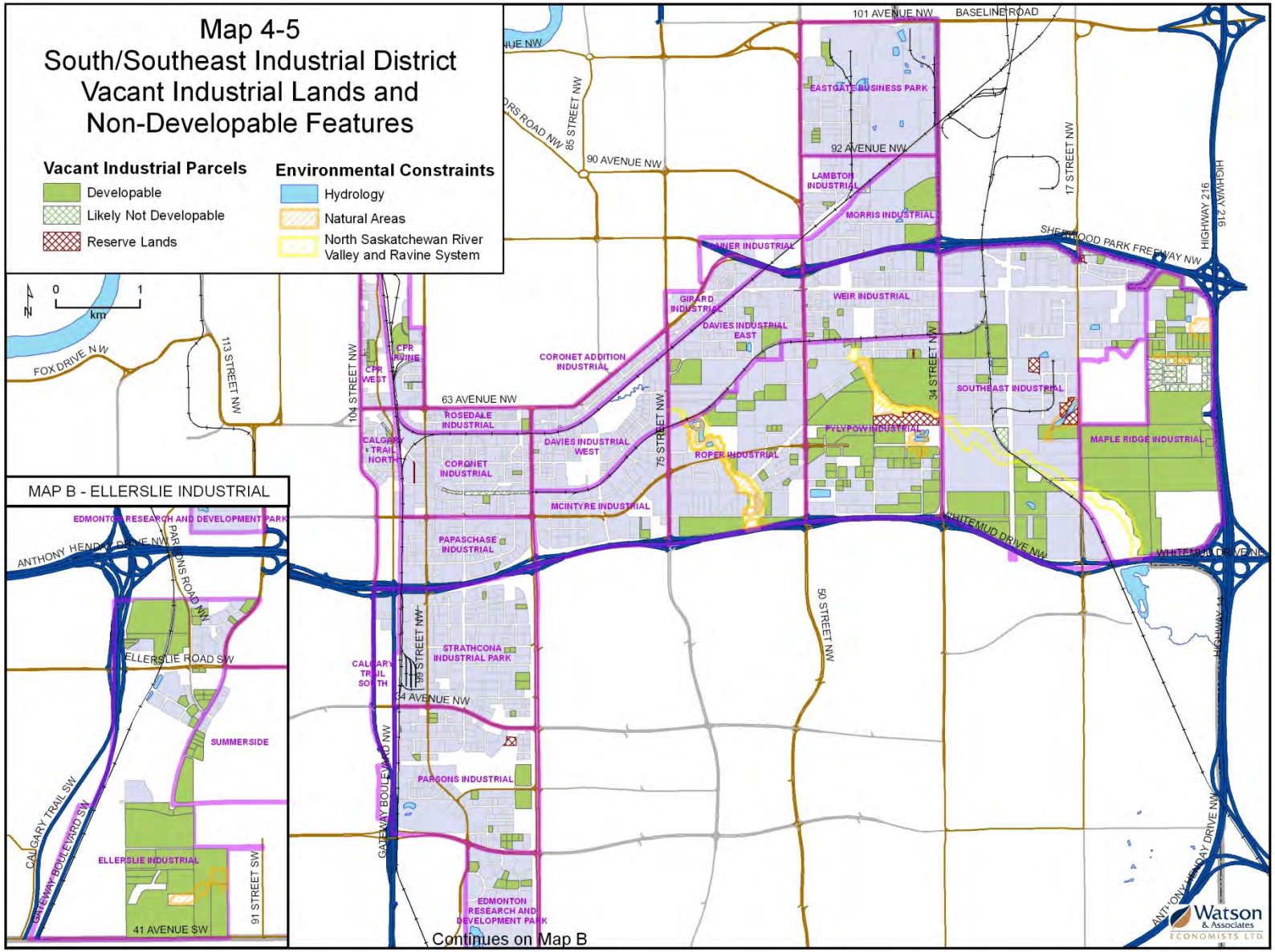
Long-term land vacancy is a common characteristic which is experienced in industrial parks throughout the City of Edmonton, the Capital Region and elsewhere in Canada. This reflects sites which are unlikely to develop to their full capacity due to underutilization of future development and parcel inactivity/land banking, which may tie up potentially vacant and developable lands. While these observations largely apply to Edmonton's more mature industrial areas, over the next decade it is foreseeable that the City's newer industrial areas, as they mature, will also begin to exhibit these characteristics. For the purpose of this analysis, an estimate of 15% long-term land vacancy has been applied to the net developable vacant industrial land inventory. Adjusted for land vacancy, the City's net developable vacant industrial land supply, excluding the Edmonton Energy and Technology Park, is 1,360 net hectares (3,361 net acres), as summarized in Table 4-3. With the Edmonton Energy and Technology Park, the City-wide net developable vacant industrial land supply totals 4,175 net ha (10,315 net acres).

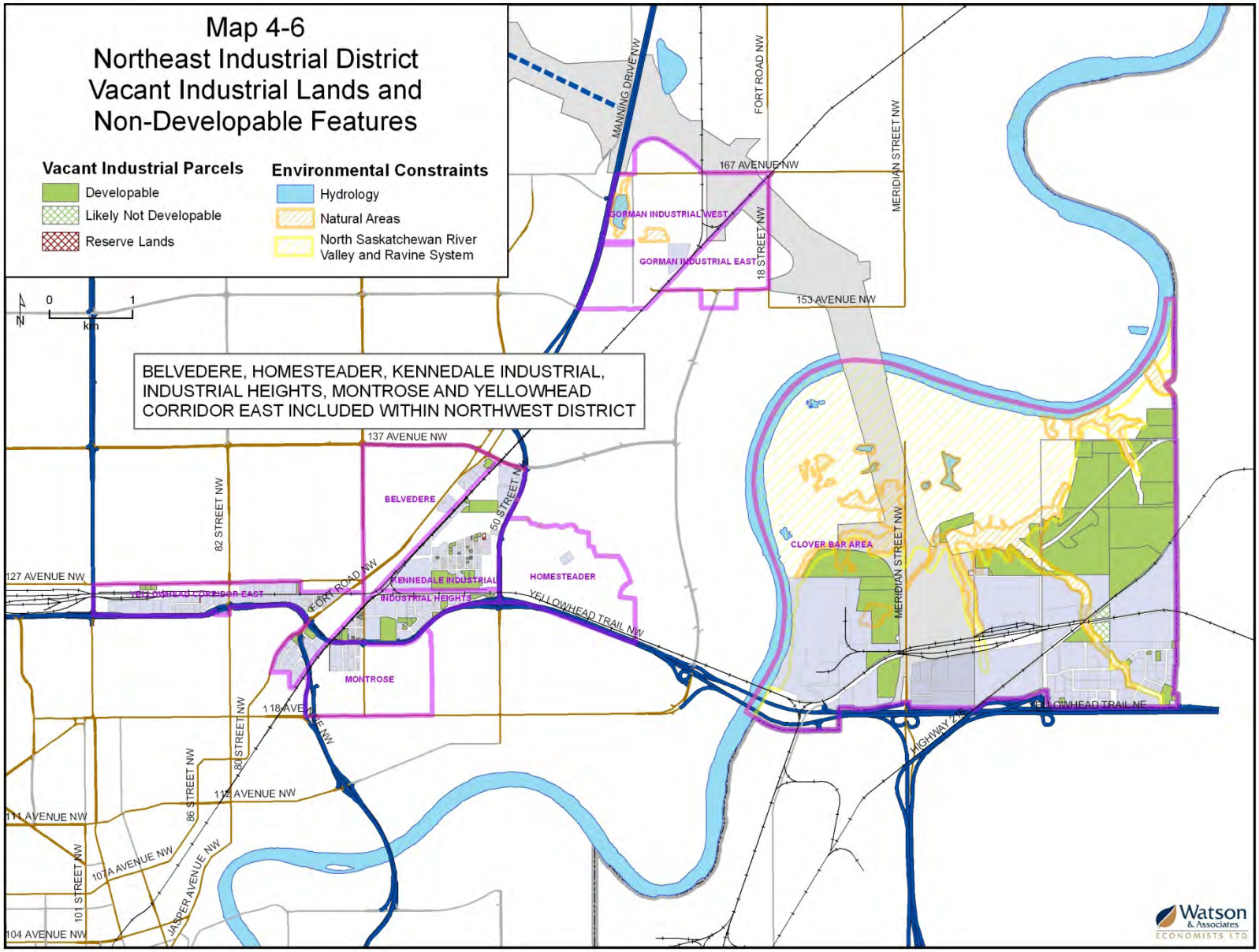
Maps 4-4 through 4-6 illustrate the geographic location of the City's industrial land supply (vacant as of May, 2011) within the Northwest, South/Southeast and Northeast Districts, respectively. This includes the corresponding non-developable lands (i.e. reserve lands) and non-developable features (i.e. environmental features) discussed above. Maps 4-7 through 4-9 illustrate the developable vacant industrial lands by zone class within the Northwest, South/Southeast and Northeast Districts, respectively.

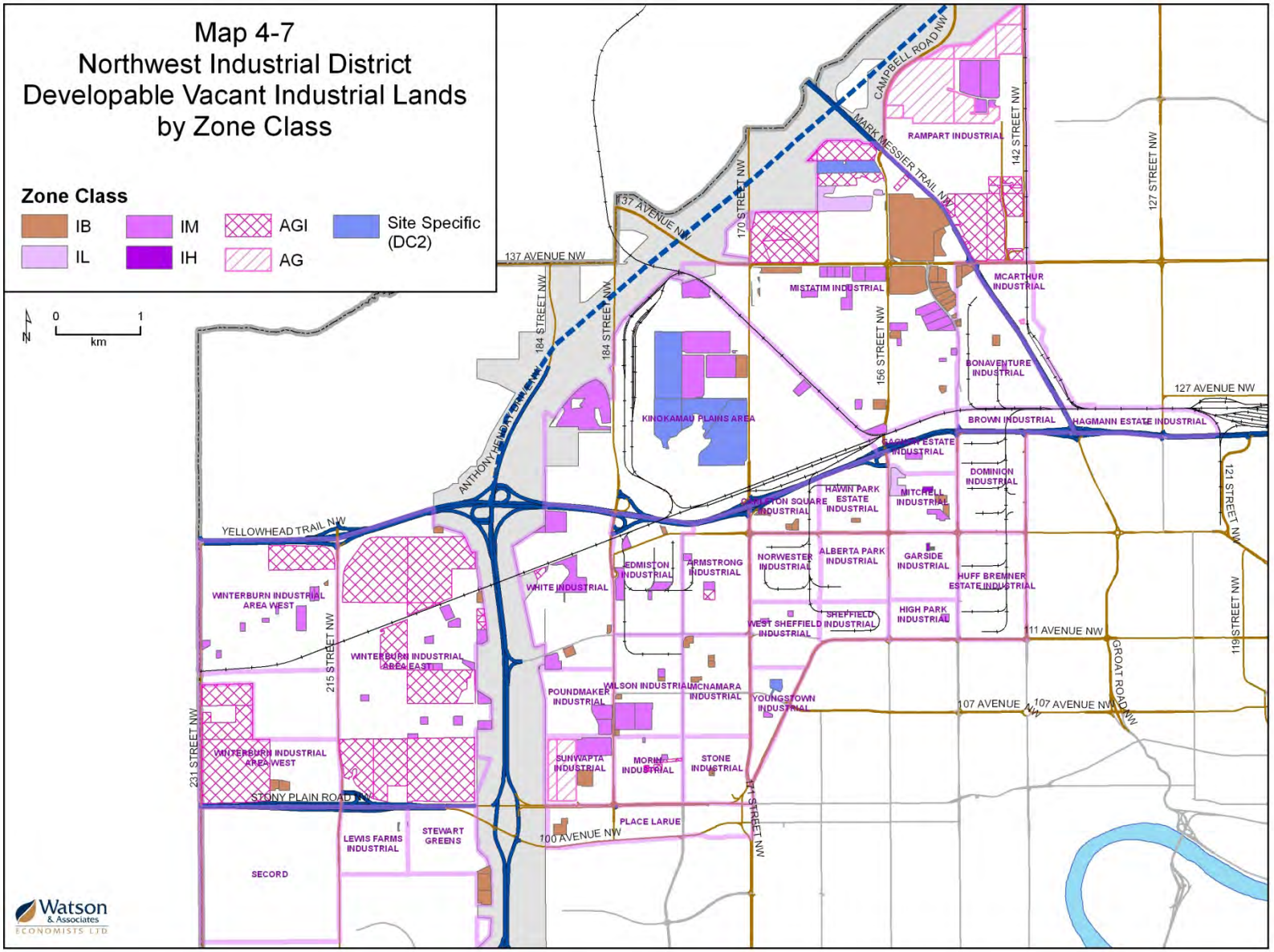
4.3.2 Summary of Net Developable Vacant Industrial Land by District/ Neighbourhood

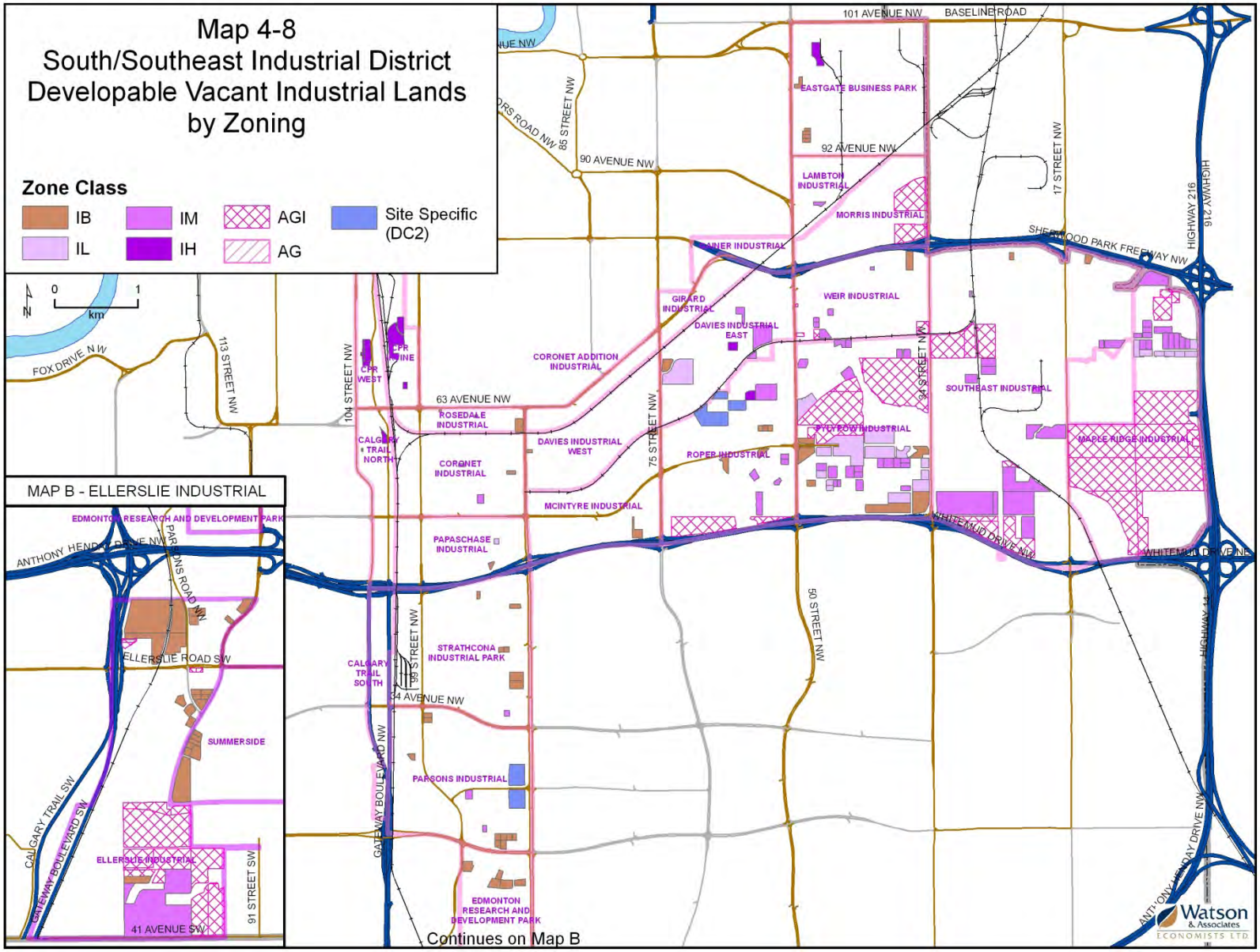
Figure 4-3 summarizes the share of net developable vacant industrial land by Industrial District. As illustrated, the largest share (50%) is situated in the Northwest District. In comparison, the South/Southeast and Northeast Industrial Districts account for 38% and 12%, respectively.


Map 4-4
Northwest Industrial District
Vacant Industrial Lands and
Non-Developable Features
Vacant Industrial Parcels
Developable
Likely Not Developable
Reserve Lands
Environmental Constraints
Hydrology
Natural Areas
North Saskatchewan River Valley and Ravine System
0
1
km
CAMPBELL ROAD NW
MARK MESSIER TRAIL NW
137 AVENUE NW
170 STREET NW
142 STREET NW
127 STREET NW
184 STREET NW
156 STREET NW
121 STREET NW
119 STREET NW
127 AVENUE NW
111 AVENUE NW
107 AVENUE NW
100 AVENUE NW
GROAT ROAD NW
ANTHONY HENDAY DRIVE NW
YELLOWHEAD TRAIL NW
215 STREET NW
231 STREET NW
STONY PLAIN ROAD NW
RAMPART INDUSTRIAL
MISTATIM INDUSTRIAL
MCARTHUR INDUSTRIAL
BONAVENTURE INDUSTRIAL
KINOKAMAU PLAINS AREA
BROWN INDUSTRIAL
HAGMANN ESTATE INDUSTRIAL
DOMINION INDUSTRIAL
HAWIN PARK ESTATE INDUSTRIAL
MITCHELL INDUSTRIAL
EDMISTON INDUSTRIAL
ARMSTRONG INDUSTRIAL
NORWESTER INDUSTRIAL
ALBERTA PARK INDUSTRIAL
GARSIDE INDUSTRIAL
HUFF BREMNER ESTATE INDUSTRIAL
WHITE INDUSTRIAL
SHEFFIELD INDUSTRIAL
WEST SHEFFIELD INDUSTRIAL
HIGH PARK INDUSTRIAL
WINTERBURN INDUSTRIAL AREA WEST
WINTERBURN INDUSTRIAL AREA EAST
POUNDMAKER INDUSTRIAL
WILSON INDUSTRIAL
MCNAMARA INDUSTRIAL
YOUNGSTOWN INDUSTRIAL
SUNWAPTA INDUSTRIAL
MORIN INDUSTRIAL
STONE INDUSTRIAL
PLACE LARUE
LEWIS FARMS INDUSTRIAL
STEWART GREENS
SECORD
Watson & Associates ECONOMISTS LTD.


Map 4-5
South/Southeast Industrial District
Vacant Industrial Lands and
Non-Developable Features
Vacant Industrial Parcels
Developable
Likely Not Developable
Reserve Lands
Environmental Constraints
Hydrology
Natural Areas
North Saskatchewan River Valley and Ravine System
MAP B - ELLERSLIE INDUSTRIAL
Continues on Map B
101 AVENUE NW
BASELINE ROAD
92 AVENUE NW
90 AVENUE NW
63 AVENUE NW
34 AVENUE NW
41 AVENUE SW
85 STREET NW
17 STREET NW
34 STREET NW
50 STREET NW
75 STREET NW
104 STREET NW
113 STREET NW
91 STREET SW
FOX DRIVE NW
ELLERSLIE ROAD SW
PARSONS ROAD NW
GATEWAY BOULEVARD NW
CALGARY TRAIL SW
SHERWOOD PARK FREEWAY NW
WHITEMUD DRIVE NW
HIGHWAY 216
HIGHWAY 14
EASTGATE BUSINESS PARK
LAMBTON INDUSTRIAL
MORRIS INDUSTRIAL
BANNER INDUSTRIAL
GIRARD INDUSTRIAL
WEIR INDUSTRIAL
DAVIES INDUSTRIAL EAST
CORONET ADDITION INDUSTRIAL
SOUTHEAST INDUSTRIAL
PYLYPOW INDUSTRIAL
MAPLE RIDGE INDUSTRIAL
ROSEDALE INDUSTRIAL
DAVIES INDUSTRIAL WEST
ROPER INDUSTRIAL
CORONET INDUSTRIAL
MCINTYRE INDUSTRIAL
PAPASCHASE INDUSTRIAL
STRATHCONA INDUSTRIAL PARK
PARSONS INDUSTRIAL
EDMONTON RESEARCH AND DEVELOPMENT PARK
SUMMERSIDE
ELLERSLIE INDUSTRIAL
CPR WEST
CPR MAINE
CALGARY TRAIL NORTH
CALGARY TRAIL SOUTH
Watson & Associates ECONOMISTS LTD.


Map 4-6
Northeast Industrial District
Vacant Industrial Lands and
Non-Developable Features
Vacant Industrial Parcels
Developable
Likely Not Developable
Reserve Lands
Environmental Constraints
Hydrology
Natural Areas
North Saskatchewan River Valley and Ravine System
N
0
1
km
BELVEDERE, HOMESTEADER, KENNEDALE INDUSTRIAL, INDUSTRIAL HEIGHTS, MONTROSE AND YELLOWHEAD CORRIDOR EAST INCLUDED WITHIN NORTHWEST DISTRICT
MANNING DRIVE NW
FORT ROAD NW
MERIDIAN STREET NW
167 AVENUE NW
GORMAN INDUSTRIAL WEST
GORMAN INDUSTRIAL EAST
18 STREET NW
153 AVENUE NW
137 AVENUE NW
82 STREET NW
BELVEDERE
50 STREET NW
CLOVER BAR AREA
127 AVENUE NW
YELLOWHEAD CORRIDOR EAST
KENNEDALE INDUSTRIAL
INDUSTRIAL HEIGHTS
HOMESTEADER
YELLOWHEAD TRAIL NW
MONTROSE
118 AVENUE NW
80 STREET NW
112 AVENUE NW
86 STREET NW
111 AVENUE NW
107A AVENUE NW
101 STREET NW
JASPER AVENUE NW
104 AVENUE NW
HIGHWAY 2
YELLOWHEAD TRAIL NE
Watson & Associates ECONOMISTS LTD.


Map 4-7
Northwest Industrial District
Developable Vacant Industrial Lands
by Zone Class
Zone Class
IB
IM
AGI
Site Specific (DC2)
IL
IH
AG
0
1
km
CAMPBELL ROAD NW
MARK MESSIER TRAIL NW
137 AVENUE NW
170 STREET NW
142 STREET NW
127 STREET NW
RAMPART INDUSTRIAL
MISTATIM INDUSTRIAL
MCARTHUR INDUSTRIAL
BONAVENTURE INDUSTRIAL
127 AVENUE NW
184 STREET NW
156 STREET NW
KINOKAMAU PLAINS AREA
BROWN INDUSTRIAL
HAGMANN ESTATE INDUSTRIAL
ANTHONY HENDAY DRIVE NW
DOMINION INDUSTRIAL
121 STREET NW
HAWIN PARK ESTATE INDUSTRIAL
MITCHELL INDUSTRIAL
YELLOWHEAD TRAIL NW
NORWESTER INDUSTRIAL
ALBERTA PARK INDUSTRIAL
GARSIDE INDUSTRIAL
HUFF BREMNER ESTATE INDUSTRIAL
EDMISTON INDUSTRIAL
ARMSTRONG INDUSTRIAL
WHITE INDUSTRIAL
WINTERBURN INDUSTRIAL AREA WEST
SHEFFIELD INDUSTRIAL
HIGH PARK INDUSTRIAL
WEST SHEFFIELD INDUSTRIAL
111 AVENUE NW
119 STREET NW
215 STREET NW
WINTERBURN INDUSTRIAL AREA EAST
WILSON INDUSTRIAL
MCNAMARA INDUSTRIAL
POUNDMAKER INDUSTRIAL
YOUNGSTOWN INDUSTRIAL
107 AVENUE NW
GROAT ROAD NW
231 STREET NW
WINTERBURN INDUSTRIAL AREA WEST
SUNWAPTA INDUSTRIAL
MORIN INDUSTRIAL
STONE INDUSTRIAL
STONY PLAIN ROAD NW
PLACE LARUE
100 AVENUE NW
LEWIS FARMS INDUSTRIAL
STEWART GREENS
SECORD
Watson & Associates ECONOMISTS LTD


Map 4-8
South/Southeast Industrial District
Developable Vacant Industrial Lands
by Zoning
Zone Class
IB
IM
AGI
Site Specific (DC2)
IL
IH
AG
0
1
km
MAP B - ELLERSLIE INDUSTRIAL
EDMONTON RESEARCH AND DEVELOPMENT PARK
ANTHONY HENDAY DRIVE NW
PARSONS ROAD NW
ELLERSLIE ROAD SW
SUMMERSIDE
CALGARY TRAIL SW
GATEWAY BOULEVARD SW
ELLERSLIE INDUSTRIAL
91 STREET SW
41 AVENUE SW
101 AVENUE NW
BASELINE ROAD
EASTGATE BUSINESS PARK
92 AVENUE NW
90 AVENUE NW
85 STREET NW
17 STREET NW
LAMBTON INDUSTRIAL
MORRIS INDUSTRIAL
SHERWOOD PARK FREEWAY NW
HIGHWAY 216
GIRARD INDUSTRIAL
WEIR INDUSTRIAL
DAVIES INDUSTRIAL EAST
CORONET ADDITION INDUSTRIAL
113 STREET NW
FOX DRIVE NW
104 STREET NW
CPR WEST
CPR MAINE
63 AVENUE NW
ROSEDALE INDUSTRIAL
CALGARY TRAIL NORTH
CORONET INDUSTRIAL
DAVIES INDUSTRIAL WEST
75 STREET NW
94 STREET NW
SOUTHEAST INDUSTRIAL
CLOVERDALE INDUSTRIAL
MAPLE RIDGE INDUSTRIAL
ROPER INDUSTRIAL
MCINTYRE INDUSTRIAL
WHITEMUD DRIVE NW
WHITEMUD DRIVE NE
PAPASCHASE INDUSTRIAL
50 STREET NW
99 STREET NW
STRATHCONA INDUSTRIAL PARK
CALGARY TRAIL SOUTH
34 AVENUE NW
GATEWAY BOULEVARD NW
PARSONS INDUSTRIAL
EDMONTON RESEARCH AND DEVELOPMENT PARK
ANTHONY HENDAY DRIVE NW
HIGHWAY 14
Continues on Map B
Watson & Associates ECONOMISTS LTD.

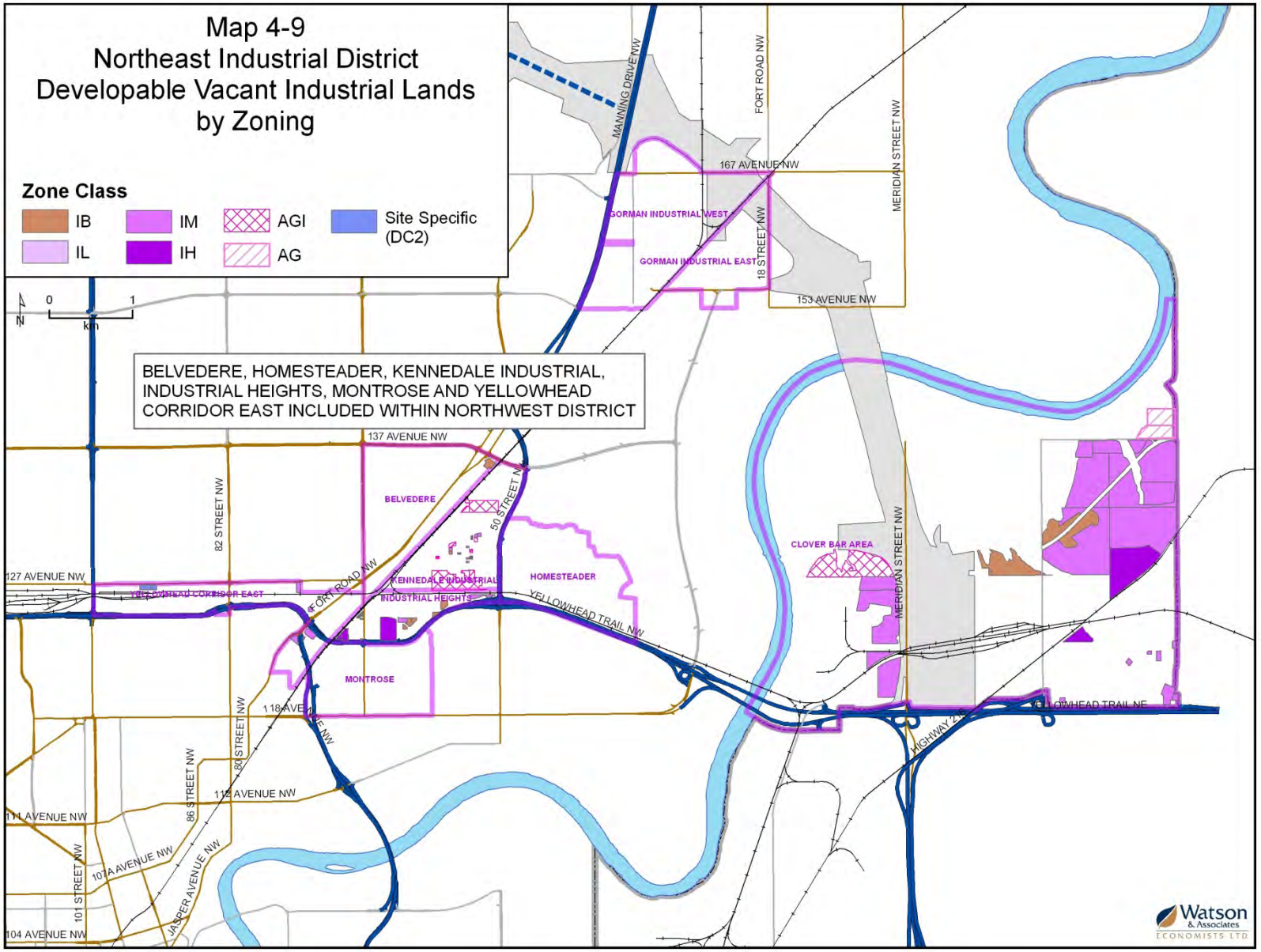
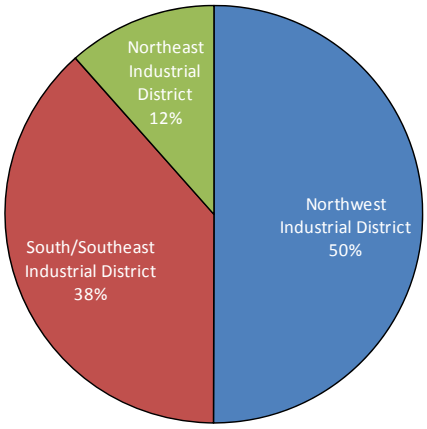

Map 4-9
Northeast Industrial District
Developable Vacant Industrial Lands
by Zoning
Zone Class
IB
IM
AGI
Site Specific (DC2)
IL
IH
AG
0
1
km
BELVEDERE, HOMESTEADER, KENNEDALE INDUSTRIAL, INDUSTRIAL HEIGHTS, MONTROSE AND YELLOWHEAD CORRIDOR EAST INCLUDED WITHIN NORTHWEST DISTRICT
MANNING DRIVE NW
FORT ROAD NW
MERIDIAN STREET NW
167 AVENUE NW
GORMAN INDUSTRIAL WEST
GORMAN INDUSTRIAL EAST
18 STREET NW
153 AVENUE NW
137 AVENUE NW
BELVEDERE
50 STREET NW
82 STREET NW
127 AVENUE NW
YELLOWHEAD CORRIDOR EAST
KENNEDALE INDUSTRIAL
INDUSTRIAL HEIGHTS
HOMESTEADER
CLOVER BAR AREA
YELLOWHEAD TRAIL NW
MONTROSE
118 AVENUE NW
80 STREET NW
112 AVENUE NW
111 AVENUE NW
86 STREET NW
107A AVENUE NW
101 STREET NW
JASPER AVENUE NW
104 AVENUE NW
YELLOWHEAD TRAIL NE
HIGHWAY 2
Watson & Associates ECONOMISTS LTD.

Figure 4-3
City of Edmonton
Share of Net Developable Vacant Industrial Land Inventory by District



Source: Watson & Associates Economists Ltd.

The total share of developed and vacant industrial land by Industrial District is summarized in Table 4-4. Map 4-7 illustrates the share of vacant industrial land as a percentage of total industrial designated lands by neighbourhood. Figure 4-4 summarizes the neighbourhoods with the largest share of vacant developable industrial land supply, outside the Edmonton Energy and Technology Park. Key observations are:

- Of Edmonton's 10,164 net ha (25,114 net acres) of total designated industrial lands, approximately 48% are vacant and developable;
- Currently, 100% of the industrial lands within the Edmonton Energy and Technology Park are vacant;
- Of the total designated industrial lands within the City's two next largest districts, the Northwest and South/Southeast, approximately 25% and 21%, respectively, are vacant and developable;
- In contrast, the proportionate share of vacant developable lands within the Northeast Industrial District is 27%;
- The neighbourhoods with the largest share of vacant industrial lands tend to reflect newer industrial areas located on the edges of the existing urban area. This includes Winterburn Industrial Area East (187 net ha), Clover Bar (185 net ha), Mistatim Industrial (154 net ha), Maple Ridge Industrial (149 net ha) and Ellerslie Industrial (137 net ha). These five neighbourhoods account for about 50% of the City's existing vacant developable industrial land supply.
- In comparison, the older, more mature industrial areas, located in the Northwest District and South/Southeast District between are largely built out.

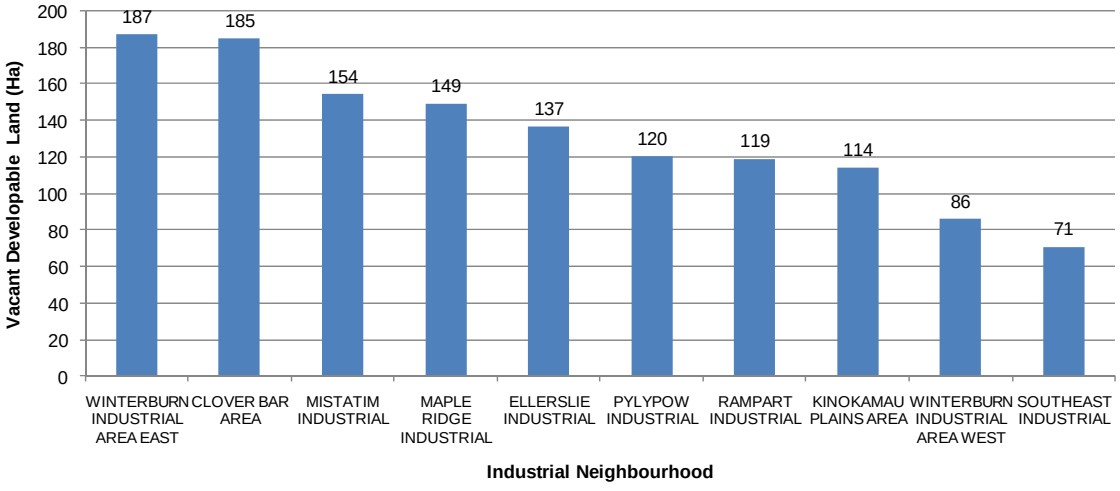
Table 4-4
City of Edmonton
Summary of Developed and Net Vacant Developable[1]
Industrial Lands by District (net ha)

Industrial District	Developed	Vacant	Total	Percent Vacant
Northwest Industrial District	2,434	801	3,235	25%
South/Southeast Industrial District	2,327	615	2,942	21%
Northeast Industrial District	491	185	676	27%
Edmonton Energy and Technology Park	0	3,311	3,311	100%
Total	**5,253**	**4,911**	**10,164**	**48%**

Source: Watson & Associates Economists Ltd.

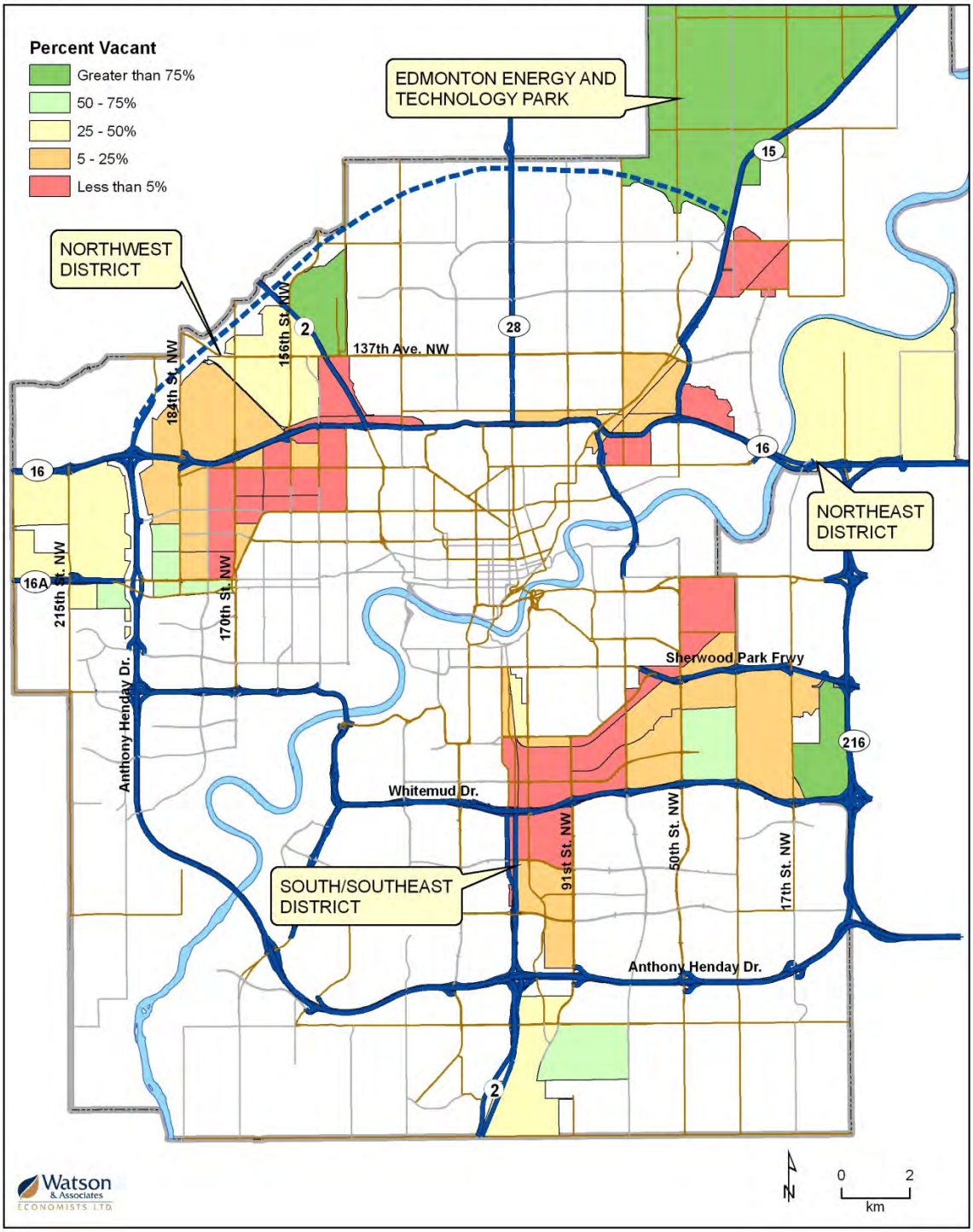
1. Excludes long-term vacancy adjustment.

Figure 4-4
City of Edmonton
Largest Vacant Developable Industrial Land Inventory by Neighbourhood



Source: Watson & Associates Economists Ltd., 2011

Map 4-10
City of Edmonton
Vacant Industrial Lands as a Share of Total Industrial Lands by Neighbourhood



4.3.3 Vacant Industrial Land Supply and Market Choice

From a market choice perspective, one of the most important industrial site selection criteria which is largely controllable by the City relates to ensuring that an ample supply of suitable vacant serviced (and serviceable) industrial land is available for purchase and absorption. This involves providing a readily available and serviced industrial land supply which is well beyond forecast absorption, to fully provide for a range of site selection choices, with respect to:

- Price;
- Space requirements;
- Availability and cost of servicing;
- Neighbourhood and setting;
- Zoning;
- Visibility;
- Highway access;
- Privacy;
- Topography;
- Environmental conditions;
- Tenure (lease vs. design build vs. own); and
- Other industrial land market requirements which can be added include soil conditions, site proportioning (frontage to depth), timing of servicing, site expandability, etc.

This section explores the City's developable vacant industrial land supply (excluding the Edmonton Energy and Technology Park) from a zone class, site size and geographic location perspective.

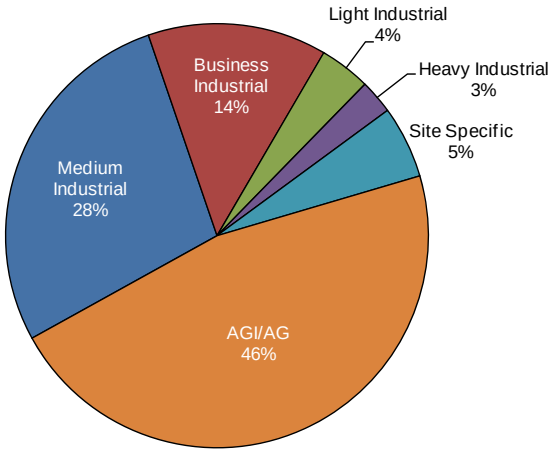
Land Supply by Zone Class

Figure 4-5 illustrates the City-wide net developable vacant industrial land inventory by zoning (i.e. Industrial Business, Light Industrial, Medium Industrial, Heavy Industrial) and that which is designated AGI/AG and intended for future industrial use. Table 4-5 summarizes the City's net developable vacant industrial land supply by zone class within each Industrial District. Key observations include:

- Nearly half (46%) the vacant developable industrial land supply is currently districted but not zoned (i.e. AGI/AG);
- Medium Industrial (IM) represents the largest share of zoned land, comprising 28% (445 net ha) of the total vacant developable industrial land supply followed by Industrial Business at 14% (218 net ha);
- Light Industrial (IL) and Heavy Industrial (IH) represent a relatively small share of the total, at 4% and 3% (62 net ha and 42 net ha), respectively;

- Zoned lands with site specific provisions (DC2) that allow for industrial development, represent 5% of the total;
- The Northwest District accounts for over 41% of the Medium Industrial (IM) zoned developable vacant industrial lands followed by 30% in the Northeast and 29% in the South/Southwest Districts;
- The developable vacant industrial lands zoned Industrial Business (IB) are largely located in the Northwest and South/Southeast Districts;
- The majority of Heavy Industrial (IH) zoned lands are located in the Northeast and South/Southeast Districts; and
- The City's districted lands (i.e. AGI/AG) are located primarily in the Northwest District (i.e. Rampart Industrial Area, Winterburn Industrial Area East) and within the South/Southeast District (i.e. Ellerslie Industrial Area, Maple Ridge Area).

Figure 4-5
City of Edmonton
Share of Net Developable Vacant Industrial Land Inventory by Zone Class



Source: Watson & Associates Economists Ltd.

Table 4-5
City of Edmonton

Inventory of Net Developable Vacant Industrial Lands Supply[1] By Zone Class

	IB		IL		IM		IH		Site Specific		AGI/AG		
District	Land Area (ha)	% of Total	Land Area (ha)	% of Total	Land Area (ha)	% of Total	Land Area (ha)	% of Total	Land Area (ha)	% of Total	Land Area (ha)	% of Total	Total Net Vacant (ha)
Northeast	16	8%	-	0%	131	30%	17	42%	-	0%	20	3%	185
South/Southeast	101	46%	50	81%	130	29%	16	40%	20	23%	297	40%	615
Northwest	101	46%	12	19%	184	41%	8	19%	69	77%	428	57%	801
Total	**218**	**100%**	**62**	**100%**	**445**	**100%**	**42**	**100%**	**88**	**100%**	**744**	**100%**	**1,600**

Source: Watson & Associates Economists Ltd., 2011
1. Excludes long-term vacancy adjustment

The vacant developable industrial lands which are currently zoned (i.e. excludes AGI/AG lands) represent the City's current short-term to medium-term supply of developable vacant industrial lands. As summarized in Table 4-6, the City has a total of 856 net ha (2,115 net acres) of zoned developable vacant industrial land. Of this, 373 net ha (921 net acres) is located in the Northwest District, 318 net ha (786 net acres) in the South/Southeast District and 165 net ha (408 net acres) in the Northeast District.

Table 4-6
City of Edmonton
Inventory of Zoned Net Developable Vacant Industrial Land[1]

District	Zoned Net Developable Vacant Industrial Land (net ha)
Northeast	165
South/Southeast	318
Northwest	373
Total	**856**

Source: Watson & Associates Economists Ltd., 2011
1. Excludes long-term vacancy adjustment

As discussed in Chapter 2, the majority of historical land absorption has been comprised of Industrial Business (IB) and Medium Industrial (IM) zoned lands. Based on recent historical (i.e. 2006-2010) industrial absorption trends by zoning and developable vacant industrial land supply, it is estimated that the City has approximately 6 years' supply of zoned Industrial Business (IB) lands and 7 years' supply of Medium Industrial (IM) zoned lands, as summarized in Table 4-7. Based on industrial absorption trends by District, the supply of Industrial Business (IB) and Medium Industrial (IM) lands is most limited in the South/Southeast District, with an estimated 4 years' and 5 years' supply, respectively. On a go-forward basis, the years of supply of vacant industrial land is likely more limited than presented herein given that the forecast industrial land absorption is moderately higher than that experienced in the past five years, as detailed in Chapter 5.

Table 4-7
City of Edmonton
Years' Supply of Zoned Developable Vacant Industrial Land

Zoning Class	Years' of Supply[1]
Industrial Business	6 years
Medium Industrial	7 years

Source: Watson & Associates Economists Ltd., 2011
developable zoned vacant industrial land (with long-term vacancy adjustment)

Though the absorption of Heavy Industrial (IH) and Light Industrial (IL) zoned lands has been relatively low in recent years, the limited availability of vacant parcels zoned IH and IL appears unfavourable. While Light Industrial (IL) can largely be substituted by Industrial Business (IB) zoned lands, Heavy Industrial (IH) does not have a suitable substitute.

Land Supply by Parcel Size

Table 4-8 summarizes the City's zoned net vacant developable industrial lands supply (excluding AGI/AG lands) by parcel size. Key findings include:

- 56% of zoned vacant developable industrial lands sites are less than 1 net ha (2.5 net acres) in size;
- Sites measuring 1-2 net ha (2.5-5 net acres) and 2-5 net ha (5-12 net acres) represent 22% and 12% of sites, respectively; and
- Larger sites, measuring 5-10 net ha (12-25 net acres) and 10 net ha (25 net acres) or greater, account for 7% and 3% of all sites, respectively.
- Comparing the developable industrial land supply by parcel size composition to recent industrial land absorption trend (and demand for parcels by size class), the City appears to have a reasonably balanced supply mix. The exception is in the 2-5 net ha size, which is marginally under-represented in the supply relative to observed recent industrial land absorption trends.

Table 4-8
City of Edmonton
Inventory of Zoned Net Developable Vacant
Industrial Land Supply[1] by Parcel Size

Site Size (Ha)	Area of Land (Ha)	Share of Land Area (%)	Number of Sites	Share of Total Number (%)
Less than 1 ha	102	12%	227	56%
1 - 2 ha	128	15%	91	22%
2 - 5 ha	158	18%	48	12%
5 - 10 ha	205	24%	29	7%
10 ha and greater	263	31%	14	3%
Total	**856**	**100%**	**409**	**100%**

Source: Watson & Associates Economists Ltd.
1. Excludes long-term vacancy adjustment.

Table 4-9 presents the supply of net developable vacant industrial parcels by zoning class. Examination of Heavy Industrial zoned lands supply identified that the parcels available tend to be relatively small in size and not conducive for larger scale uses such as manufacturing or petro-chemical related industries. Of the 38 parcels with Heavy Industrial (IH) zoning, nearly three-quarters of parcels are less than 1 ha in size and only 3 parcels (8% of parcels) have

developable land areas greater than 5 ha, as illustrated in Table 4-9. This suggests strongly that the City has an insufficient supply of Heavy Industrial (IH) land available for development.

Table 4-9
City of Edmonton
Net Developable Vacant Industrial Land Supply[1] by Parcel Size by Zone Class

	IB		IM		IH		IL	
Site Size (Ha)	Number of Sites	Share of Total Number (%)	Number of Sites	Share of Total Number (%)	Number of Sites	Share of Total Number (%)	Number of Sites	Share of Total Number (%)
Less than 1 ha	90	61%	99	53%	28	74%	7	30%
1 - 2 ha	37	25%	40	21%	5	13%	7	30%
2 - 5 ha	13	9%	26	14%	2	5%	4	17%
5 - 10 ha	5	3%	14	7%	2	5%	5	22%
10 ha and greater	2	1%	8	4%	1	3%	-	0%
Total	**147**	**100%**	**187**	**100%**	**38**	**100%**	**23**	**100%**

Source: Watson & Associates Economists Ltd.
1. Excludes long-term vacancy adjustment

"Shovel Ready" Lands Supply

Edmonton's supply of "shovel ready" lands total 577 net ha (1,426 net acres), accounting for 67% of the zoned developable vacant industrial lands inventory. "Shovel ready" lands reflect zoned developable vacant industrial lands that have servicing (municipal or private) and would be available for development by an end user immediately or within the upcoming year. The City's supply of "shovel ready" lands represents its short term supply of developable vacant industrial lands.

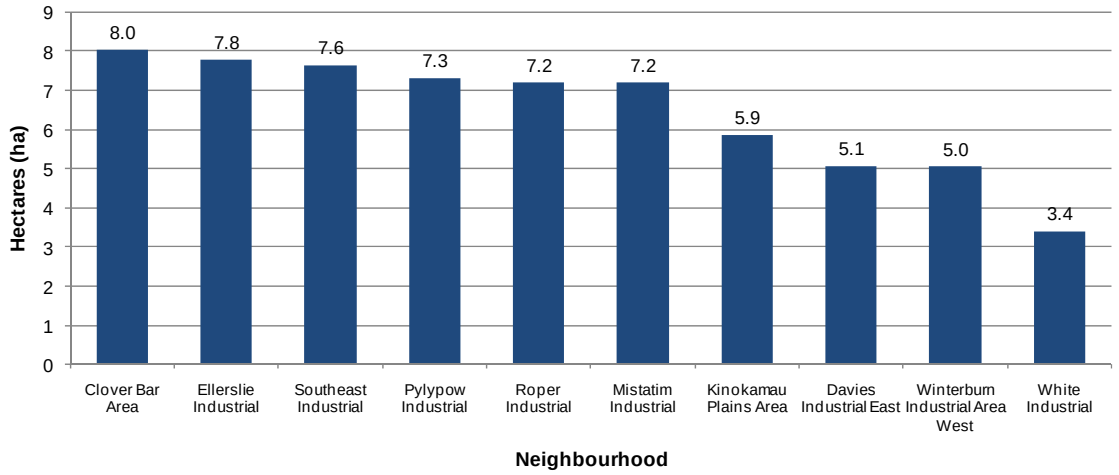
Land Supply by Neighbourhood

This section provides a high level review of the net developable industrial development supply on a neighbourhood level within the context of recent absorption trends. The analysis will help inform the City in terms of the adequacy of its developable vacant industrial lands inventory relative to market demand on a neighbourhood level.

Many of the City's more mature neighbourhoods have seen limited industrial land absorption in the past five years. Most industrial development in these areas has been limited to intensification. In contrast, development activity in many of the City's newer industrial neighbourhoods in the Northwest and South/Southeast Districts has been relatively strong. Figure 4-6 presents the average annual industrial land absorption within the City's neighbourhoods which have experienced the largest amount of industrial land absorption in the past five years. As illustrated, the City's most active neighbourhoods in terms of average annual industrial land absorption over the 2006-2010 period include the Clover Bar Area (8.0

net ha), Ellerslie Industrial (7.8 net ha), Southeast Industrial (7.6 net ha), Pylypow Industrial (7.3 net ha), Roper Industrial (7.2 net ha) and Mistatim Industrial (7.2 net ha). These neighbourhoods tend to represent the City's newer industrial areas and have relatively large amounts of vacant industrial land available for development.

Figure 4-6
City of Edmonton
Average Annual Industrial Land Absorbed by Neighbourhood, 2006-2010



Source: Watson & Associates Economists, Ltd., 2011

Based on historical rates of annual land absorption, the City's most active neighbourhoods (in terms of land absorption) will likely approach build-out within 3-20 years, as summarized in Table 4-10. Neighbourhoods which will approach build-out in the short term (i.e. less than 5 years) include Davies Industrial East, Roper Industrial and White Industrial. Meanwhile, Southeast Industrial is expected to build out within 7 years. A number of the City's newer industrial areas appear to have sufficient capacity for the longer term (i.e. greater than 10 years), including Winterburn Industrial Area West, Kinokamau Plains Area, Mistatim Industrial, Pylypow Industrial, Ellerslie Industrial and the Clover Bar Area. As discussed earlier, stronger forecast land absorption compared to historical trends suggests that the estimated years of supply remaining in these neighbourhoods may be somewhat less than what is presented herein.

Table 4-10
City of Edmonton
Estimated Years of Availability of Net Vacant Developable[2] Industrial Lands
Based on Recent Absorption Trends within Most Active Neighbourhoods

Neighbourhood	Average Annual Absorption (net ha)[1]	Vacant Developable Industrial Land (net ha)[2]	Estimated Years of Supply Remaining[3]
Clover Bar Area	8.0	157.0	20
Ellerslie Industrial	7.8	116.5	15
Southeast Industrial	7.6	60.3	8
Pylypow Industrial	7.3	102.2	14
Roper Industrial	7.2	30.9	4
Mistatim Industrial	7.2	131.2	18
Kinokamau Plains Area	5.9	97.0	17
Davies Industrial East	5.1	13.3	3
Winterburn Industrial Area West	5.0	73.0	14
White Industrial	3.4	15.9	5

Source: Watson & Associates Economists Ltd.

1. Based on historical trends over the 2006-2010 period.
2. Net Vacant Developable Industrial land adjusted for land vacancy.
3. Years of supply based on vacant developable industrial land divided by historical average annual absorption.

Provisions for Market Choice

Edmonton needs to provide a balanced inventory of "shovel ready" and zoned developable vacant industrial lands that is sufficient to meet market demand in the short to medium term. Currently, the City's inventory of zoned vacant industrial lands is predominantly Medium Industrial (IM) designation. However, the City has limited prestige designated lands comprised of Industrial Business (IB) or Light Industrial (IL) zoned lands. This is particularly relevant in the South/Southeast District, where demand for Industrial Business (IB) lands has been strong in recent years. Further, the City has an insufficient supply of Heavy Industrial (IH) designated lands, particularly larger parcels which are necessary to accommodate larger scale users.

Overall, Edmonton has a significant amount of smaller size parcels (i.e. less than 2 ha) and larger size parcels (5 net ha and greater), with the exception of the Heavy Industrial zoned lands. However, the City currently has a limited number of medium-size vacant industrial lands parcels (i.e. 2-5 net ha), particularly in the Medium Industrial (IM) and Business Industrial (IB) designations, available for development. In order for the City to be competitive and potentially attract larger scale industrial employers, such as large-scale manufacturers and logistics and distributions, the City needs to provide a greater number of sites in these zone classes.

In order to allow for proper market functioning, it is our opinion that the City should ensure that a minimum five-year supply of industrial lands (by various sizes, zoning and locations) is available at all times throughout the forecast period. Over the 2011 to 2021 planning period, it is recommended that the City monitor its current industrial lands inventory at minimum every five years to determine if additional industrial lands are required to accommodate forecast demand.

4.4 Observations

The analysis provided in this section identifies a number of key observations with respect to the current industrial lands supply in Edmonton:

- As of May, 2011 the City's total gross supply of vacant industrial lands (including urban reserve lands) totals 7,071 gross ha (17,472 gross acres). Excluding the Edmonton Energy and Technology Park, the City's total gross vacant industrial lands totals 2,515 gross ha (6,214 gross acres);
- The amount of net developable vacant industrial lands (including urban reserve lands), which will be potentially available to accommodate long-term demand over the next decade, is approximately 1,600 net hectares (3,954 net acres), excluding the Edmonton Energy and Technology Park. Adjusted for land vacancy, the supply totals 1,360 net ha (3,361 net acres);
- In terms of zoned vacant developable industrial land, the City has a total of 856 net ha (2,115 net acres);
- The City's supply of "shovel ready" developable vacant industrial land totals 577 net ha (1,426 net acres);
- The City-wide current supply of zoned developable vacant industrial land is generally well balanced in terms of Medium Industrial (IM) zoned lands relative to market demand. However, strong development growth in the past five years has greatly diminished the City's supply of prestige industrial parcels (Industrial Business zoned lands), particularly in South/Southeast Edmonton. Further, the availability of medium-sized parcels (2-5 net ha in size) is somewhat limited;
- Edmonton's vacant industrial lands base is insufficient to accommodate potential larger-scale users requiring Heavy Industrial (IH) zoned lands;
- From a market choice perspective, one of the most important industrial site selection criteria which is largely controllable by the City, relates to ensuring that an ample supply of suitable vacant serviced (and serviceable) industrial land is available for purchase and absorption;
- It is further recommended that the City monitor shovel-ready and long-term industrial lands inventory, at minimum every five years, to determine if additional industrial lands are required to accommodate forecast demand.

5. EDMONTON POPULATION AND EMPLOYMENT FORECAST AND INDUSTRIAL LAND NEEDS ANALYSIS, 2011-2021

5. EDMONTON POPULATION AND EMPLOYMENT FORECAST AND INDUSTRIAL LAND NEEDS ANALYSIS, 2011-2021

Building on the macro economic analysis and identified regional growth drivers provided in Chapter 3, this section presents a population and employment forecast for the City of Edmonton for the 2011-2021 period. Based on the forecast employment growth, a long-term (10-year) industrial land demand is also identified. Assessing the long-term industrial land demand against the vacant industrial land inventory identified in Chapter 4, a long-term industrial land need is identified for Edmonton herein.

5.1 Population and Housing Forecast

While it is beyond the scope of this study to provide a comprehensive analysis of future population growth for Edmonton, understanding the long-term population potential for the City is important to this study. The City's long-term population potential is fundamental to assessing how and when future urban lands should ultimately be designated and developed within Edmonton. A high population forecast suggests that residential and non-residential land needs (associated with population-related retail and personal services) are also high. In contrast, a more moderate population growth forecast typically indicates that future residential and retail commercial land needs are also moderate.

Population growth impacts the need for non-residential lands in different ways. Population-related development (i.e. retail commercial and personal service uses) is automatically attracted to locations convenient to local residents. Generally, as the population grows, the demand for population-related development also increases to service the needs of the local community (subject to available services within the surrounding market area).

Industrial and office commercial development (i.e. export-based industries), on the other hand, is not directly linked to adjacent population growth and tends to be more influenced by broader market conditions (i.e. regional economic competitiveness, transportation access and distance to employment markets), as well as local site characteristics such as servicing, highway access and exposure, site size/configuration, physical conditions and site location. As a result, industrial employment is not necessarily anticipated to increase in direct proportion to population growth.

The Consulting Team prepared a population and housing forecast for the 2011-2021 period for the City of Edmonton consistent with the population forecast identified in the Capital Region

Growth Plan, which is presented herein.[1] Table 5-1 provides a summary of expected housing growth for the City of Edmonton from 2011 to 2021 by dwelling type (i.e. low, medium and high density). As illustrated, over the 10-year forecast period, the City's total number of housing units is forecast to increase from 329,380 in 2011 to 391,860 in 2021, a total increase of 62,500 units. Over the period, the City's population is expected to grow by 124,600, increasing from 804,100 in 2011 to 928,700 in 2021. The average population growth rate is approximately 1.8% annually from 2011 to 2021.

TABLE 5-1
CITY OF EDMONTON
RESIDENTIAL GROWTH FORECAST SUMMARY

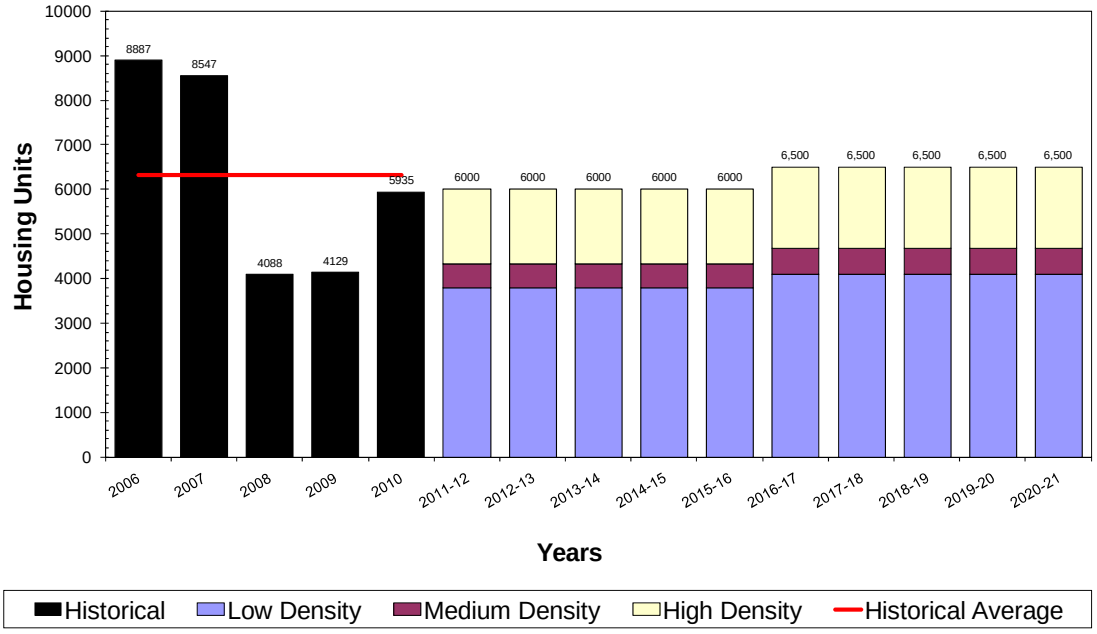
Year	Population (Excluding Census Undercount)	Housing Units					
		Singles & Semi-Detached	Multiple Dwellings[1]	Apartments[2]	Other	Total Households	Person Per Unit (PPU)
Mid 2001	666,104	146,665	31,940	84,105	2,630	265,340	2.51
Mid 2006	730,372	161,989	36,924	96,181	2,680	297,773	2.45
Mid 2011	804,100	181,770	39,750	105,160	2,680	329,360	2.44
Mid 2016	862,500	200,670	42,450	113,560	2,680	359,360	2.40
Mid 2021	928,700	221,145	45,375	122,660	2,680	391,860	2.37
Mid 2001 - Mid 2006	**64,268**	**15,324**	**4,984**	**12,076**	**50**	**32,433**	
Mid 2006 - Mid 2011	**73,728**	**19,781**	**2,826**	**8,979**	**0**	**31,587**	
Mid 2011 - Mid 2016	**58,400**	**18,900**	**2,700**	**8,400**	**0**	**30,000**	
Mid 2011 - Mid 2021	**124,600**	**39,375**	**5,625**	**17,500**	**0**	**62,500**	

Source: Watson & Associates Economists Ltd., 2011.
1. Includes townhomes and apartments in duplexes.
2. Includes all apartments less than or greater than five storeys.

Figure 5-1 graphically illustrates the annual housing growth forecast for the City of Edmonton over the 2011 to 2021 period against historical building permit activity over the past 5-year period (2006-2010). Over the next five years (2011-2016), annual housing growth is forecast to average approximately 6,000 units per year. This forecast over the 2011-2016 period is marginally lower than the historical building permit activity over the past 5 years, which averaged 6,317 units annually from 2006 to 2010. The annual average housing growth over the 2016-2021 period is forecast to be 6,500 units, marginally higher than during the 2006-2010 period.

[1] Capital Region Growth Plan Addendum, December 2009.

Figure 5-1
City of Edmonton
2011-2021 Housing Forecast



5.2 Employment Forecast

Future demand for industrial lands within the City of Edmonton is ultimately driven by forecast employment growth within the City. This section presents a long-term employment forecast for the City of Edmonton in five-year increments by major employment sector over the 2011-2021 period.

The employment forecast provided is largely based on the activity rate method, which is defined as the number of local jobs in the City, divided by the resident population. This is driven by the long-term population forecast for Edmonton established in Section 5.1.

To generate a long-term employment forecast for the City, a comprehensive review of current and evolving economic trends, as well as future development opportunities/constraints, was undertaken. The employment growth analysis presented herein is based on the findings detailed in Chapters 2 to 4 and the key economic drivers that are anticipated to drive future employment growth in Edmonton. These drivers are particularly relevant when forecasting industrial employment growth. The analysis also considered the following:

- Historical Census employment growth for the City of Edmonton (2001-2006);
- Historical employment growth for the Edmonton CMA (2006-2011);

- Historical non-residential building permit activity by employment sector for the City of Edmonton (2001-2010);
- Long-term employment forecasts for the Capital Region.

Table 5-2 summarizes the employment forecast over the 2011-2021 period. Figure 5-2 summarizes the employment forecast by employment sector.

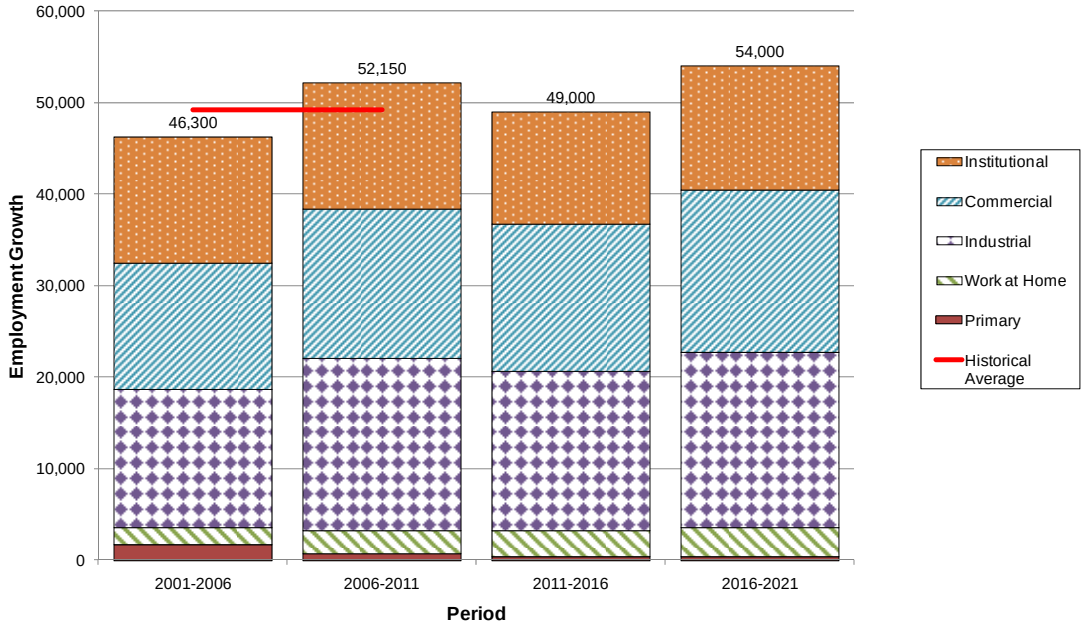
- The City of Edmonton's total employment is forecast to increase from 450,250 in 2011 to 553,150 in 2021, an increase of nearly 103,000 over the period;
- During the forecast period, the City's employment activity rate will increase from an estimated 56% in 2011 to 60% in 2051;
- Employment growth over the 2011-2016 period is expected to total 48,900; moderately lower than during the 2006-2011 period but comparable to the annual average (in absolute terms) achieved during the past decade (2001-2010);
- Over the 2016-2021 period, employment growth is forecast to total 54,000, marginally higher than that during the 2006-2010 period;
- Over the forecast period, all employment sectors are anticipated to experience employment growth.

Table 5-2
City of Edmonton
Employment Forecast, 2011 to 2021

Period	Population	Total Activity Rate	Employment					
			Primary	Work at Home	Industrial	Commercial/ Population Related	Institutional	Total
2001	666,104	0.528	3,455	17,965	85,065	154,710	90,560	351,755
2006	730,372	0.545	5,200	19,860	100,143	168,538	104,315	398,055
Mid 2011	804,100	0.560	5,950	22,400	119,000	184,800	118,100	450,250
Mid 2016	862,500	0.579	6,450	25,100	136,400	200,900	130,300	499,150
Mid 2021	928,700	0.596	6,850	28,300	155,600	218,600	143,800	553,150
Incremental Change								
2001 - 2006	64,268	0.017	1,745	1,895	15,078	13,828	13,755	46,300
2006 - Mid 2011	73,728	0.0149	750	2,540	18,858	16,263	13,785	52,195
Mid 2011 - Mid 2016	58,400	0.0188	500	2,700	17,400	16,100	12,200	48,900
Mid 2011 - Mid 2021	124,600	0.0220	900	5,900	36,600	33,800	25,700	102,900

Source: Watson & Associates Economists Ltd., June, 2011.

Figure 5-2
City of Edmonton
Employment Growth by Sector 2001-2021



Source: Watson & Associates Economists Ltd., 2011.

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

- The industrial sector represents the largest employment growth sector in Edmonton, comprising approximately 36% of total employment growth. Significant employment opportunities will exist in sectors related to warehousing, logistics/distribution, manufacturing and construction. A large share of this industrial employment growth will be indirect employment from the energy sector. It is anticipated that this will continue to drive demand for Medium Industrial (IM) and Industrial Business (IB) zoned lands. Opportunities for industrial employment growth also exist in the petro-chemical and energy related sectors which would likely be accommodated on larger parcels of Heavy Industrial (IH) zoned lands;
- Future demand for population-related/commercial employment growth in Edmonton is anticipated to be strong, accounting for 33% of employment growth. Though a large portion of this employment growth is directly related to population-related employment uses such as retail and accommodation/food services, the City is expected to experience a significant increase in "knowledge-based" employment. This includes growth in business services, professional and technical services including engineering and environmental services, and research and development. Again, much of this non-population related commercial employment growth will be associated with the energy sector. A significant share of this is expected to be accommodated through office development on prestige industrial lands including Industrial Business (IB) zoned lands.

- Edmonton is anticipated to experience a moderately strong employment increase in the institutional sector, which will be largely driven by population growth. Institutional employment growth is forecast to account for 25% of total employment growth.
- Over the forecast period, the primary sector is expected to account for less than 1% of overall employment growth. Employment growth in the sector is anticipated to be largely in oil and gas extraction support activities, and primarily accommodated on industrial lands.
- Over the next decade, increased opportunities will exist for "work at home" employment through improved telecommunication technology, increased opportunities related to telecommuting and potential work schedule flexibility, most notably in knowledge-based employment sectors. Also, 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.

5.3 Industrial Land Needs, 2011-2021

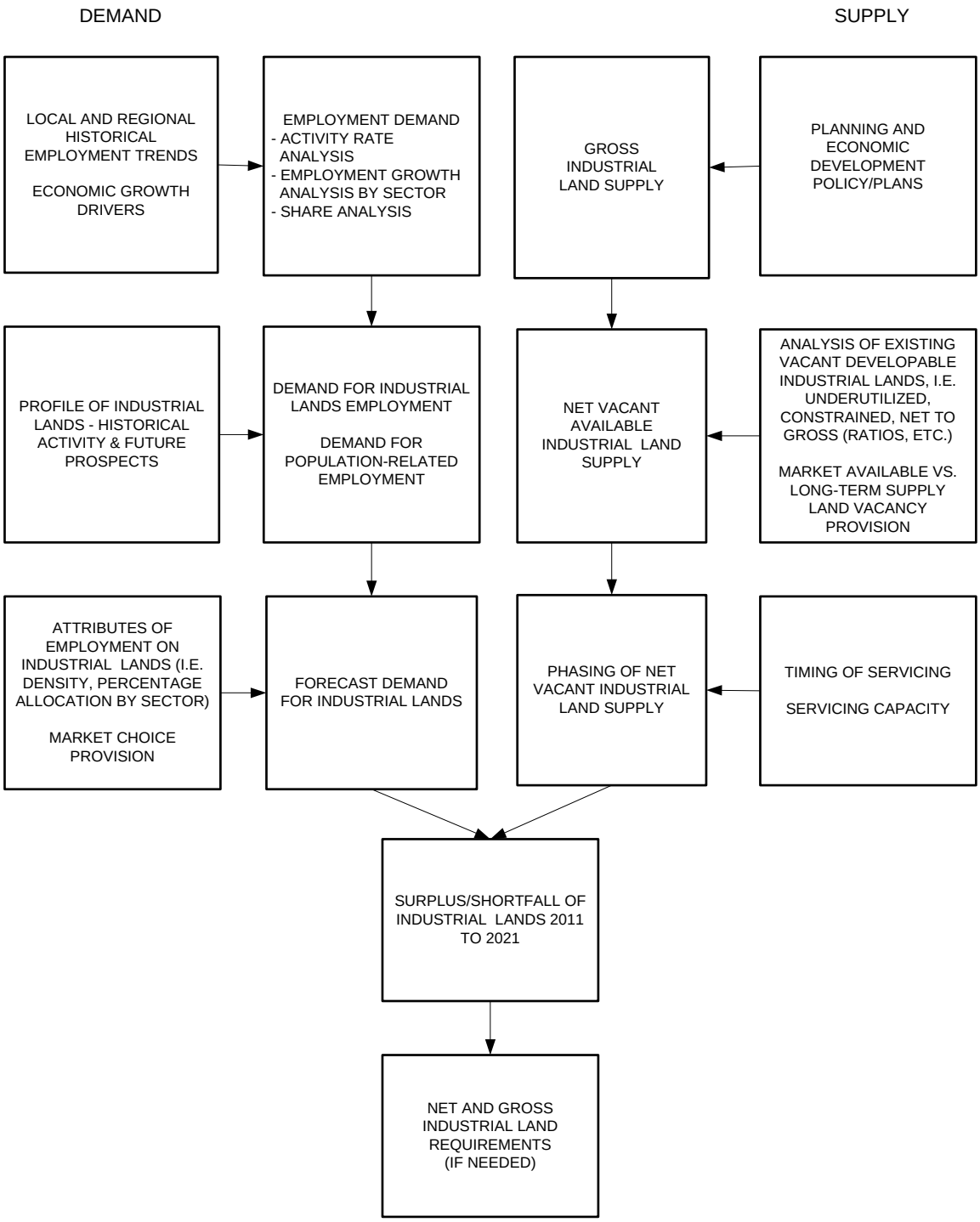
This section summarizes total employment land needs within the City of Edmonton to the 2021 planning horizon, based on the industrial lands supply summarized in Section 4 and forecast demand on industrial lands summarized below.

Building on the long-term employment forecast presented in Section 5.2, anticipated industrial land needs requirements are then identified based on consideration of the following:

- Estimating the share of employment growth on industrial lands by ICI (industrial, commercial and institutional);
- Existing and forecast density assumptions (i.e. employees per net hectare/acre) for employment on industrial lands;
- Historical and forecast absorption on industrial lands by employment type (i.e. general vs. 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.

Figure 5-3 graphically illustrates this approach.

Figure 5-3
Schematic of Approach to Industrial
Land Needs Analysis



In generating industrial land area requirements for the City of Edmonton, the following steps have been undertaken.

1. Remove "Work at Home" Employment

As identified in Section 5.2, forecast employment growth has been categorized into four broad categories, including primary, industrial, commercial and institutional, based on 2006 Census data. These categories have been aggregated from specific employment sub-classifications based on the North American Industrial Classification (NAIC) system. As a first step, all estimated "Work at Home" has been excluded from the industrial land needs analysis, as these employees do not require land in the City's designated industrial areas.

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

As previously identified, current definitions of industrial lands have broadened to include a number of commercial 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. Table 5-3 presents the percentage breakdown by major sector (ICI) on industrial lands used for the forecast period (2011 to 2021). The allocation by ICI is based on a review of recent development trends in the City of Edmonton and a review of permissible uses on industrial zoned lands.

Table 5-3
City of Edmonton
Proportion of 2011-2021 Employment Growth on Industrial Lands

Employment Sector	Percentage of Total Employment on Industrial Lands
Primary	90%
Industrial	98%
Commercial	25%
Institutional	5%

Source: Watson & Associates Economists Ltd., 2011

5.3.1 Forecast Employment on Industrial Lands

Table 5-4 summarizes forecast employment on industrial lands over the forecast period, based on the assumed allocation of growth on industrial lands assigned by ICI, as set out in Table 5-3. As illustrated, over the 2011-2021 period, Edmonton's industrial lands are anticipated to

accommodate 45% of the City's total employment growth. Over the 2011-2016 and 2011-2021 periods, employment growth on industrial lands is expected to total 22,135 and 46,415, respectively.

Table 5-4
City of Edmonton
Summary of Employment on Industrial Lands, 2011-2016 and 2011-2021

Employment by ICI	Employment Growth by Sector		Employment Growth on Industrial Lands		Percent on Employment Lands	
	2011-2016	2011-2021	2011-2016	2011-2021	2011-2016	2011-2021
Primary	500	900	450	810	90%	90%
Work @ Home	2,700	5,900	0	0	0%	0%
Industrial	17,400	36,600	17,050	35,870	98%	98%
Commercial	16,100	33,800	4,025	8,450	25%	25%
Institutional	12,200	25,700	610	1,285	5%	5%
Total	**48,900**	**102,900**	**22,135**	**46,415**	**45%**	**45%**

Source: Watson & Associates Economists Ltd., 2011.

5.3.2 Accommodation of Employment Growth through Intensification

It is recognized that a portion of forecast employment on industrial lands growth will be accommodated through intensification.[1] Over the 2010-2021 period, an estimated 5% of industrial employment growth is expected to be accommodated through intensification, comparable to recent trends, as highlighted in Section 3.6. Moderate infill and expansion of existing developed properties within developed employment areas has been occurring to-date and is expected to continue as the City continues to mature and land prices remain strong.

The City should monitor future City-wide industrial land development and the share which is being accommodated through intensification. Further, the City should explore development opportunities within underutilized industrial lands and priority redevelopment areas. This review should be conducted within the framework of an industrial lands intensification strategy, which is beyond the scope of this study.

5.3.3 Forecast Employment Density on Industrial Lands

Existing employment density on industrial lands in Edmonton was explored in Chapter 3, which showed that employment density on industrial lands in the City averages 32 jobs per net ha (13 jobs per net acre). 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.

[1] Intensification refers to higher utilization of existing developed industrial parcels through building expansion or new building construction.

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 in future development than the existing City-wide average. Further, continued upward pressure on industrial land values, driven by the expected strength of the local and regional economy, will also tend to encourage high land utilization and correspond to higher employment density than what was experienced in the past.

As such, it is recommended that the City of Edmonton target a density on industrial lands comparable to current market trends (as discussed in Section 3.5) for the purpose of long-term industrial lands needs analysis. A target density of 37 jobs per net ha (15 jobs per net acre) is recommended.

The recommended target density identified herein has been used in generating future land demand on industrial lands over the forecast period. It should be noted that the recommended average density on industrial lands has been informed by recent and anticipated market trends and it is foreseeable that future density levels achieved on industrial lands could differ, depending on the regional and local industrial market conditions. Accordingly, it is recommended that the City monitor future density trends on industrial lands on a five-year basis.

5.3.4 Industrial Land Demand

Table 5-5 summarizes forecast demand for industrial land from 2011 to 2021, in accordance with the assumptions made above. Key observations include:

- The City of Edmonton is forecast to absorb an annual average of 114 net ha per year (282 net acres per year) from 2011 to 2016 and an average of 119 net ha (294 net acres) over the 2011-2021 period – moderately higher than historical trends; and
- Over the 2011-2021 planning horizon, the total industrial land demand is forecast to total 1,192 net ha (2,945 net acres).

Table 5-5
City of Edmonton
Forecast Industrial Land Demand, 2011-2021

Growth Period	Employment Growth on Industrial Lands	Intensification on Industrial Lands[1]	Total Employment on Industrial Lands Adjusted for Intensification	Employment Density (jobs/ net ha)	Total Industrial Land Demand (Net ha)	Average Yearly Absorption (Net ha)
2011 - 2016	22,135	1,107	21,028	37	568	114
2011 - 2021	46,415	2,321	44,094	37	1,192	119

Source: Watson & Associates Economists Ltd., 2011

5.3.5 Identified Net Developable Industrial Land Supply

The City's net developable vacant industrial land supply, adjusted for long-term vacancy, excluding the Edmonton Energy and Technology Park, is 1,360 net hectares (3,361 net acres), as summarized in Section 4.3.

5.3.6 Industrial Land Needs within the City of Edmonton, 2011-2021

Table 5-6 summarizes forecast industrial land demand for the City of Edmonton over the 2011-2021 period. In accordance with the existing supply of developable vacant industrial lands versus long-term demand, Edmonton has a sufficient supply of industrial lands to meet long-term needs to 2021. As of 2016, a net surplus of 792 net ha (1,957 net acres) has been identified. By 2021, the net surplus is expected to decrease to 168 net ha (415 net acres).

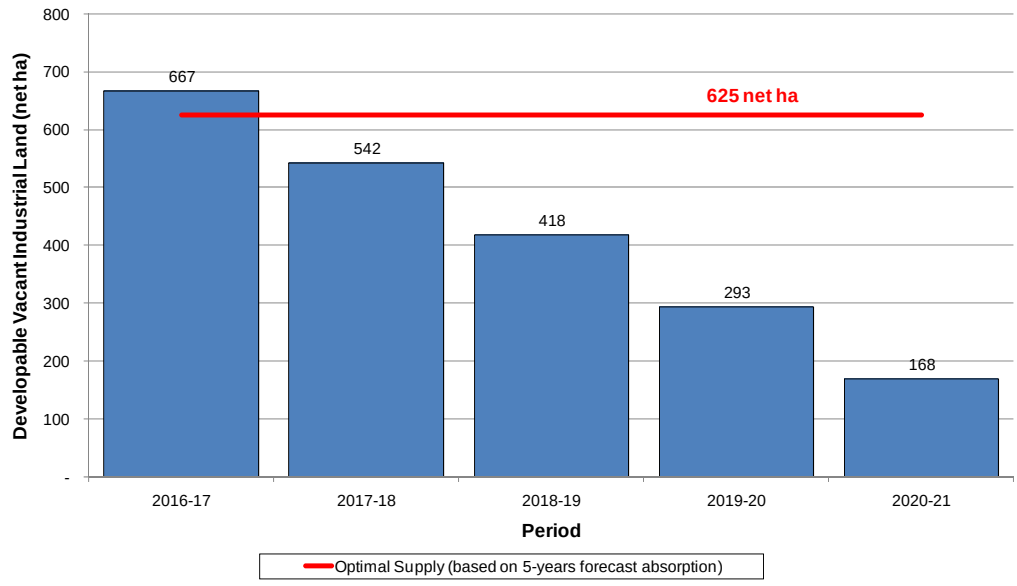
Table 5-6
City of Edmonton
Total Industrial Land Need (Demand vs. Supply)
2011-2016 and 2021

	Hectares	
	2011-2016	2011-2021
Net Industrial Land Demand (Adjusted for Land Vacancy)	568	1,192
Net Industrial Land Supply	1,360	1,360
Net Industrial Land Surplus/ (Shortfall)	**792**	**168**

Source: Watson & Associates Economists Ltd., 2011

It is important to note that this does not factor in the provision for market choice. As discussed in Chapter 4, it is recommended that a minimum five-year supply of industrial lands is provided at all times to allow for sufficient market choice. Based on the forecast annual land absorption of 125 net ha (309 net acres) per year during the latter half of the forecast period (i.e. 2016-2021), the City should have a minimum of 625 net ha (1,544 net acres) of vacant developable industrial land available in inventory.[1] As illustrated in Figure 5-4, with the current supply of developable vacant industrial land and at the forecast rate of industrial land absorption, the City will fall below this threshold by 2017-18. As such, to allow for sufficient market choice in the industrial market, the City will need to have the first phase of the Edmonton Energy and Technology Park available for development by 2017-18.

Figure 5-4
City of Edmonton
Forecast Vacant Developable Industrial Land Supply vs. Optimal Supply, 2016-2021



Source: Watson & Associates Economists Ltd., 2011.

5.4 Industrial Land Needs Summary

The analysis provided in this section identifies a number of observations with respect to long-term industrial land needs for Edmonton, including:

- Edmonton's employment base is forecast to increase from 450,250 in 2011 to 553,150 in 2021;
- Approximately 45% of forecast total employment growth (46,415 jobs) for the City of Edmonton from 2011 to 2021 is anticipated to be accommodated on industrial lands;

[1] 125 ha (309 acres) per year x 5 years = 625 ha (1,544 acres)

- Forecast density on industrial lands (i.e. employees/net acre or hectare) is projected to be 37 jobs/net ha (15 jobs/net acre) from 2011 to 2021;
- Average annual industrial land absorption over the 2011-21 period is expected to be 119 net ha (294 net acres);
- Total industrial land demand is anticipated to total 1,192 net ha (2,945 net acres) from 2011 to 2021; and
- In accordance with the vacant industrial land supply identified in Section 4, by 2016, Edmonton is expected to have a surplus of 792 net ha (1,957 net acres) of industrial land. The surplus is expected to decrease to 168 net ha (415 net acres) by 2021;
- Despite the identified surplus by 2021, based on the forecast annual land absorption, the City's supply of vacant developable industrial land inventory will fall below the recommended threshold to allow for sufficient market choice by 2017-18. As such, to allow for sufficient market choice in the industrial market, the City will need to prepare to have the first phase of the Edmonton Energy and Technology Park available for development by 2017-18.

6. INDUSTRIAL LAND STRUCTURE IN SURROUNDING MARKET AREA

6. INDUSTRIAL LAND STRUCTURE IN SURROUNDING MARKET AREA

This Chapter provides a broad level review of the industrial land structure of select industrial areas/municipalities in the surrounding market area, including Acheson Industrial Area (Parkland County), Fort Saskatchewan (City of), Leduc (City of), Nisku Industrial Area (Leduc County), Sherwood Park (urban component of Strathcona County), St. Albert (City of) and Sturgeon County. The analysis excluded industrial lands associated with Alberta's Industrial Heartland. The areas reviewed encompass the vast majority of existing and developable industrial lands (outside of Alberta's Industrial Heartland) within the Edmonton Capital Region.

This assessment included a high-level analysis which estimated the total developed industrial land and the current amount of net vacant industrial land within each area/municipality. An estimate of the amount of zoned vacant industrial land and "shovel ready" land and its servicing status (i.e. municipal vs. private servicing) within each area/municipality surveyed were also identified.

The information was compiled based on a combination of primary and secondary research conducted. Where available, secondary data was collected and utilized. This involved contacting the governing bodies of each specific area and requesting any data that may be available regarding the industrial lands within. This included discussions with Economic Development, Planning & Development, Assessment, and Information Services Departments. Various amounts and types of data were obtained and summarized.

In the cases where secondary data was unavailable or limited, additional primary research was completed. This involved a variety of tasks such as examining aerial photographs, reviewing zoning and land ownership maps, obtaining information from land developers and utilizing the Government of Alberta Land Titles Spatial Information System, which includes a GIS mapping system.

Complete industrial structure profiles for each surveyed area/municipality are provided in Appendix B. The following provides a summary of key findings.

6.1 Surrounding Market Area Overview

The following provides a brief descriptive summary of the key industrial areas reviewed.

Fort Saskatchewan

Fort Saskatchewan has a prominent heavy industrial base significantly tied to the energy sector. This encompasses petrochemical processing and secondary industries including manufacturing and support services. The City has experienced considerable growth in demand for light industrial land over the past decade.

The majority of the City's vacant industrial land is in the form of heavy industrial designated land within Alberta's Industrial Heartland. Opportunities for light development are located in Fort Industrial Estates, currently under development by Trans America Group, which will target sectors related to the energy industry.

Leduc/Nisku Area

The industrial base in the Leduc/Nisku Area is concentrated within two adjoining urban industrial areas - the Nisku Business Park (located in Leduc County) and the Leduc Industrial Park (located within the City of Leduc). The industrial parks are situated just east of the Edmonton International Airport along the Highway 2 corridor. The parks have a mix of light and medium industrial development of general industrial character, with a high concentration of businesses serving the energy sector. The parks have considerable expansion potential to accommodate light and medium industrial development.

Parkland County (Acheson)

The primary industrial area in Parkland County is the Acheson Industrial Area, a large and diverse industrial area located immediately west of the City of Edmonton. The park has a general industrial character which includes a wide range of light and medium industrial uses ranging from manufacturing, construction, transportation and logistics. Acheson Industrial Area has seen significant development in logistics, transportation, warehousing and manufacturing. The area has been attractive for development due to a large land supply and market choice, competitive land prices and access to CN intermodal terminal and highways (Yellowhead Highway, Highway 16A and Anthony Henday Drive). The industrial area is also located on Highway 60, a major heavy haul truck route, serving the oil sands industry in Fort McMurray. The park offers significant long-term expansion potential.

St. Albert

The City of St. Albert has two designated industrial areas - Riel Business Park and Campbell Business Park. The two parks, which accommodate light industrial uses in an urban setting, are approaching build out. Riel Business Park has a general industrial character while Campbell Business Park offers a prestige industrial character. The City has limited vacant industrial land opportunities.

Strathcona County

A significant share of Strathcona County's industrial area is designated for medium and heavy industry and is predominately associated with the energy sector. Strathcona County contains a large share of the Capital Region's existing heavy industrial base, which is concentrated in the west-half of Sherwood Park and in Alberta's Industrial Heartland in the northeast corner of the county.

The majority of the County's prestige industrial development is located within Sherwood Park. This includes Broadmoor Centre and Sherwood Business Park, located east of Highway 216, which are mixed-use prestige business parks that include light industrial and commercial uses.

In the past few years Sherwood Park has seen strong growth in construction and professional, scientific and technical services. Relative to the existing industrial land base and amount of recent development activity, it has a limited supply of prestige and light industrial land currently available for development. Most of the vacant industrial land available in Sherwood Park is zoned medium and heavy industrial.

Sturgeon County

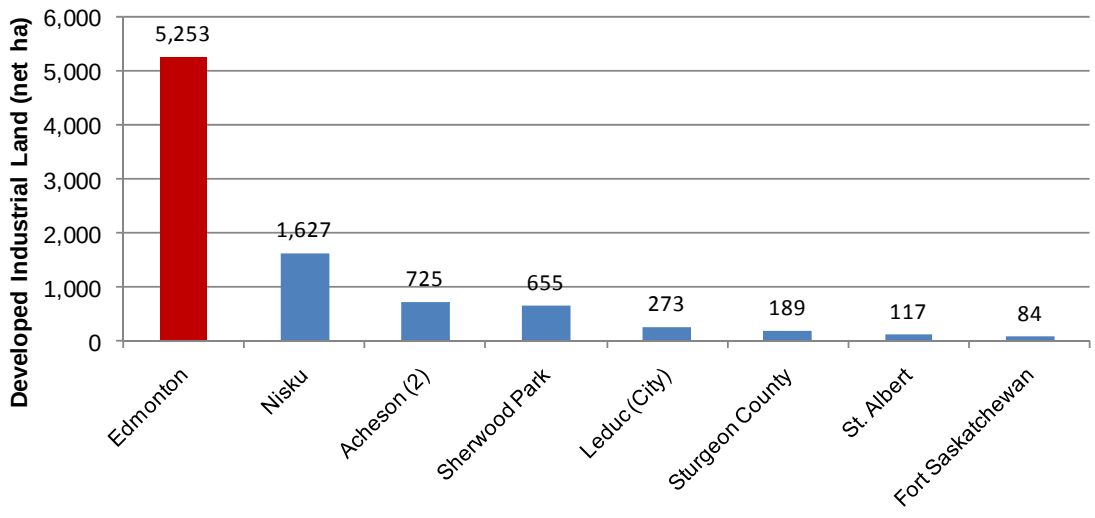
Sturgeon County is a rural county which covers a large part of the northern half of the Capital Region. The county's largest light/medium industrial park is the Sturgeon Business Park (fully serviced), which is located in eastern Sturgeon County and caters to general industrial uses (both light and medium industrial uses) associated with Alberta's Industrial Heartland. In northwest Sturgeon County, opportunities for limited light industrial development exist within the Pro-North Industrial Area. The Pro-North Industrial Area is a rural industrial park which is partially serviced.

6.2 Developed Industrial Land

Figure 6-1 summarizes the total developed industrial land within the surveyed area/municipality along with that identified in Edmonton in Chapter 4. Key observations include:

- The surrounding market area (including the City of Edmonton) contains 8,923 ha (20,049 acres) of developed industrial land. The City of Edmonton accounts for 59% (5,253 ha) of this total;
- The largest developed industrial land base outside of Edmonton is in the Nisku Industrial Area with 1,627 ha (4,020 acres), followed by 725 ha (1,791 acres) in Acheson, 655 ha (1,619 acres) in Sherwood Park (urban Strathcona County), 273 ha (675 acres) in Leduc and 189 ha (467 acres) in Sturgeon County;
- In comparison, the existing industrial land structures in St. Albert and Fort Saskatchewan are considerably smaller, at 117 ha (289 acres) and 84 ha (208 acres), respectively.

Figure 6-1
Developed Industrial Lands[1] in Surrounding Market Municipalities (net ha)



Source: Bourgeois & Company Ltd
1. Excludes Alberta's Industrial Heartland.
2. Gross land area converted to net basis using 75% net to gross ratio.

Of the developed industrial lands within the surveyed areas/municipalities, the majority is municipally serviced (as opposed to privately serviced). Within Nisku and Leduc industrial areas, 93% and 97% of the developed lands are municipally serviced, respectively. In comparison, within Acheson and Sturgeon County, which have a more significant rural industrial component 77% of developed industrial lands are municipally serviced, respectively. Within St. Albert and Fort Saskatchewan, all developed lands are municipally serviced.

6.3 Vacant Industrial Land Inventory

Edmonton competes directly for business attraction and retention with the industrial areas/municipalities surveyed in the surrounding market area. The degree to which Edmonton can capitalize on potential regional employment growth will depend significantly on the competitiveness of its industrial land base. On a municipal level, this competitiveness is determined by a number of broad factors, including the quality and supply of vacant industrial lands. The following provides a summary of the vacant industrial land inventory in the surrounding market area, in comparison to that of Edmonton (identified in Chapter 4).

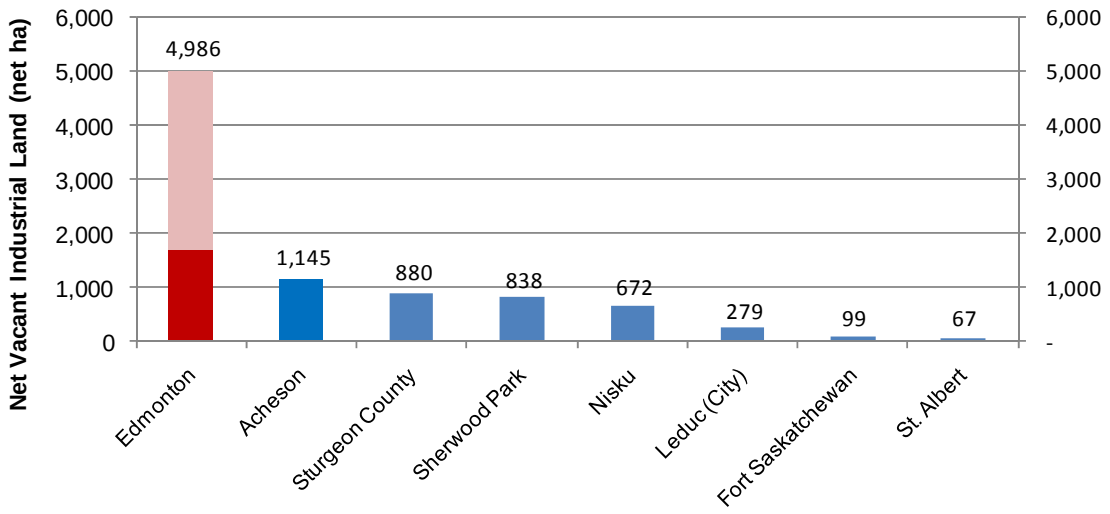
6.3.1 Supply of Designated Vacant Industrial Lands

Figure 6-2 summarizes the total designated net vacant industrial lands, including zoned lands and districted lands within the surveyed industrial areas/municipalities, in relation to Edmonton. Key findings include:

- The surrounding market area contains a total net vacant industrial inventory of 5,665 net ha (13,973 net acres), of which nearly 30% (1,675 net ha) is located within the City of Edmonton;[1]
- Of the 3,980 net ha (9,835 net acres) located outside the City of Edmonton, the largest share is located in Acheson (1,145 net ha), followed by Sturgeon County (880 net ha), Sherwood Park (838 net ha) and Nisku (672 net ha);
- Comparatively, the net vacant industrial land supply in Fort Saskatchewan and St. Albert is more limited, at 99 net ha and 67 net ha, respectively.

[1] Excluding the Edmonton Energy and Technology Park lands.

Figure 6-2
Total Vacant Industrial Land Supply[1] in Surrounding Market Municipalities (net ha)



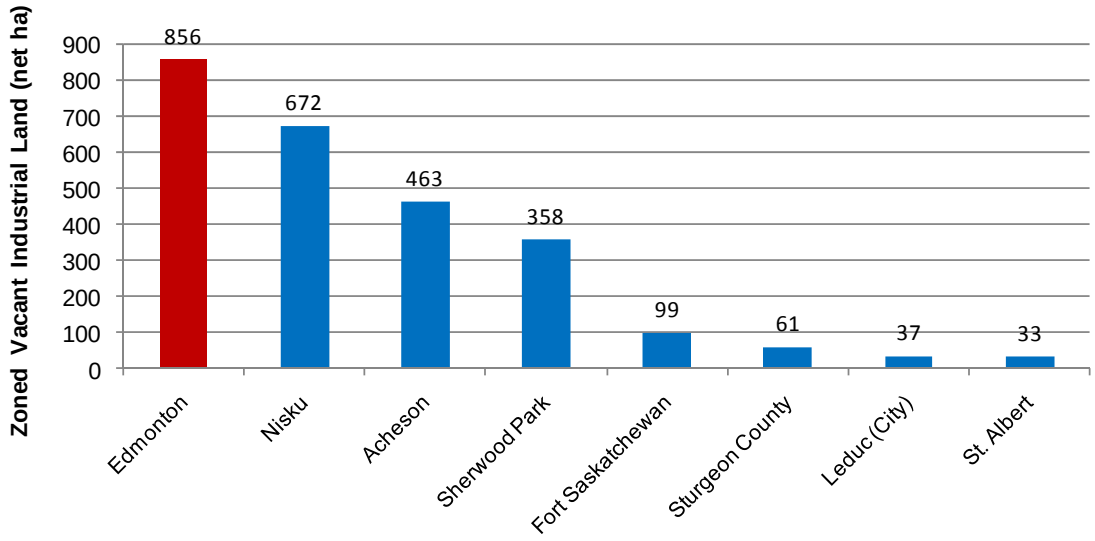
Source: Bourgeois & Company Ltd and Watson & Associates Economists Ltd.
1. Excludes Alberta's Industrial Heartland. Land reported in gross ha converted to net ha based on 65% net to gross ratio.

6.3.2 Zoned Net Vacant Industrial Land

Of the total net vacant industrial inventory of the areas/municipalities surveyed, 43% (1,723 net ha or 4,258 net acres) is zoned land. Figure 6-3 illustrates the amount of zoned net vacant industrial land within the areas/municipalities surveyed, in comparison to Edmonton. Key observations include:

- Edmonton holds the largest share (33%) of the total zoned vacant industrial land inventory in the surrounding market area. Outside of Edmonton, the largest zoned vacant industrial land inventories are located in Nisku (672 net ha), Acheson (463 net ha) and Sherwood Park (358 net ha);
- Comparatively, the supply of zoned vacant industrial land in Fort Saskatchewan, Sturgeon County, Leduc and St. Albert is more limited.

Figure 6-3
Zoned Vacant Industrial Land Supply[1] in Surrounding Market Municipalities (net ha)



Source: Bourgeois & Company Ltd and Watson & Associates Economists Ltd.
1. Excludes Alberta's Industrial Heartland. Land reported in gross ha converted to net ha based on 65% net to gross ratio.

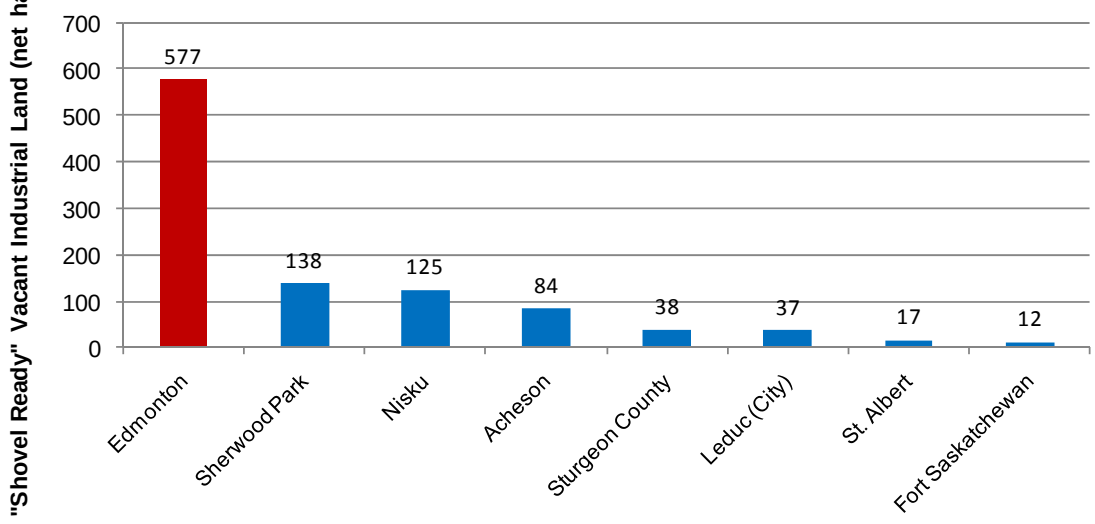
6.3.3 "Shovel Ready" Vacant Industrial Land

The supply of "shovel ready"[1] lands is a key measure of a municipality's economic competitiveness. Figure 6-4 summarizes the amount of vacant industrial land which is considered "shovel ready" in the surveyed areas/municipalities, in comparison to Edmonton. Key findings include:

- The surveyed areas/municipalities have a combined 451 net ha of "shovel ready" vacant industrial lands, of which the majority is located in Sherwood Park (138 net ha), Nisku (125 net ha) and Acheson (84 net ha) and;
- In comparison, Edmonton has 577 net ha of "shovel ready" vacant industrial lands, significantly more than any other area/municipality surveyed;
- A number of areas/municipalities, including Sturgeon County, Leduc, St. Albert and Fort Saskatchewan, have limited supplies of "shovel ready" vacant industrial lands.

[1] Reflects zoned vacant industrial lands located within existing industrial areas that have servicing (municipal or private) and would be available for development by an end user immediately or within the upcoming year.

Figure 6-4
"Shovel Ready" Vacant Industrial Land Supply[1] in Surrounding Market Municipalities (net ha)



Source: Bourgeois & Company Ltd and Watson & Associates Economists Ltd.
1. Excludes Alberta's Industrial Heartland.

Of the "shovel ready" vacant industrial lands identified in Figure 6-4, all lands within Acheson, Nisku, Sturgeon County, Leduc, St. Albert and Fort Saskatchewan are municipally serviced. In Nisku, 90% of the vacant "shovel ready" industrial lands are municipally serviced, while 10% are privately serviced.

6.4 Observations

The City of Edmonton has the largest developed industrial lands base in the surrounding market area. Other large developed industrial areas include Sherwood Park (urban Strathcona County), Acheson and the Nisku/Leduc Industrial Area. Edmonton also has the largest inventory of total net vacant industrial lands and the largest supply of zoned and "shovel ready" vacant industrial lands of the areas/municipalities reviewed. Areas/municipalities in the surrounding market area with a moderately large supply of zoned or "shovel ready" lands include Sherwood Park, Acheson and Nisku.

Edmonton offers the largest and most diverse range of industrial land opportunities within the Edmonton Capital Region and can accommodate a wide range of sectors. The Northwest and South/Southeast Districts offer a competitive inventory of prestige industrial lands that are set to a high design standard and are well located geographically in terms of access to major highways and transportation infrastructure (i.e. Edmonton International Airport, intermodal facilities). The City also has a competitive inventory of general industrial lands that can accommodate general light and medium industrial uses within the Northeast District and in

select areas of the Northwest and South/Southeast Districts. The competitive position of the Northeast District will be greatly enhanced with the Anthony Henday Drive extension.

In comparison, vacant industrial land opportunities within the surrounding market area are more limited in terms of the range of land options available. Lands available in Nisku/Leduc Area, Fort Saskatchewan (excluding Alberta's Industrial Heartland) and Acheson are largely general industrial in character and attractive for light and medium industrial development. Meanwhile, Sturgeon County vacant industrial lands are largely designated rural industrial. Opportunities for development on prestige industrial lands within the surrounding area are limited. Existing prestige industrial areas in the surrounding market are limited to Sherwood Park and St. Albert which are approaching build out and have limited "shovel ready" lands available for development. This offers Edmonton a significant competitive advantage in the prestige industrial land market within the Capital Region.

7. CONCLUSIONS

7. CONCLUSIONS

The City of Edmonton industrial market is large and diverse, accommodating a broad range of sectors. The City's existing industrial lands are located in three designated Industrial Districts - the Northwest District, South/Southeast District and Northeast District. The Districts are comprised of a series of industrial and mixed-use neighbourhoods, which collectively accommodate a range of industrial zoned lands and corresponding land uses.

The City's developed industrial lands cover an area of 5,253 net ha (12,980 net acres), of which over 90% is situated in the Northwest and South/Southeast Districts. Edmonton's industrial land base offers opportunities for a wide range of sectors including general and prestige industrial and commercial and limited institutional uses. Major industrial sectors include wholesale trade, logistics/distribution, warehousing, manufacturing and construction.

A significant share (26%) of the City's total developed industrial lands is considered underutilized. This reflects parcels which have relatively low building coverage or sites which are currently used exclusively for storage and/or parking. Given the large number of identified underutilized parcels, a wide array of opportunities for intensification exists.

Over the past decade, annual average absorption of industrial lands in Edmonton has averaged 76 net ha (188 net acres). The City experienced particularly strong growth in industrial development between 2005 and 2008, when annual absorption averaged 124 net ha (306 net acres). The recent global economic recession has resulted in a decline in activity during the post-2008 period.

The majority of development on industrial lands in the past decade has occurred in the South/Southeast District and Northwest District on Medium Industrial (IM) and Industrial Business (IB) zoned lands. Over this ten year period, warehousing/logistics/storage has accounted for the majority of development, largely in the form of prestige large-scale multi-bay industrial condos. The City also experienced growth in the office and "knowledge-based" sectors (concentrated in the South/Southeast District) and construction, manufacturing and retail/service trade.

The City's three existing Industrial Districts contain a total of 2,515 gross ha (6,214 gross acres) of vacant industrial land. Adjusting downward for non-developable features (i.e. environmental constraints, infrastructure etc.), lands not likely to develop and, adjusting for land vacancy,[1] the City's net developable vacant industrial land totals 1,360 net hectares (3,361 net acres). Of this, 63% (856 net ha or 2,115 net acres) is zoned land. The City's vacant industrial land inventory is

[1] Refer to Chapter 4, Section 4.3.1 for a definition of land vacancy.

the largest in the surrounding market area and compares favourably to other industrial areas/municipalities within the Capital Region.

Despite the availability of vacant industrial land, market choice is becoming more limited. The analysis suggests that there is generally an insufficient supply of parcels sized 2-5 ha, particularly in the Medium Industrial (IM) and Business Industrial (IB) designations, and a lack of parcels zoned Industrial Business (IB) within the South/Southeast District. Further, the City has a shortage of larger sized Heavy Industrial (IH) zoned vacant developable parcels. If Edmonton is to have an adequate supply of industrial land over both the short- and long-term planning period, then it needs to have a full range of industrial land sites on the market.

Economic growth within the City of Edmonton over the next decade is expected to be strong, building on the economic expansion experienced during the 2004-2007 period. Direct and indirect growth is expected to be largely associated with the energy sector. The favourable outlook for the energy sector is expected to drive investment and production in the oil sands of Northern Alberta, which is anticipated to have a direct positive effect on employment growth and industrial land demand in Edmonton.

The City of Edmonton's total employment is forecast to increase from 450,250 in 2011 to 553,150 in 2021, an increase of nearly 103,000 over the ten year period. The industrial sector is expected to represent the largest employment growth sector in Edmonton, comprising approximately 36% of total forecast employment growth. Significant employment opportunities will exist in sectors related to warehousing, logistics/distribution, manufacturing and construction. Further, a percentage of growth in the non-population related commercial employment sectors including business services, professional and technical services including engineering and environmental services, and research and development will also be accommodated on industrial lands. Collectively, approximately 45% of forecast total employment growth (46,415 jobs) is anticipated to be accommodated on industrial lands between 2011 and 2021.

Forecast employment on industrial lands translates into a total industrial land demand of 1,192 net ha (2,945 net acres) over the forecast period based on a forecast industrial density (i.e. employees/net acre or hectare) of 37 jobs/net ha (15 jobs/net acre). The average annual industrial land absorption over the 2011-21 period is expected to be 119 net ha (294 net acres).

In accordance with the vacant industrial land supply identified within the City's three existing Industrial Districts, by 2016 Edmonton is expected to have a surplus of 792 net ha (1,957 net acres) of industrial land. The surplus is expected to decrease to 168 net ha (415 net acres) by 2021. Despite the identified surplus by 2021, based on the forecast annual land absorption, the City's supply of vacant developable industrial land inventory will fall below the recommended threshold (i.e. five years of unconstrained supply) to allow for sufficient market choice by 2017-18. As such, to allow for sufficient market choice in the industrial market, the City will need to

prepare to have the first phase of the Edmonton Energy and Technology Park available for development by 2017-18.

It is further recommended that the City monitor shovel-ready and long-term industrial lands inventory, at minimum every five years, to determine if additional industrial lands are required to accommodate forecast demand.

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Developed Industrial Land – These lands are described as those that are privately owned and developed by end-users. This could include lands with buildings or vacant parcels that have some degree of site improvement and are being utilized by the owner for business operations (i.e. storage yards).

Gross Vacant Industrial Land Area– Reflects total land area of vacant industrial land (both developable and non-developable features).

Net Developable Vacant Industrial Land – Net vacant industrial land which is considered not to have any major impediment to development and is anticipated to develop over the course of the forecast period.

Net Vacant Industrial Land – Gross vacant industrial land which has been downward adjusted to reflect non-developable lands such as environmental features, local roadways, stormwater management facilities etc.

"Shovel Ready" Vacant Industrial Land – These are described as net developable vacant industrial lands that are considered available for development by an end-user immediately or within the upcoming year.

"Raw" Vacant Industrial Land – These lands are described as designated for future industrial uses but currently exist in their "gross" natural state and are vacant or feature interim uses prior to industrial development taking place.

Vacant Industrial Land – Vacant parcels which are zoned or designated for industrial uses.

APPENDIX A

VACANT INDUSTRIAL LAND SUPPLY INVENTORY COMPILATION – APPROACH AND METHODOLOGY

APPENDIX A - VACANT INDUSTRIAL LAND SUPPLY INVENTORY COMPILATION – APPROACH AND METHODOLOGY

This study included the development of a GIS-based vacant industrial land inventory. This inventory (as of May 2011) reflects the amount of vacant zoned industrial lands by zoning classification and the amount of land that is districted for industrial uses but not currently zoned within the City of Edmonton.

The vacant industrial land inventory analysis and data compilation were completed primarily through a desktop review using ESRI ArcView 9.3 GIS mapping software. Spatial overlays utilized included parcel fabric (assessment and title parcels), zoning, building footprints, street network, hydrology, environmental constraints, reserve lands and MrSiD orthophotos, which were provided by the City. Further, Area Structure Plans (ASP) and Neighbourhood Structure Plans (NSP) were reviewed along with discussions with City planning staff in combination with ground truthing and primary research in select sites/areas where necessary.

The following GIS shapefiles of the vacant industrial land inventory were generated and provided to the City, as part of this assignment:

- City of Edmonton Vacant Industrial Land Inventory May 2011; and
- City of Edmonton Net Developable Vacant Industrial Land Inventory May 2011.

This data, along with the documentation contained herein, will allow the City to update the inventory on a "go forward" basis. The following provides a detailed outline of how the inventory datasets were developed.

STEP 1 - DEVELOPMENT OF INDUSTRIAL LAND INVENTORY

- An industrial land inventory (both developed and vacant parcels) was developed utilizing the City's parcel fabric with land use GIS shapefile as a base. This file contains existing land use info and site size (in ha and acres);
- The parcel fabric located within the City's three existing industrial districts (within industrial and mixed-use neighbourhoods) was identified and extracted as a subset and used to move forward;
- Using a spatial join command, parcels located within the City's industrial districts were assigned zoning data (from zoning layer), attribute data identifying neighbourhood (from neighbourhood layer), street address, title and PGM data (from the City's parcel fabric by land title overlay);
- Parcels designated for non-industrial land uses (e.g. commercial, residential, institutional) based on zoning data and other sources were removed from parcel inventory;

- The parcels within the industrial lands inventory were then identified as developed or vacant. This was completed as follows:
    - As a first pass, sites were identified as developed or vacant based on the City's "Undeveloped Land Outside River Valley Ravines and TUC" and "Developed Land Outside River Valley Ravines and TUC" GIS layers, which were derived from the City's assessment database;
    - This preliminary compilation of developed/vacant parcels was reviewed against orthophotos (as of April 2010) and recent industrial land absorption data (post 2010) and was subject to further adjustments accordingly. Further, some parcels which were initially identified as vacant were subject to further review. In some instances, parcels containing no buildings and identified as "vacant" according to the City's assessment data were found to be actively utilized for commercial operations (e.g. storage) and considered unlikely to be absorbed for other industrial developments in the foreseeable future. As such, these sites were classified as "developed";
- The identified vacant parcels were extracted from the industrial parcel inventory to generate a vacant industrial land inventory GIS shapefile – City of Edmonton Vacant Industrial Land Inventory May 2011.

STEP 2 – DEVELOPMENT OF NET VACANT INDUSTRIAL LAND INVENTORY DATASET

- The City of Edmonton Vacant Industrial Land Inventory May 2011 GIS shapefile contains 648 parcels, with gross land area identified in tabular fields (GROSS_HA) and (GROSS_ACRES). This was subject to a number of refinements, including taking steps to appropriately net down the gross vacant industrial land inventory, where applicable, to a net developable figure for the City's long-term planning purposes;
- Vacant industrial parcels corresponding to City of Edmonton reserve lands (i.e. municipal reserve and public utility reserve lots) were identified and not considered as available for development and not subject to further analysis. These are identified in the (RESERVE_LA) attribute field;
- Lands impacted by hydrological features, such as lakes and ponds (non-developable lands) were identified and the corresponding non-developable land area by parcel was calculated and reflected in the tabular field (HYDRO);
- Parcels impacted by Environmentally Sensitive Areas based on the City of Edmonton Natural Areas Inventory and North Saskatchewan River Valley and Ravine System were identified and the corresponding land area (non-developable) was calculated and reflected in the tabular field (ENV_FEAT);
- Further, major utilities corridors, consisting of oil/gas pipelines, were also identified. Impacted land (which are non-developable lands) was identified in ha by parcel under the tabular field (PIPELINE);

- On a site by site basis, parcels were identified as "Net" or "Gross" in the field (VAC_Net_Gr). Typically, larger vacant parcels (i.e. 10 ha or greater) were identified as "Gross" and subject to an additional downward adjustment with a net to gross adjustment of 65% to account for internal infrastructure such as roads, stormwater management, etc. The non-developable land area (in ha) accounting for this provision is identified in the tabular field (INFRA);
- The net vacant industrial land area (NET_HA) was determined by extracting (HYDRO), (ENV_FEAT), (PIPELINE) and (INFRA) from the gross land area (hectares) for each land parcel.

STEP 3 – DEVELOPMENT OF DEVELOPABLE NET VACANT INDUSTRIAL LAND INVENTORY

- The vacant industrial land inventory was then subject to further review to identify non-developable parcels in order to generate a developable net land inventory;
- Based on a broad level review, a number of parcels were identified as unlikely to develop, identified as "YES" in the attribute field (UNL_TO_DEV). This included sites which would unlikely develop due to physical constraints and AGI designated parcels that currently have existing non-industrial uses and are considered unlikely to redevelop into industrial uses over the next decade – as identified under the (NON_DEV_RE) attribute field;
- The net developable land area (DEV_NET_HA) reflects (NET_HA) for parcels which were identified as "NO" under the (UNL_TO_DEV) field (i.e.. lands which are considered developable);
- The tabular data from the GIS shapefile was exported to MS Excel and presented in tabular form by Neighbourhood;
- Further, a GIS shapefile of the developable net land inventory – City of Edmonton Net Developable Vacant Industrial Land Inventory May 2011, was derived from the Vacant Industrial Land Inventory shapefile by cropping out all non-developable land features (e.g. reserve lands, environmental, hydrology, pipelines) and parcels which are considered unlikely to develop over the forecast period;
- Further, the Consulting Team reviewed on a high level to determine if parcels are "shovel ready". Lands considered "Shovel Ready" were identified as "YES" under the (Shovel_R) attribute field.

APPENDIX B

SURROUNDING MARKET AREA INDUSTRIAL LAND PROFILES

APPENDIX B- SURROUNDING MARKET AREA INDUSTRIAL LAND PROFILES

As part of this study, data regarding the amount of industrial zoned lands in a variety of industrial areas surrounding Edmonton was collected and summarized. The following provides a brief summary of the areas reflected in the analysis, the manner in which the data was collected and tables summarizing the findings.

Geographic Areas of Study

The following areas were researched:

- City of Fort Saskatchewan
- City of Leduc
- Leduc County (Nisku)
- Parkland County (Acheson)
- St. Albert
- Sturgeon County
- Strathcona County

The data obtained during the research process was compiled and sorted into these three categories. Where possible, each of the three categories was broken down into figures for each of the various zonings within that area. In other cases, where limited data was available, more general figures were provided. For instance, a total figure for all of the industrial zonings combined within an area may be provided. Overall, the data collected provides a good indication of the current status of industrial zoned lands within the areas surrounding Edmonton.

Data Collection/Compilation Approach/Methodology

Where available, secondary data was collected and utilized. This involved contacting the governing bodies of each specific area and requesting any data that may be available regarding the industrial lands within. This included discussions with Economic Development, Planning & Development, Assessment and Information Services Departments. Various amounts and types of data were obtained and have been sorted and summarized.

In the cases where secondary data was unavailable or limited, additional primary research was completed. This involved a variety of tasks such as examining aerial photographs, reviewing zoning and land ownership maps, obtaining information from land developers, and utilizing the Government of Alberta Land Titles Spatial Information System which includes a GIS mapping system.

The following details the data collection approach/methodology undertaken for each area reviewed:

City of Fort Saskatchewan

The majority of base data was provided by Ms. Terry Stacey, Economic Development Officer with the City of Fort Saskatchewan. Additional details regarding zonings and specific site information, where required, were gathered by Bourgeois & Company Ltd. from Land Use District Maps, Google Earth, the Alberta Industrial Heartland GIS Mapping System, the Alberta Land Titles Spatial Mapping System and a local developer (Transamerica).

City of Leduc

The majority of base data was obtained from Mr. Nazrul Islam, Development Officer with the City of Leduc. Additional details regarding zonings and specific site information, where required, were gathered by Bourgeois & Company Ltd. from Land Use District Maps, Google Earth, and the Alberta Land Titles Spatial Mapping System.

Leduc County

The majority of base data was obtained from Mr. Sylvain Losier, Manager of Long Range Planning in the Planning and Development Department with Leduc County. Additional details regarding zonings and specific site information, where required, were gathered by Bourgeois & Company Ltd. from Land Use District Maps, Google Earth and the Alberta Land Titles Spatial Mapping System.

Parkland County

Both Parkland County (Ms. Della Clish – Geographic Information Services Supervisor) and the Acheson Business Association (Ms. Natalie Bernie – Executive Director) were contacted but no information could be provided within the deadline of this study. Thus, the data was compiled by Bourgeois & Company Ltd. through primary research. The resources utilized in this research included Parkland County Land Ownership Maps, Parkland County Land Use Maps, Google Earth, Alberta Land Titles Spatial Mapping System and information from a developer (Transamerica Group).

St. Albert

Developed and vacant industrial land data was extracted from the City of St. Albert Future Industrial Land Requirements Study, prepared by Millier Dickinson Blais and Watson & Associates Economists Ltd. in 2011.

Sturgeon County

Sturgeon County (Economic Development) was contacted but Mr. Jonathan Eshun, Economic Development Coordinator, could only provide total land figures by zoning for the entire County. Thus, the majority of the data was compiled by Bourgeois & Company Ltd. through primary research. The resources utilized in this research included both discussions with personnel and the use of the GIS Mapping System of the Alberta Industrial Heartland, Sturgeon County Land Use Maps, Google Earth, Alberta Land Titles Spatial Mapping System and information from various developers and realtors (Pro North Park, Colliers International).

Strathcona County

The majority of base data was obtained from various sources including Ms. Noreen Robertson at Strathcona County Economic Development & Tourism, Mr. George Cosens of Strathcona County Assessment & Tax Department, and the Alberta Industrial Heartland Economic Development Officer, Ms. Jana Tolmie-Thompson. Additional details regarding zonings and specific site information, where required, were gathered by Bourgeois & Company Ltd. from Land Use District Maps, Google Earth, the Alberta Industrial Heartland GIS Mapping System and the Alberta Land Titles Spatial Mapping System.