VACANT INDUSTRIAL LAND SUPPLY

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1. INTRODUCTION

This report is an update to the City of Edmonton's Industrial Land Supply Study which identifies changes that occurred within the designated industrial areas between January 2016 and December 2016. The report provides an overview of the supply and use of industrial lands. The information will assist in the coordination of developing industrial land use policy and future transportation and service investments.

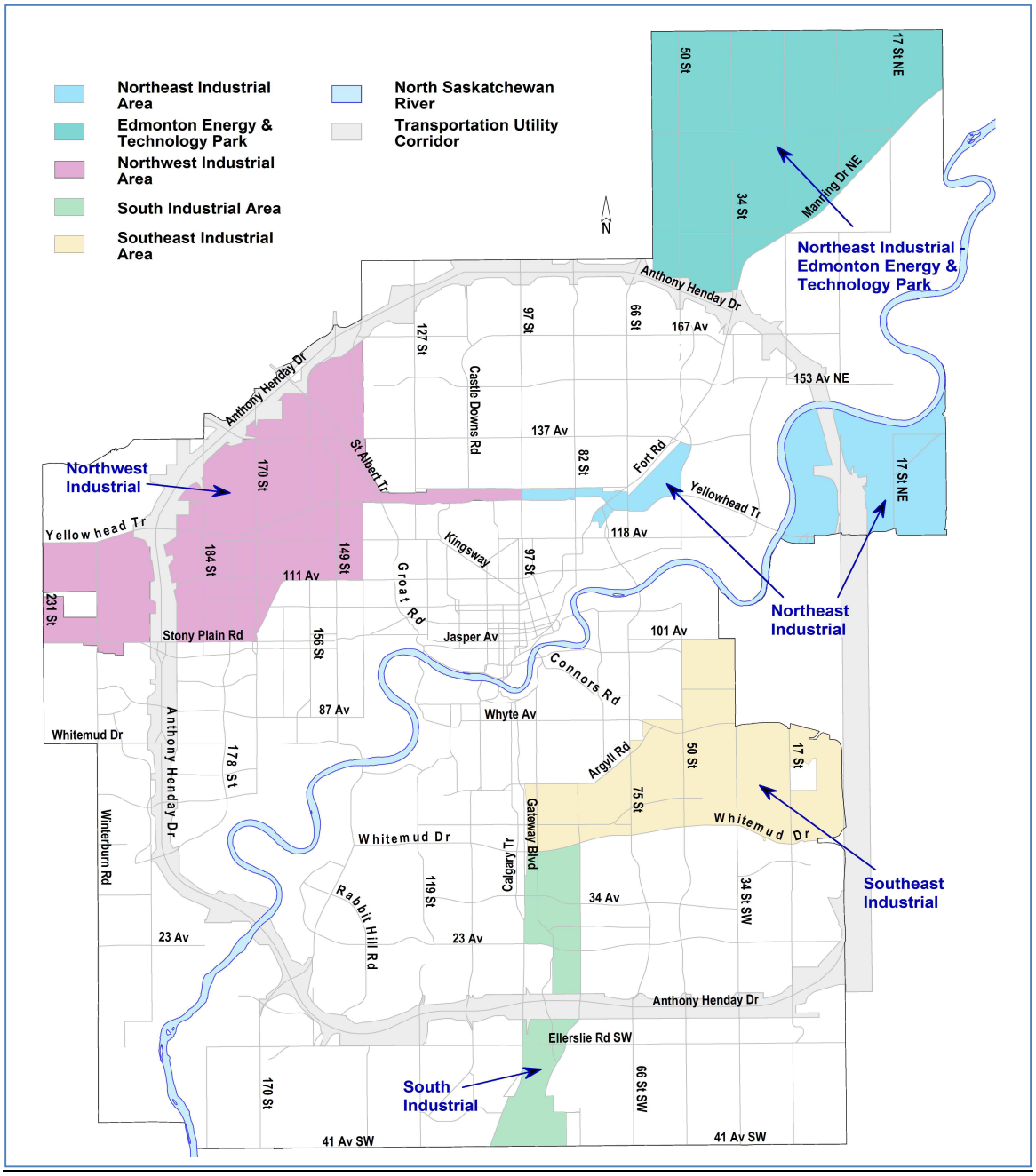
2. PURPOSE

The report will cover a number of areas :

1. Identify vacant industrial land in the City of Edmonton's designated industrial areas
2. Explain how much industrial land was absorbed in the period under review
3. Identify how much industrially-zoned land is available for future development and how much reserve land is present for potential rezoning to alleviate shortages of developable industrial land
4. Provide the value of building permits issued for various development activities in industrial areas during the study period
5. Compare the study to previous reports and to provide an indicator of future development trends

To fulfill these objectives, a detailed parcel-based industrial lands study was conducted by the City of Edmonton. The study provides a snapshot in time of the city's industrial land supply and demand. The vacant land inventory data and report are based on a methodology that uses the Geographic Information System (GIS) or GeoMedia to track vacant land status and various other criteria, such as size of parcels and servicing levels. This year's study represents a continuation of the process implemented in tracking vacant land two years ago. Various terms and processes have been used to identify which lands have been included or excluded in order to provide for more reliable and consistent land inventory numbers. Please refer to Appendix I for the methodology.

MAP 1: CITY OF EDMONTON INDUSTRIAL AREAS



Source: Sustainable Development, City of Edmonton

3. GENERAL FINDINGS

3.1 DEVELOPABLE LAND

The City of Edmonton has four main designated industrial areas or districts. The traditional industrial areas in Edmonton include the Northeast Industrial, Northwest Industrial, and South/Southeast Industrial Areas, which accommodate diverse industrial development. It also includes the Edmonton Energy and Technology Park (EETP) that has specific precincts to accommodate petrochemical development, manufacturing, logistics, and research and development.

The net zoned vacant industrial and gross reserve lands in Edmonton's traditional industrial areas (Northeast, Northwest, and South/Southeast) are 726 hectares and 688 hectares respectively. Edmonton's traditional industrial areas have 1,414 hectares of vacant land (Table 1 and Chart 1). Northwest Area has the largest amount of vacant land comprising 802 hectares of both net and gross land areas. The Edmonton Energy and Technology Park has an additional 4,810 hectares of undeveloped greenfield vacant industrial land. Edmonton's total supply of industrial land is 6,223 hectares. This is a decrease of around 90 hectares from 2015, most of which can be accounted for by absorption (62 hectares). A smaller component of this decrease is due to corrections of sites in order to exclude only the developed portions and new designations of future non-industrial lands that were not previously identified in the inventory. Also, new vacant industrial land was added to the inventory after some sites saw the demolishment of buildings or the removal of previous storage areas. The Northeast and Northwest Areas experienced a decrease of approximately 20 hectares of vacant land, while the South Area experienced a decrease of around 40 hectares.

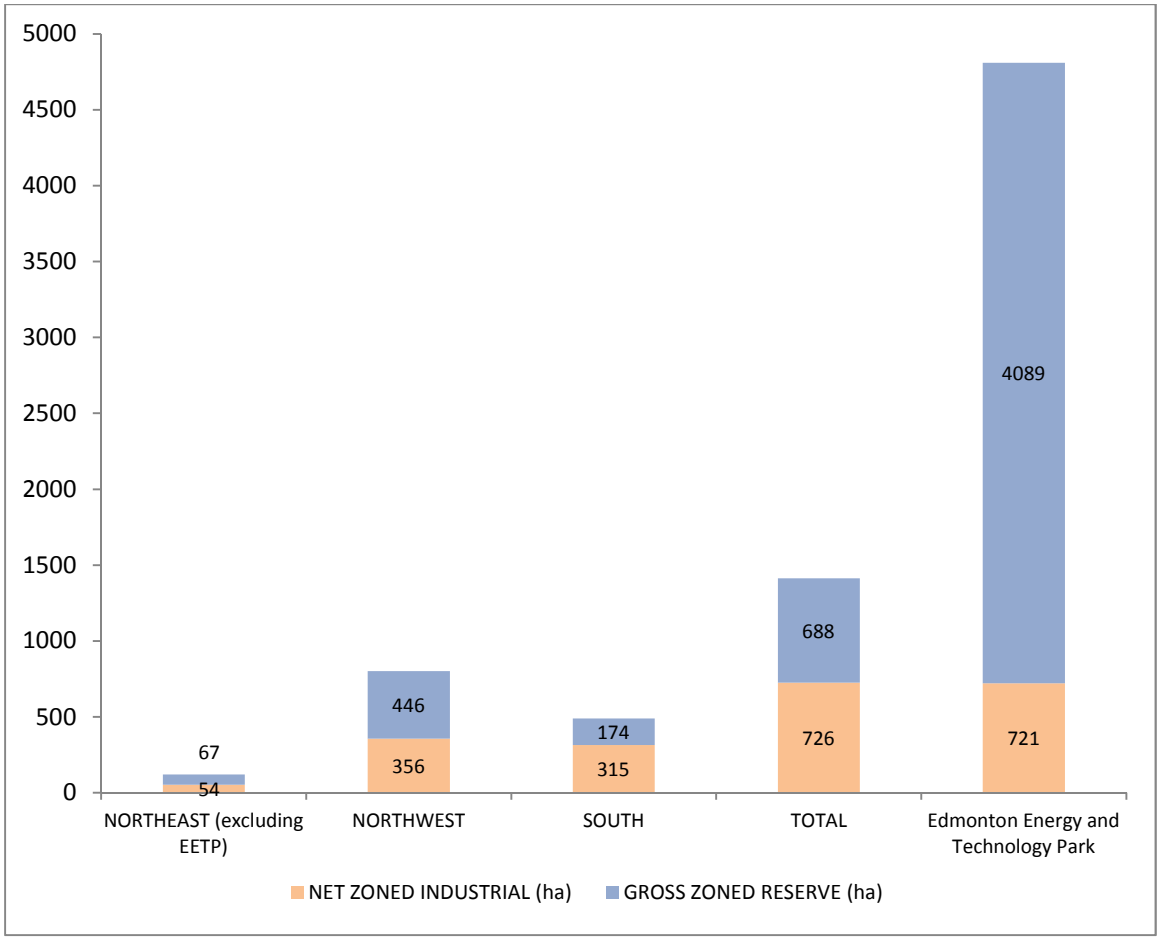
TABLE 1: ZONED NET AND GROSS VACANT INDUSTRIAL LAND

INDUSTRIAL AREA	NET ZONED INDUSTRIAL (ha)	GROSS ZONED RESERVE (ha)	TOTAL (ha)
NORTHEAST (excluding EETP)	54	67	122
NORTHWEST	356	446	802
SOUTH	315	174	490
TOTAL	**726**	**688**	**1,414**
Edmonton Energy and Technology Park	721	4,089	4,810

*Please see Appendix II for how Edmonton Energy and Technology Park numbers were presented in this report.

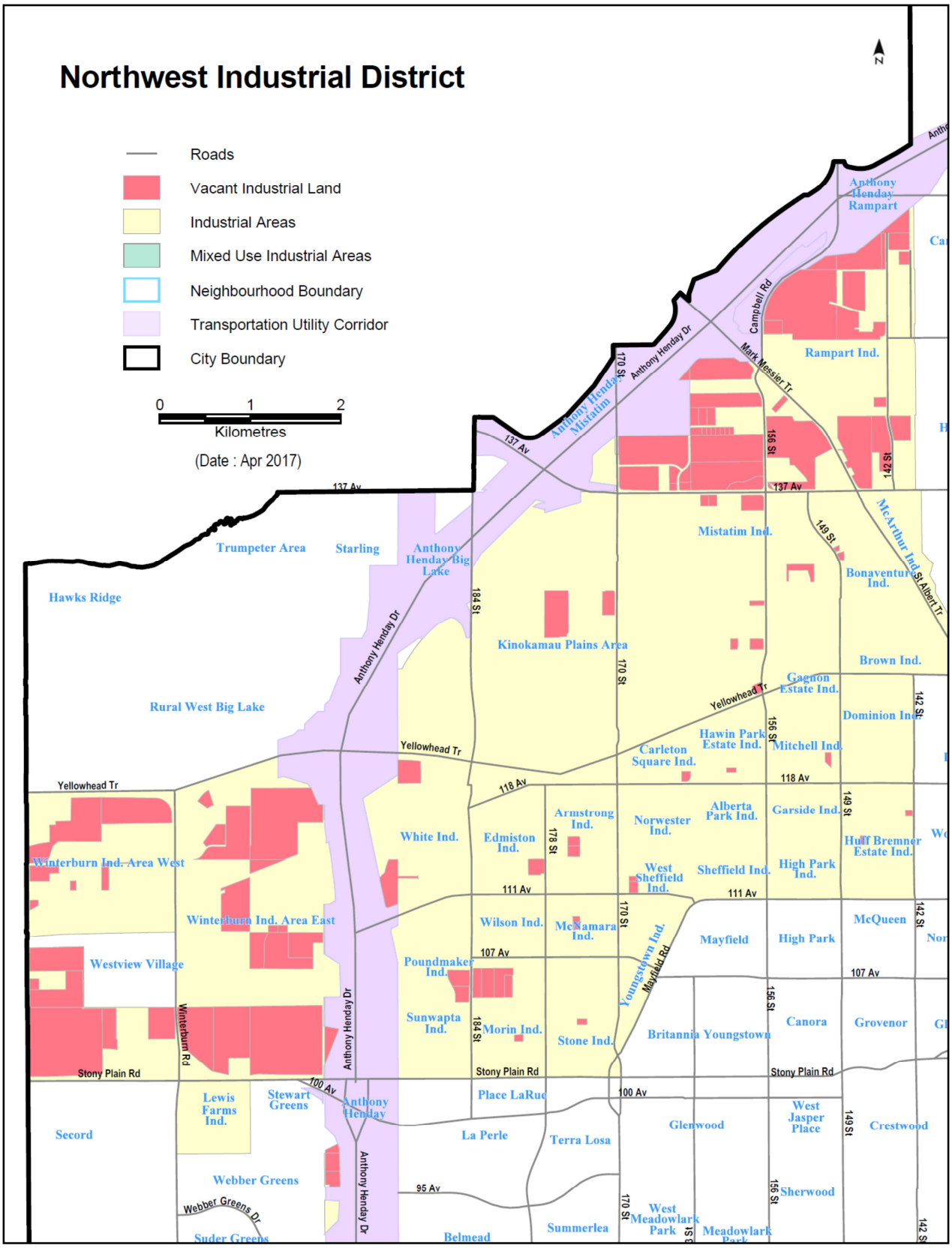
There was a decrease of approximately 70 hectares of net zoned land and 20 hectares of gross zoned land figures respectively from 2015. Vacant land in Edmonton's traditional industrial areas is being depleted and not replenished as they become fully built out. Some of the future demand for industrial land, particularly in the Northeast Industrial Area, will be provided by the Edmonton Energy and Technology Park as soon as servicing and infrastructure issues are resolved.

CHART 1: SUMMARY OF VACANT INDUSTRIAL LAND SUPPLY AS OF 2016

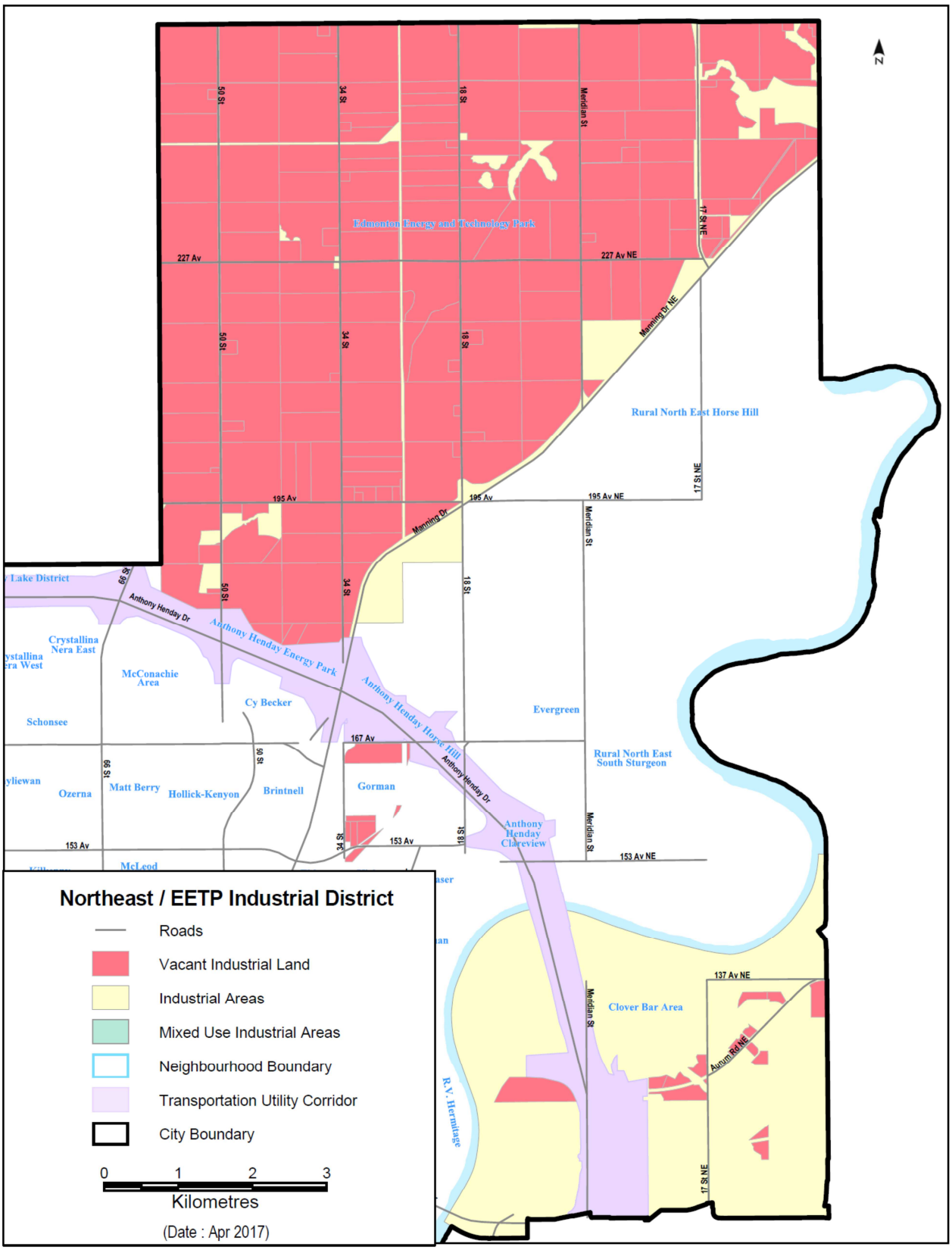


It is important to note that some vacant lands within the industrial areas face challenges that hinder immediate development. These lands may not be available for industrial development due to servicing and ownership constraints. The following maps show that there is a concentration of vacant industrial land at the edge of the city and pockets of infill opportunity within some of the industrial neighbourhoods.

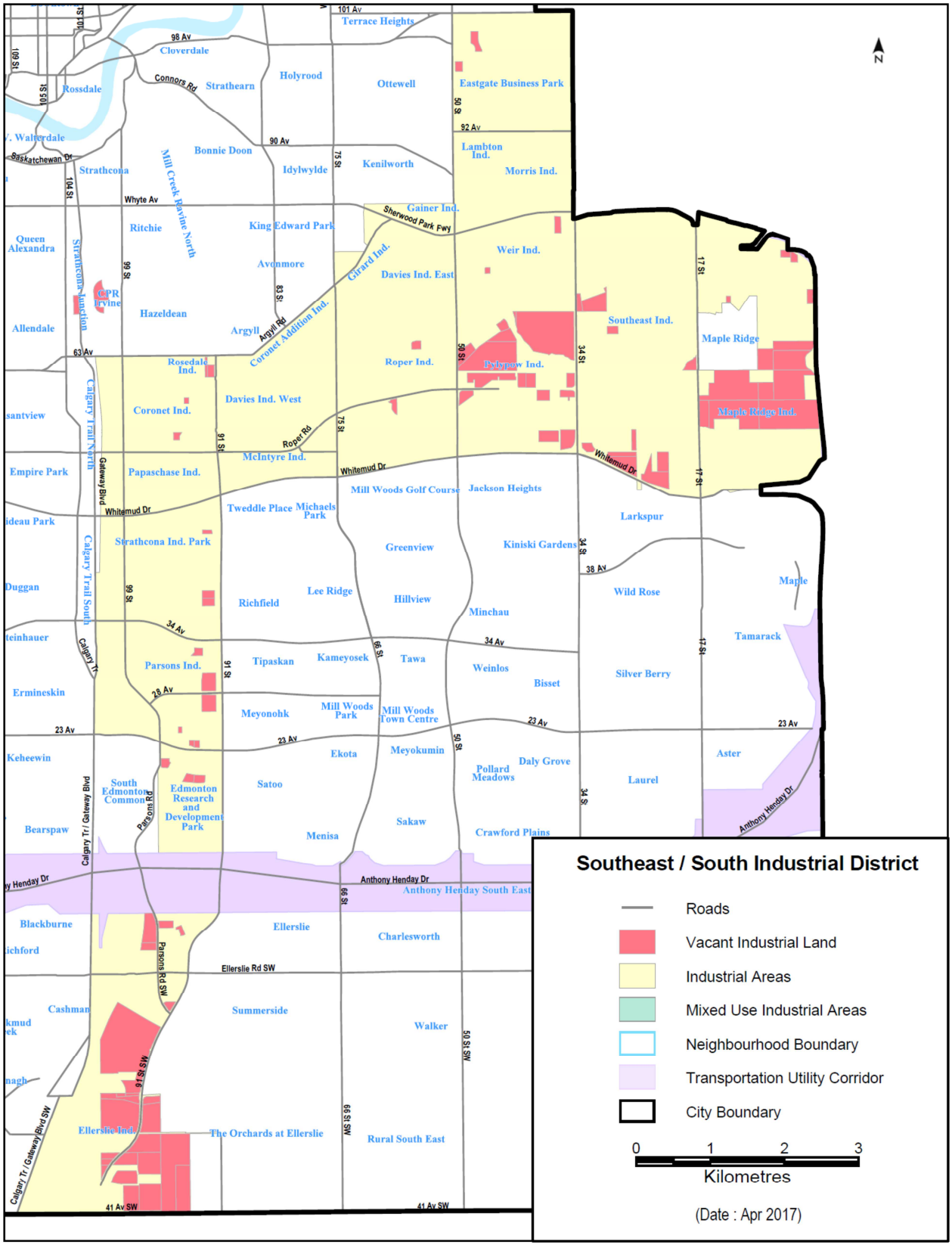
MAP 1: VACANT INDUSTRIAL LAND IN THE NORTHWEST DISTRICT



MAP 2: VACANT INDUSTRIAL LAND IN THE NORTHEAST DISTRICT



MAP 3: VACANT INDUSTRIAL LAND IN THE SOUTH/SOUTHEAST DISTRICT



3.2 INDUSTRIAL NEIGHBOURHOODS WITH MOST VACANT LAND

Edmonton's industrial neighbourhoods were examined to identify which neighbourhoods currently have the most available vacant land for future growth as shown in Table 2. These neighbourhoods also tend to have experienced significant growth in the previous year.

TABLE 2: INDUSTRIAL NEIGHBOURHOODS WITH MOST VACANT LAND

INDUSTRIAL NEIGHBOURHOOD	AREA	IB	IM	IL	IH	TOTAL ZONED LAND (ha)	AG	AGI	TOTAL RESERVE LAND (ha)
Clover Bar Industrial	NE	21	26	0	6	**53**	0	29	**29**
Ellerslie Industrial	S	82	6	0	0	**88**	0	87	**87**
Gorman	NW	0	0	0	0	**0**	18	21	**39**
Maple Ridge Industrial	S	0	84	49	0	**133**	0	1	**1**
Mistatim Industrial	NW	53	19	28	0	**100**	0	78	**78**
Pylypow Industrial	SE	11	0	17	0	**28**	0	79	**79**
Rampart Industrial	NW	0	16	0	0	**16**	87	41	**128**
Southeast Industrial	SE	0	17	11	0	**28**	0	8	**8**
Winterburn Industrial Area East	NW	11	32	14	0	**56**	0	180	**180**
Winterburn Industrial Area West	NW	10	35	68	0	**113**	0	54	**54**

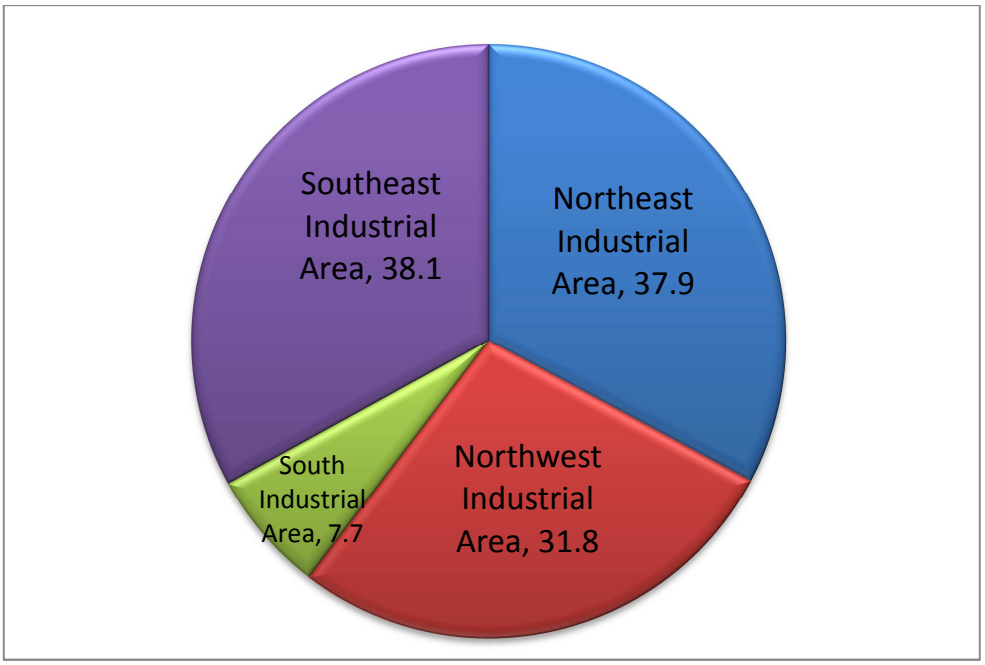
Note: Not all land types indicated above are available for immediate industrial development. The table excludes the developing area of Edmonton Energy and Technology Park as this information is found on page 5.

The table shows that Winterburn Industrial Area East and West, Mistatim Industrial and Ellerslie Industrial Neighbourhoods have the most vacant land. Ellerslie Industrial Neighbourhood experienced a significant decrease in the amount of vacant land in 2016 due to new development, subdivision and rezoning activity. Maple Ridge Industrial, Roper Industrial and Winterburn Industrial East also experienced significant development activity of between ten to 15 hectares.

Development was not significant in other developing industrial neighbourhoods and was generally less than five hectares. Though most of the vacant land figures reflect the absorption that took place in a particular neighbourhood in 2016, slight adjustments were made to take out developed portions of largely vacant parcels as well.

3.3 INDUSTRIAL LAND ABSORPTION TREND

CHART 2: INDUSTRIAL LAND ABSORPTION IN HECTARES FOR 2016



Industrial absorption data is derived from development permits that the City of Edmonton collects. The amount of land absorbed by new development (as per development permits issued) in Edmonton's industrial areas from January to December of 2016 was 115.5 hectares (Chart 2). The largest land absorption of 38.1 hectares was in the Southeast Industrial Area and 37.9 hectares in Northeast Industrial Area. The Clover Bar Area Neighbourhood experienced the largest absorption at 27 hectares. Much of this absorption was in the form of existing and new storage areas comprised of module assembly for the oil and gas industry, and with or without buildings[1]. The construction of infrastructure facilities, including the Edmonton Northeast Transit Garage along the Yellowhead Corridor in Northeast Industrial Area (ten hectares) and the LRT Operations and

[1] Some of this development was not included in absorption figures in previous years when it was initially developed. It is included here for tracking purposes so that the long-term average for industrial absorption is accurate. This type of development was officially registered in 2016. It comprises around 27 hectares and it is not clear in what year it commenced.

Maintenance Facility (17 hectares) in Southeast Industrial Area of Roper Industrial accounted for the large absorption figures in their respective industrial areas. The storage areas and infrastructure facilities mentioned above accounted for approximately 54 hectares of absorption for 2016. Without these, traditional industrial development or absorption for 2016 would have been lower at only 62 hectares[2]. The least amount of absorption of eight hectares occurred in the South Industrial Area. Large-scale development is taking place in Winterburn Industrial East Neighbourhood as this greenfield area becomes serviced and developed in a similar manner to the previous year. A large amount of development in 2016 was in the form of new development on sites which were previously used for storage and sites which had buildings that were demolished, or through intensification by adding new buildings on large unsubdived sites. Just like the year before, there was no absorption in Edmonton Energy and Technology Park in 2016.

The industrial land absorption from 2007 to 2016 was calculated for each industrial zone to ascertain changes in land absorption over time (see Table 3). Subsequently, the average ten-year absorption rate was calculated using the net annual land absorbed from 2007 to 2016 (shown in Table 3 and Chart 3). The "net" land absorption defined by Western Management Consultants[i] means "land needs exclusive of allocations for roads, utility rights of way, drainage ponds, other environmental reserves, municipal reserves, and any other land allocations not strictly for use by the industrial business." The calculation revealed an average absorption rate of 134 hectares per year for the last decade, which is a decrease from 137 hectares from the same measurement in the previous year.

[2] The total figure of 116 hectares though better represents the total absorption of land in industrial areas over the long-term and encompasses previously unaccounted absorption, which is the reason it is used in this report.

CHART 3:
TEN YEAR INDUSTRIAL LAND ABSORPTION TREND, 2007 TO 2016 (HECTARES)

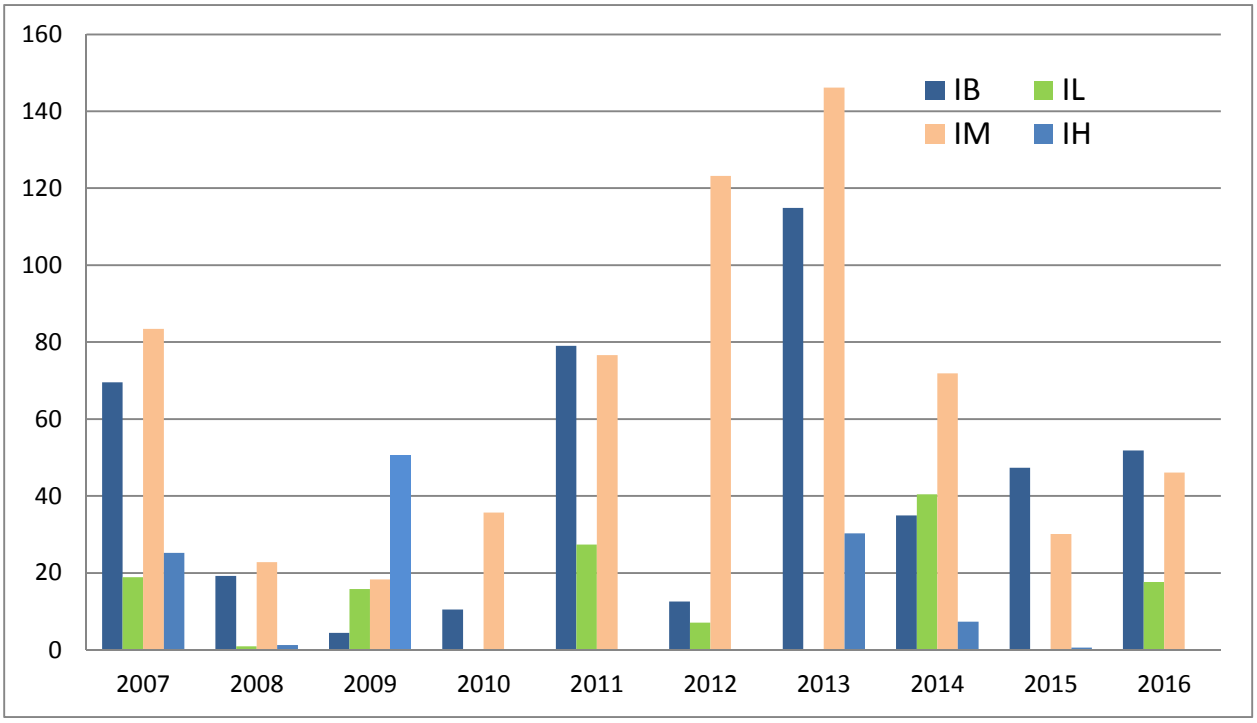


TABLE 3: CITY OF EDMONTON INDUSTRIAL LAND ABSORPTION, 2007 TO 2016 (HECTARES)

CITY OF EDMONTON					
CITYWIDE INDUSTRIAL LAND ABSORPTION 2007 TO 2016					
YEAR	IB	IL	IM	IH	TOTAL
2007	70	19	83	25	197
2008	19	1	23	1	44
2009	4	16	18	51	89
2010	10	0	36	0	46
2011	79	27	77	0	183
2012	13	7	123	0	143
2013	115	0	146	30	291
2014	35	40	72	7	155
2015	47	0	30	1	78
2016	52	18	46	0	116
TOTAL (HA)	**444**	**128**	**654**	**115**	**1,342**
10 YEAR AVERAGE	**44**	**13**	**65**	**12**	**134**

The ten-year average industrial land absorption was 34 hectares for the Northeast Industrial Area, 54 hectares for the Northwest Industrial Area, and 46 hectares for the South/Southeast Industrial Area, respectively (detailed breakdown in Table 4 below).

Similarly, it is vital to ascertain the amount of prime land in Edmonton that is left for economic development. To do this, the net zoned vacant industrial lands (IB, IL, IM and IH) mentioned in Table 1 of this report and the past ten-year average absorption rate indicated in Table 3 above were matched against each another. When vacant land figures are divided by these absorption rates, it shows that Edmonton could run out of zoned vacant land in traditional industrial areas in approximately five years depending on the rate of future development. However, new land is rezoned every year from the reserve industrial areas, which by themselves, at current pace of development can provide an additional four years of supply of industrial land. At current pace of development and with the exhaustion of all other supply of industrial land in Edmonton, the EETP could provide 25 years of additional supply of industrial land (assuming net area calculations).

TABLE 4: INDUSTRIAL AREAS – TEN YEAR AVERAGE LAND ABSORPTION (2007 TO 2016)

INDUSTRIAL AREA	10 YEAR TOTAL 2007-2016	10 YEAR AVERAGE (HA)
Northeast Industrial Area	341	34
Northwest Industrial Area	542	54
South Industrial Area	71	7
Southeast Industrial Area	388	39
TOTAL (HA)	**1,342**	**134**

4. VACANT LAND: SERVICING AND PARCEL SIZE AVAILABILITY

For servicing levels, lands were identified in one of four categories:

- Shovel-ready, and already serviced land that is available for development. Usually there is presence of internal roads. This land is ready for a development permit application.
- Fully serviced and/or immediately serviceable lands – Servicing is in place or can be connected when development is proposed. Lands that may be subdivided and/or have the presence of servicing maps are good indicators.
- Partially serviced or potentially serviceable – Requires additional municipal infrastructure or privately-financed extensions. Lands with rezonings and/or servicing maps are good indicators.
- Unserviced or vacant long-term growth areas – Not expected to be fully serviced in the short-term (e.g. five years). The presence of large AGI/AG parcels is a good indicator. Land areas are usually represented as gross land figures.

4.1 SERVICING LEVEL BY ZONE

Table 5 shows that there is generally a moderate supply of shovel-ready industrial sites in Edmonton. The largest number of shovel-ready industrial sites is found in the Industrial Business Zone (IB) and Medium Industrial Zone (IM) categories. As zoned industrial land is generally shovel-ready, there is less of this type of land in the fully-serviced, partially-serviced and unserviced categories. This is because large amounts of investment are required for industrial development to bring land up to the last stage of the development process. Further, Agricultural Zone (AG) and Industrial Reserve Zone (AGI) parcels are usually unserviced, which is typical for these sites. They generally require years to develop servicing extensions and subdivision approvals to become readily developable.

TABLE 5: NUMBER OF SITES BY SERVICING LEVEL

Servicing Level	INDUSTRIAL NET (Number)				INDUSTRIAL GROSS (Number)		GRAND TOTAL
	IB	IL	IM	IH	AG	AGI	
Shovel ready	38	9	31	3	0	2	83
Fully serviced	15	6	11	2	1	4	39
Partially serviced	10	6	16	2	3	14	51
Unserviced	0	6	5	17	159	24	211
TOTAL	**63**	**27**	**63**	**24**	**163**	**44**	**384**

*Includes the Edmonton Energy and Technology Park under standard zones. Some parcels in EETP were split-zoned and so, remained under the AG Zone.

Table 6 shows that the different zones and levels of servicing are more evenly distributed for net industrial areas. They are concentrated once again for the gross industrial areas, which is overwhelmingly in the unserviced category. Of note is that Heavy Industrial Zoned (IH) parcels are undersupplied in the city, which may be a reflection of the general nuisances created by some of the activities under this zone. These sites tend to be located further away from residential uses, either on the outskirts of the city or in adjacent municipalities. There is a concentration of this type of land, which is unserviced, in the Edmonton Energy and Technology Park under the Chemical Cluster Zone (EETC).

TABLE 6: AREA AMOUNTS (HECTARES) BY SERVICING LEVEL

Servicing Level	INDUSTRIAL NET (Area)				INDUSTRIAL GROSS (Area)		TOTAL AREA
	IB	IL	IM	IH	AG	AGI	
Shovel ready	63	20	73	7	0	5	167
Fully serviced	49	51	48	4	2	13	166
Partially serviced	137	56	153	6	28	210	590
Unserviced	0	175	161	428	4,163	372	5,300
TOTAL	**248**	**302**	**436**	**444**	**4,193**	**600**	**6,223**

*Includes the Edmonton Energy and Technology Park under standard zones.

4.2 PARCEL SIZE AVAILABILITY

Reserve lands are typically larger parcels that can be subdivided for future industrial uses. The overwhelming amount of vacant industrial land is found in unsubdivided parcels over ten hectares, which is typically the reserve industrial land that will be developed in the long-term (see Table 7). The 0.5 to 2 hectares, 2 to 5 hectares, and 5 to 10 hectares have a comparable share of land area, ranging from two to four percent. The type of industrial development that is most prominent in Edmonton takes place on the 0.5 to 2 hectare and 2 to 5 hectare size categories (see Tables 7 to 9). There are only 354 hectares of land in these categories, or less than three years of future

absorption based on the past decade absorption figures. Parcels typically get subdivided from the larger 5 to 10 hectare and above 10 hectare size category, so the short three-year time period may present challenges for industrial development that wants to locate on these lands, especially in certain in-demand parts of the city. Subdivision, servicing and infrastructure provision can take two or more years. However, these categories typically get replenished each year, which provides some stability. The unstable pace of development can be explained once again by the nature of the risk-averse and investment-intensive industrial development industry as a result of the upfront infrastructure cost requirements.

TABLE 7: AREA AND NUMBER OF ALL VACANT ZONED AND RESERVE INDUSTRIAL LAND PARCELS AND SIZE

INVENTORY OF ZONED AND RESERVE VACANT INDUSTRIAL LAND PARCELS				
Size	Area of Land (ha)	Share of Land Area	Number of Sites	Share of Total Number*
TOTAL (0.5-2 ha)	**116**	2%	**97**	25%
TOTAL (2-5 ha)	**238**	4%	**73**	19%
TOTAL (5-10 ha)	**202**	3%	**31**	8%
TOTAL (Above 10 ha)	**5,664**	91%	**172**	45%
TOTAL (All)	**6,223**	100%	**373**	97%

*Excludes 0-0.5 ha sites, which come to a total of 3% of the total number and add up to 100%.

Table 8 shows a breakdown of the number of parcels based on their size and zoning. There is a shortage of Heavy Industrial sites in most categories. For the most part, there is a balanced number of net industrial zoned sites. However, there is typically less Light Industrial sites in the 0.5 to 2 hectare and the 2 to 5 hectare categories. Light Industrial Zone is preferable to the existing greater concentration of vacant sites in the Industrial Business Zone since Light Industrial Zone sites are limited to industrial uses specifically. The Industrial Business Zone has commercial and institutional uses that may erode the viability of industrial areas, due to issues such as risk faced from various nuisances and hazardous uses in heavier industrial zones, increased traffic impacts from institutional and commercial uses, and less concentration and/or quality of jobs in the non-industrial uses.

TABLE 8: NUMBER OF INDUSTRIAL LAND PARCELS BY SIZE AND ZONING

Size	INDUSTRIAL NET (Number)				INDUSTRIAL GROSS (Number)	
	IB	IL	IM	IH	AG	AGI
0.5 to 2 ha	35	7	25	3	17	10
2 to 5 ha	16	9	12	5	21	10
5 to 10 ha	2	4	6	3	13	3
Above 10 ha	6	8	14	11	112	21
TOTAL	**59**	**28**	**57**	**22**	**163**	**44**

*Does not include total for land below 0.5 ha, which includes 11 sites in all. The table includes the Edmonton Energy and Technology Park under standard zones.

Table 9 shows a similar context but provides the total area in hectares for the parcels of different size categories.

TABLE 9: AREA OF INDUSTRIAL LAND PARCELS BY ZONING AND SIZE

SIZE	INDUSTRIAL NET (Area in ha)				INDUSTRIAL GROSS (Area in ha)		TOTAL AREA (ha)
	IB	IL	IM	IH	AG	AGI	
0.5 to 2 ha	38	10	28	5	24	12	116
2 to 5 ha	53	30	41	15	63	36	238
5 to 10 ha	16	20	39	19	83	25	202
Above 10 ha	137	245	325	405	4,024	528	5,664
TOTAL	**244**	**304**	**433**	**444**	**4,193**	**600**	**6,223**

*Includes the Edmonton Energy and Technology Park under standard zones.

4.3 SERVICING AND PARCEL SIZE AVAILABILITY

By combining servicing levels and parcel size information, it becomes further evident which categories of vacant industrial land shortages exist. As seen in Table 10 below, there is a general concentration of land in the unserviced and partially serviced category, especially for larger parcels. However, it is particularly important for Edmonton to have shovel-ready and fully-serviced land that is readily developable in the near term and in every size category to accommodate the needs of different businesses. There is a shortage of sites in the 5 to 10 hectare size category that is shovel-ready, which is below twenty hectares in total. Fully serviced sites that are between 0.5 and 2 hectares also comprise an area below twenty hectares. Shovel ready and fully serviced sites in other categories are generally around 20 to 60 hectares. This could result in challenges for

industry trying to accommodate unique businesses with specific site requirements unless land is rezoned, subdivided and serviced at a fast pace. The amount of land in the fully serviced category increased from the previous year though, particularly with the addition of around 40 hectares in the above 10 hectares size category of land. This is mostly the result of large sites getting subdivided, serviced and developed in Ellerslie and Mistatim Industrial Neighbourhoods.

TABLE 10: AREA OF INDUSTRIAL LAND PARCELS BY ZONING (HECTARES)

Sum of Total Area		
Servicing	**Size Category**	**Total**
Shovel-ready	0.5-2 ha	60
	2-5 ha	56
	5-10 ha	12
	Above 10 ha	36
	Total	**167**
Fully serviced	0.5-2 ha	17
	2-5 ha	34
	5-10 ha	42
	Above 10 ha	73
	Total	**166**
Partially serviced	0.5-2 ha	9
	2-5 ha	52
	5-10 ha	41
	Above 10 ha	488
	Total	**590**
Unserviced	0.5-2 ha	30
	2-5 ha	95
	5-10 ha	107
	Above 10 ha	5,067
	Total	**5,300**
TOTAL		**6,223**

5. BUILDING PERMITS ISSUED

Building permit values are calculated in a slightly different fashion than the method used for vacant land in this report. They are calculated outside of the GIS tracking system using data provided from the Posse database. All new significant building activity, whether on a vacant site or a site with existing development is tracked to help understand the major industrial building activity taking place in the city. This information is presented in this report through tables for simple comparison. These figures are generally rounded and approximate for individual permits, and may not capture all the construction value, which has not been provided or recorded in some instances. For example, construction values for foundations are generally not provided.

Table 11 shows the highest value of $132,970,189 was issued in the Northeast Industrial Area. Other areas followed, including $66,868,305 for the Northwest Industrial Area, and $51,718,160 for the South/Southeast Industrial Area. The total building permit value for the city is $251,556,654. The distribution of the 2016 building permit values on an industrial neighbourhood basis is further shown in Table 12.

TABLE 11: BUILDING PERMIT VALUES BY INDUSTRIAL AREA 2016

AREA	TOTAL ($)
Northeast	132,970,189
Northwest	66,868,305
South/Southeast	51,718,160
TOTAL	251,556,654

Source: City of Edmonton

Most of the building activity took place in a few key neighbourhoods as seen in Table 12. This includes Yellowhead Corridor East at around $123M, Summerside at $22M, Rampart at $22M, Winterburn Industrial West at $11M, and Mistatim at $11M. Together, these neighbourhoods comprised around 75 percent of building permit activity out of all industrial areas. Though the total value of all building permit activity increased from the previous year, building permit activity in 2016 generally fell in the different industrial areas. The exception is the building of a $123M Edmonton Northeast Transit Garage in Yellowhead Corridor East that dramatically impacted figures in this neighbourhood, the Northeast Industrial Area and the city overall. Further in comparison to 2015, the figures for 2016 generally represented building in the form of

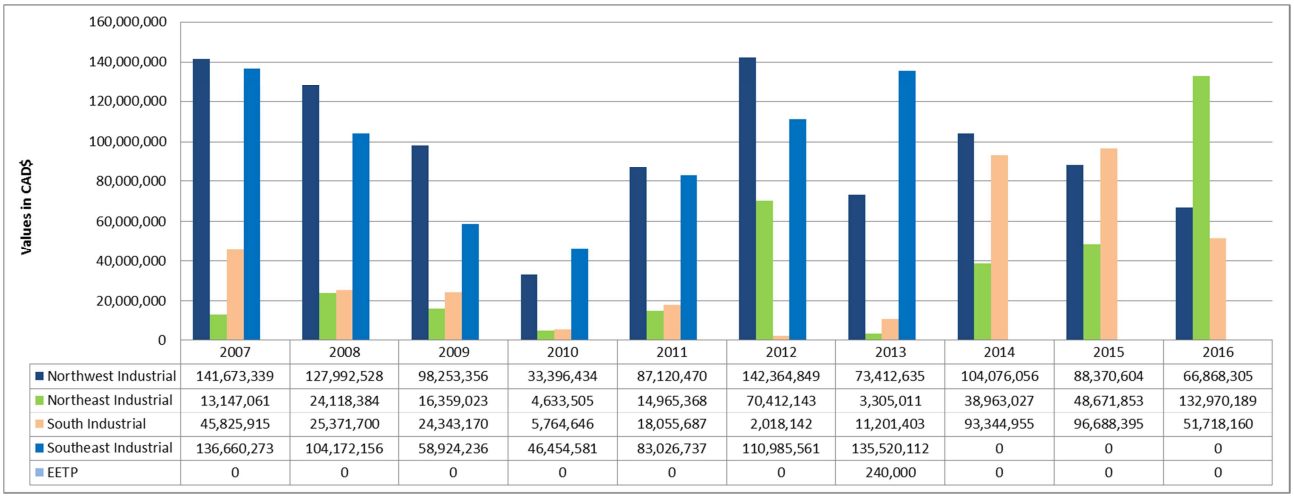
intensification on sites with existing storage or some other form of development. This activity represented around 80 percent of new building activity, which was significantly higher than that in 2015.

TABLE 12: BUILDING PERMIT VALUES BY INDUSTRIAL NEIGHBOURHOOD 2016

AREA	NEIGHBOURHOOD	TOTAL ($)
NORTHEAST	CLOVER BAR AREA	8,826,189
	INDUSTRIAL HEIGHTS	841,000
	YELLOWHEAD CORRIDOR EAST	123,303,000
	TOTAL	132,970,189
NORTHWEST	BONAVENTURE INDUSTRIAL	9,023,000
	DOMINION INDUSTRIAL	3,500,000
	EDMISTON INDUSTRIAL	75,000
	HUFF BREMNER ESTATE INDUSTRIAL	1,035,000
	KINOKAMAU PLAINS AREA	1,325,000
	LEWIS FARMS INDUSTRIAL	885,000
	MISTATIM INDUSTRIAL	10,719,734
	MITCHELL INDUSTRIAL	1,100,000
	RAMPART INDUSTRIAL	22,000,000
	STONE INDUSTRIAL	1,300,000
	WINTERBURN INDUSTRIAL EAST	1,081,773
	WINTERBURN INDUSTRIAL WEST	11,223,798
	YOUNGSTOWN INDUSTRIAL	3,600,000
	TOTAL	66,868,305
SOUTH	CORONET INDUSTRIAL	500,577
	DAVIES INDUSTRIAL EAST	3,068,000
	EASTGATE BUSINESS PARK	371,000
	ELLERSLIE INDUSTRIAL	7,550,000
	GAINER INDUSTRIAL	60,000
	GIRARD INDUSTRIAL	1,000,000
	PAPASCHASE INDUSTRIAL	102,677
	PARSONS INDUSTRIAL	1,700,000
	PYLYPOW INDUSTRIAL	4,826,000
	RITCHIE	2,560,000
	ROPER INDUSTRIAL	4,972,906
	SOUTHEAST INDUSTRIAL	250,000
	SUMMERSIDE	22,247,000
	WEIR INDUSTRIAL	2,510,000
	TOTAL	51,718,160
EDMONTON	TOTAL	251,556,654

Looking at the building permit value trends from 2007 to 2016 in Chart 6 below, values of building permits have decreased for 2016 in comparison to previous two years with the exception of Northeast Industrial. Building permit activity overall increased by around $18M from 2015 to 2016. The ten-year period ending in 2016 was above average for industrial building activity, being around $5M higher than the previous ten-year period. This is due to the building of large-scale infrastructure project, the Edmonton Northeast Transit Garage. As previously referenced, South and Southeast Industrial Areas have been combined for 2014 and onwards.

CHART 6: BUILDING PERMIT VALUES
TEN YEAR BUILDING PERMITS VALUES TREND (2007 TO 2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Northwest Industrial	141,673,339	127,992,528	98,253,356	33,396,434	87,120,470	142,364,849	73,412,635	104,076,056	88,370,604	66,868,305
Northeast Industrial	13,147,061	24,118,384	16,359,023	4,633,505	14,965,368	70,412,143	3,305,011	38,963,027	48,671,853	132,970,189
South Industrial	45,825,915	25,371,700	24,343,170	5,764,646	18,055,687	2,018,142	11,201,403	93,344,955	96,688,395	51,718,160
Southeast Industrial	136,660,273	104,172,156	58,924,236	46,454,581	83,026,737	110,985,561	135,520,112	0	0	0
EETP	0	0	0	0	0	0	240,000	0	0	0

6.0 CONCLUSION

The overall vacant land supply shows that there is a stable supply from year to year. This total overall supply will serve Edmonton's needs in the medium-term. This report shows that the City of Edmonton is currently experiencing a shortage of "developable", "serviced" and "industrially-zoned" vacant land to meet both short- and medium-term land demands. This is even more so compared to the available vacant land in these categories from last year. This shortage, if compared to demand, is most acute in the South/Southeast Industrial Area of the city and in the IB and IL zones, particularly for shovel-ready and fully serviced sites in various land size categories. City of Edmonton has an opportunity to work with various stakeholders to update the Industrial Land Strategy to find servicing solutions so that Edmonton can accommodate and attract a wide variety of industrial activity. There is a need for serviced and zoned land in all areas of the city to allow for new development, investment and business retention.

APPENDIX I

The method used in this report is different from previous reports (before 2015) on the industrial land supply in the City of Edmonton. The difference lies in using GIS software (GeoMedia) to track the vacant land information. Tracking the information using GIS mapping tools allows for more efficiency, consistency, and ease in comparison and use from year to year. This approach includes the extraction of vacant industrial land data from the City of Edmonton's Tax Assessment Control System based on codes found in Table 12. For clarity, additional explanations of zoning and land use classifications applicable for the industrial areas are given:

- Zoned land refers to vacant parcels of land within industrial areas that are zoned for industrial uses: IB, IM, IL, IH, direct control zones with industrial uses, or special industrial zones, EETB, EETC, EETL, EETM, EETR, EIB and EIM. The parcels of land are also classified under land use codes found in Table 1.
- Reserve land refers to vacant parcels of land within industrial areas that have been designated for future industrial uses and zoned AG or AGI. The parcels of land are also classified under Land Use Codes stated in Table 12 below.
- Reserve land is available for rezoning to IB, IM, IL, or IH Zones that allow for industrial uses.
- Other zoned land refers to vacant parcels of land which are within the industrial areas that have been designated as non-industrial or zoned as A, AJ, AN, AP, CB1, CB2, CB3, CHY, CNC, CO, CSC, DC1, DC2, NA, PU, RA7, RF1, RF4, RF5, RMH, RPL, RR, RSL, UI or US. The parcels of land are also classified under the Land Use Codes stated in Table 12 below. These parcels of land are not considered, in this analysis, as available for industrial development.
- The report also extracted areas that will be non-developable or non-industrial in the future, including those with water bodies, resource development, small size, recent construction, oil/gas pipelines, utility right-of-ways, physical constraints, parking and temporary storage. Further analysis was completed according to zoning, servicing levels and parcel sizes.

The report covers the period from January to December of 2016.

TABLE 12: TACS AND LAND USE CODES FOR VACANT INDUSTRIAL LAND

	TACS		LAND USE
800	Private Non-Farmland With Single Family Dwelling	1050	Non-farmland with One Unit Dwelling
803	Private Non-Farmland Vacant	9090	Other Vacant Land
810	Private Farmland with Single Family Dwelling	8910	Other Agricultural Land (undefined use)
811	Private Farmland with Multi-Family Dwelling	8910	Other Agricultural Land (undefined use)
812	Private Farmland with Other Buildings	8910	Other Agricultural Land (undefined use)
813	Private Farmland Vacant	8910	Other Agricultural Land (undefined use)
815	Private Farmland Subdivision	8910	Other Agricultural Land (undefined use)
817	Privately owned Farmland Dual Use - Vacant	9090	Other Vacant Land
822	Corporate Non-Farmland with Other Buildings	9090	Other Vacant Land
823	Corporate Non-Farmland - Vacant	9090	Other Vacant Land
830	Corporate Farmland With Single Family Dwelling	8910	Other Agricultural Land (undefined use)
833	Corporate Farmland - Vacant	8910	Other Agricultural Land (undefined use)
835	Corporate Owned Farm	8910	Other Agricultural Land (undefined use)
836	Corporate Owned Farmland Dual Use - Vacant	8910	Other Agricultural Land (undefined use)
837	Corporate Owned Farmland Dual Use - Vacant	8910	Other Agricultural Land (undefined use)
840	Privately Owned Farmland with Single Family Dwelling	8910	Other Agricultural Land (undefined use)
841	Privately Owned Farmland with Multi-Family Dwelling	8910	Other Agricultural Land (undefined use)
842	Privately Owned Farmland with Other Buildings	8910	Other Agricultural Land (undefined use)
843	Privately Owned Farmland - Vacant	8910	Other Agricultural Land (undefined use)
844	Privately Owned Farmland with Non-Residential Component	8910	Other Agricultural Land (undefined use)
845	Privately Owned Farmland with Water/Sewer	8910	Other Agricultural Land (undefined use)
846	Privately Owned Farmland with Dual Use - Vacant	8910	Other Agricultural Land (undefined use)
847	Privately Owned Farmland with Dual Use - Vacant	9090	Other Vacant Land
850	Corporate Owned Farmland with Single Family Dwelling	8910	Other Agricultural Land (undefined use)
853	Corporate Owned Farmland Vacant	8910	Other Agricultural Land (undefined use)
855	Corporate Owned Farmland Water/Sewer	8910	Other Agricultural Land (undefined use)
856	Corporate Owned Farmland Dual Use	8910	Other Agricultural Land (undefined use)
857	Corporate Owned Farmland Dual Use - Vacant	8910	Other Agricultural Land (undefined use)
885	Farmland	8910	Other Agricultural Land (undefined use)
900	Undeveloped Land	9110	Undeveloped Land
909	Undeveloped Land - Other	9090	Other Vacant Land

	Previous vacant industrial land inventories used
	Underutilized land

*Underutilized land is predominantly found in Edmonton Energy and Technology Park. The current report contains all of the above coded lands, while the previous version of the report was based on only the grey areas.

APPENDIX II

Edmonton Energy and Technology Park (EETP) was separated in some tables in this report as this area represents the next area in the development of Edmonton's industrial land. In other tables, including those covering servicing and size of parcels, EETP was included under similar standard industrial zones in order to facilitate the demonstration of the information. It is important to note that the newly rezoned Chemical Cluster Zone (EETC) has 428 hectares of land in EETP. There are 115 hectares of zoned Logistics (EETL) and 161 hectares of Manufacturing (EETM) areas. The rest of the area is vacant gross area that comprises 4,089 hectares. Most of the parcels are unserviced and above ten hectares.

[i] Western Management Consultants, 2000. "Industrial Land Strategy Demand Study Final Report", City of Edmonton, June 30, 2000.