



Economic Development Strategy | Data Updates

Demand, Supply, and Gap Analyses

City of Red Deer
March 18th, 2020



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1) Population Projections

Urbanics Consultants developed three population growth scenarios utilizing the Cohort Component method. This method incorporates assumptions regarding future fertility rates, mortality rates, and net migration to the City of Red Deer. Colliers has updated these projections based on the most up-to-date data within the 2019 Red Deer Municipal Census and the 2016 Statistics Canada Census, as outlined below.

	2001	2006	2011	2016	2019	2021	2026	2031	2036	2041	Annual Growth
Census Counts	68,308	82,971	91,877	99,832	101,002						
High Growth Scenario						109,012	118,998	129,886	142,247	156,873	
						9.2%	9.2%	9.1%	9.5%	10.3%	2.3%
Medium Growth Scenario						107,969	116,213	124,592	133,602	143,895	
						8.2%	7.6%	7.2%	7.2%	7.7%	1.8%
Low Growth Scenario						106,943	113,744	120,182	126,618	133,519	
						7.1%	6.4%	5.7%	5.4%	5.5%	1.3%

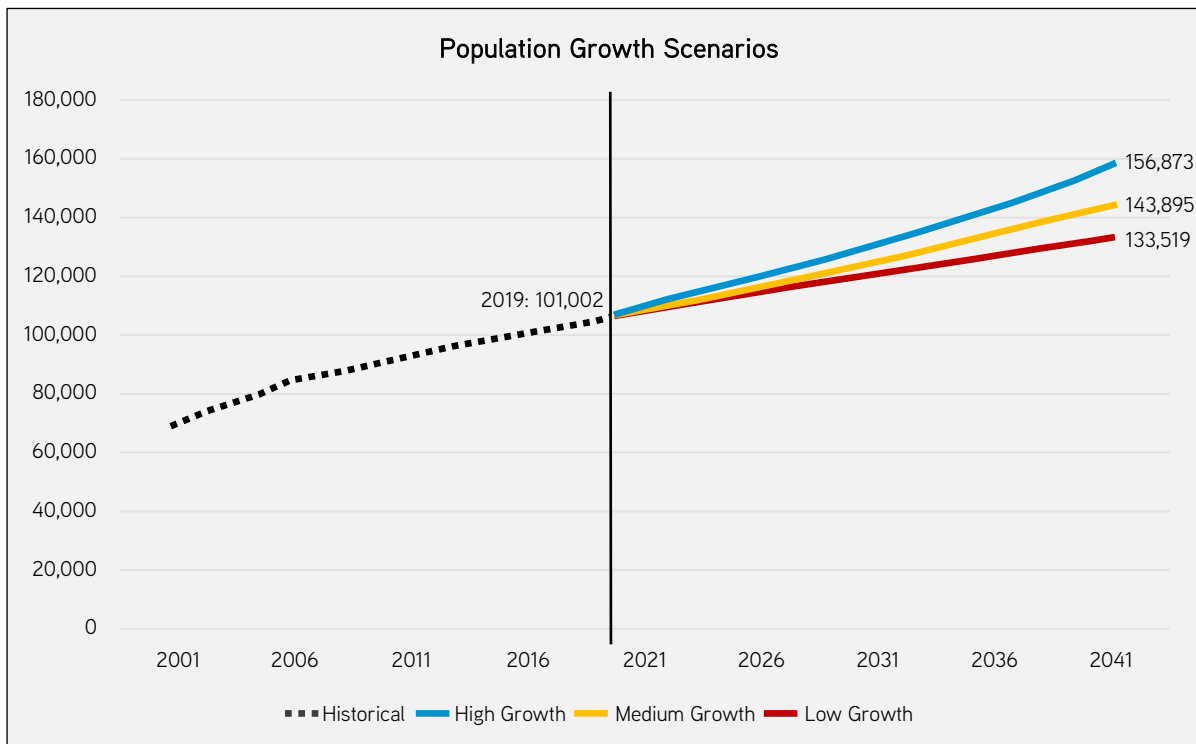
High Growth Scenario: This is the most optimistic scenario, with the following three assumptions: fertility rates in the City will remain constant during the entire projection period (slightly higher than observed in the 2016 Census), average life expectancy will gradually increase to 83.9 years for men and 89.4 years for women by 2041, and the City will experience steady increases of migration inflow from a total of approximately 855 people per year as observed between 2011-2016 up to 1,710 per year from 2036-2041. Using these assumptions, the City is expected to grow from a current population of 101,002 to approximately 157,000 by 2041 at an annual growth rate of 2.3%. This is less than the original projection of 191,260.

Medium Growth Scenario: The medium growth scenario also suggests notable population growth and is expected to be the most probably given recent population growth dynamics observed since 2013. This scenario assumes that the average life expectancy in Red Deer will extend to 81.5 years for men and 86.4 years for women, combined within increases in migration up to approximately 1,086 people per year from 2036 – 2041. In this scenario, the City is expected to reach a population of approximately 144,000 by 2041 which is less than the original projection of 175,730.

Low Growth Scenario: The low growth scenario is based on the 10-year Provincial average fertility rate, a life expectancy of 78.4 for men and 82.5 for women by 2041, and a steady influx of approximately 855 people per year throughout the entire study period. In this scenario, the population is expected to reach approximately 134,000 by 2041, which is less than the original projection of 144,300.

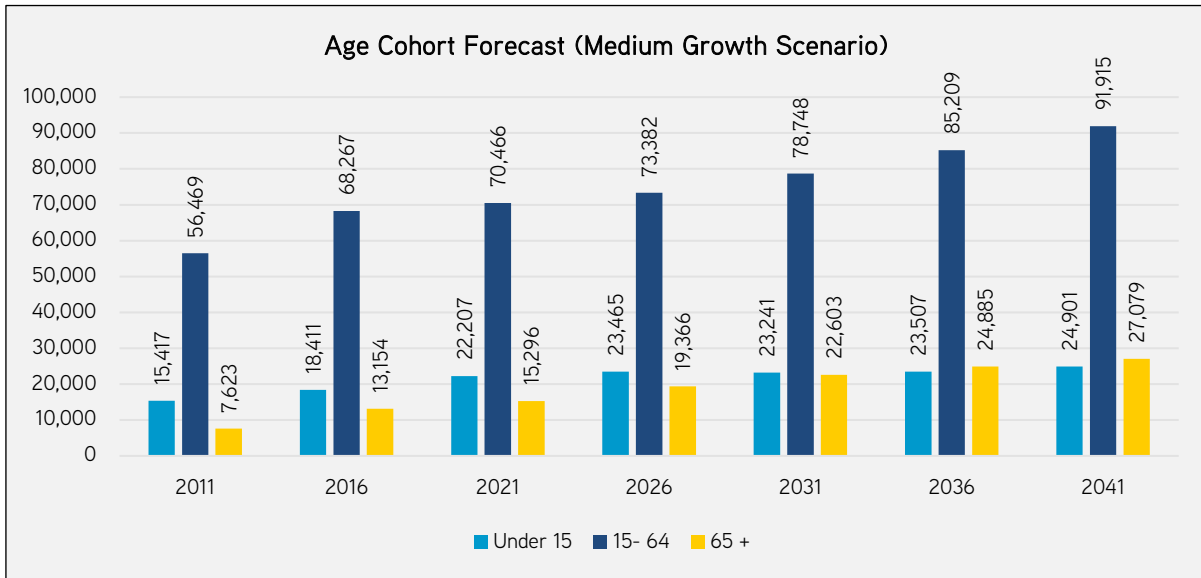
Summary of the Three Growth Scenarios: The table and figure below display the results of the three growth scenarios based on updated population, migration, fertility, and life expectancy data up to 2019. These projections are the most likely scenarios relying on the updated historical data and the Cohort Component methodology used by Urbanics Consultants. It should be noted that while this projection methodology is the industry standard and most accurate approach, it can be impacted by unforeseen variables such as the economic changes that Red Deer experienced since the population was projected in 2013.

	Components	2011-16	2016-21	2021-26	2026-31	2031-36	2036-41	Average
High Growth Scenario	Births	7,072	7,611	7,704	7,880	8,652	10,241	1,639
	Deaths	3,391	3,561	3,703	3,833	3,986	4,165	3,773
	Natural Increase	3,681	4,050	4,001	4,048	4,666	6,076	4,420
	Migration	4,274	5,130	5,985	6,840	7,695	8,550	6,412
	Net Growth	7,955	9,180	9,986	10,888	12,361	14,626	10,833
Medium Growth Scenario	Births	7,072	7,175	7,203	7,259	7,828	9,069	7,601
	Deaths	3,391	3,544	3,696	3,848	4,017	4,206	3,783
	Natural Increase	3,681	3,631	3,507	3,411	3,811	4,863	3,817
	Migration	4,274	4,506	4,737	4,968	5,199	5,430	4,852
	Net Growth	7,955	8,137	8,244	8,379	9,010	10,293	8,670
Low Growth Scenario	Births	7,072	6,415	6,283	6,086	6,264	6,922	6,507
	Deaths	3,391	3,578	3,756	3,922	4,102	4,295	3,841
	Natural Increase	3,681	2,837	2,527	2,164	2,162	2,627	2,666
	Migration	4,274	4,274	4,274	4,274	4,274	4,274	4,274
	Net Growth	7,955	7,111	6,801	6,438	6,436	6,901	6,940



Implications of the Medium Growth Scenario

As the medium growth scenario is the most likely of the three, it will be used in the following analyses of residential, industrial, retail, and office demand. As outlined below, the City is expected to experience a significant increase in its working-age population, growing from approximately 54,000 in 2019 up to 92,000 by 2041. Although this age group is expected to grow in terms of absolute numbers, the proportion of this cohort is expected to decline from 67% in 2019 to approximately 64% in 2041. During this period, the proportion of seniors is expected to grow from 14% up to 19%.



Medium Growth Scenario		2011	2016	2021	2026	2031	2036	2041
Population Distribution	Under 15	15,417	18,411	22,207	23,465	23,241	23,507	24,901
	15- 64	56,469	68,267	70,466	73,382	78,748	85,209	91,915
	65 +	7,623	13,154	15,296	19,366	22,603	24,885	27,079
	Total	91,877	99,832	107,969	116,213	124,592	133,602	143,895
% Share	Under 15	17%	18%	21%	20%	19%	18%	17%
	15- 64	61%	68%	65%	63%	63%	64%	64%
	65 +	8%	13%	14%	17%	18%	19%	19%

2) Residential Analysis

2.1 Residential Demand

As of the 2019 Municipal Census, the City of Red Deer had a total population of 101,002 people living in 43,333 households. Assuming that the trend towards smaller household sizes assumed in the Urbanics Consultant report remains stabilized at 2.33 over the projection period, future demand for additional residential units can be projected as outlined below.

Housing Metrics	2011	2016	2021	2026	2031	2036	2041
Population (Forecast)	91,877	99,832	107,969	116,213	124,592	133,602	143,895
Household Size (Stabilized)	2.53	2.51	2.33	2.33	2.33	2.33	2.33
Dwellings Required (Forecast)	36,350	39,705	46,339	49,877	53,473	57,340	61,757

To forecast total demand for housing, it is also imperative to add the total number of units required by pure population growth to the number of units that will need to be replaced in a given year due to factors such as the age and quality of these buildings. It is assumed that 0.25% of existing homes will need to be replaced annually over the projection period.

Source of New Housing Unit Demand	2011-16	2017-21	2022-26	2027-31	2032-36	2037-41
Units needed by additional residents	3,355	3,421	3,538	3,596	3,867	4,418
Units needed to replace demolished units	454	496	579	623	668	717
Total Units Demanded (5-Year Period)	3,809	3,917	4,117	4,220	4,535	5,134
Total Units Demanded (Annual Avg.)	762	783	823	844	907	1,027

During the period of 2022-2026, it is expected that the City will experience demand for approximately 823 new units of housing per year to house additional population growth and to replace units no longer available. In the long term, during the period from 2037-2041, it is expected that Red Deer will need to add approximately 1,027 units annually. This is lower than original projections of 1,263 and 1,691 units per year, respectively.

The table below outlines the share of housing by dwelling type as of the latest available CMHC data, where 52.6% of total dwelling units were single-detached homes in 2016. With goals of creating a more dense, walkable, and sustainable city, future projections assume a gradual shift in the share of each housing type so that by 2041 single-detached homes are no longer the majority.

Housing Type Share	2011	2016	2021	2026	2031	2036	2041
Single-detached House	54.5%	52.6%	50.2%	47.8%	45.4%	42.9%	40.0%
Apartment	21.7%	22.7%	24.0%	25.4%	26.8%	28.2%	30.0%
Semi-detached/Duplex	11.1%	11.9%	12.6%	13.2%	13.9%	14.5%	15.0%
Townhouse/Rowhouse	9.7%	10.1%	10.5%	10.9%	11.2%	11.6%	12.0%
Mobile Home	3.0%	2.7%	2.7%	2.7%	2.7%	2.7%	3.0%

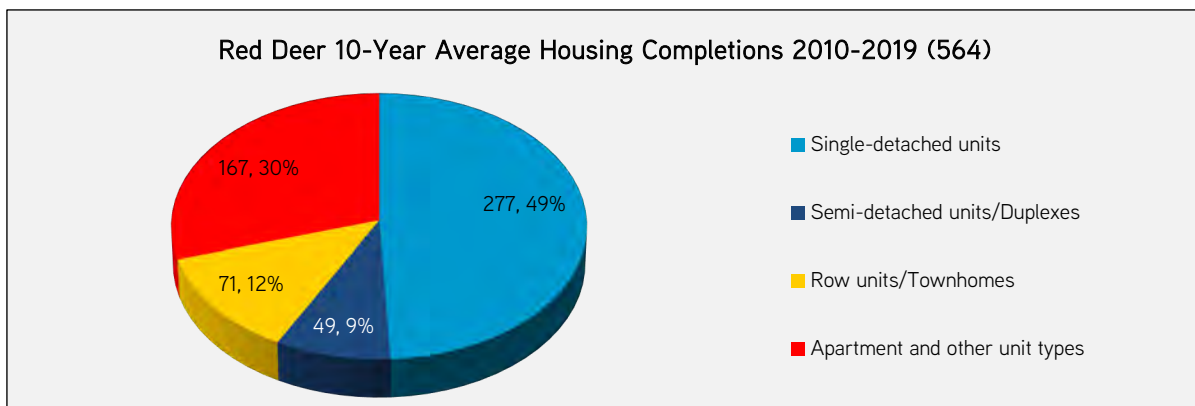
To achieve this desired housing mix, development patterns will need to continue trending towards higher density formats as a greater proportion of all new homes. As outlined below, this could be achieved through a mix of homes being built, with the amount of single detached homes decreasing and the amount of higher density homes increasing.

Total New Units Demanded (Forecast)	2011-16	2017-21	2022-26	2027-31	2032-36	2037-41
Single-detached House	1,328	2,632	862	724	672	385
Apartment	1,199	2,255	1,677	1,810	2,006	2,572
Semi-detached/Duplex	745	1,151	842	906	1,002	1,048
Townhouse/Rowhouse	524	897	622	662	729	828
Mobile Home	14	196	115	118	127	302
Total Units Demanded over 5-years	3,809	7,130	4,117	4,220	4,535	5,134
Average Annual New Units Demanded	2011-16	2017-21	2022-26	2027-31	2032-36	2037-41
Single-detached House	266	526	172	145	134	77
Apartment	240	451	335	362	401	514
Semi-detached/Duplex	149	230	168	181	200	210
Townhouse/Rowhouse	105	179	124	132	146	166
Mobile Home	3	39	23	24	25	60
Average Units Demanded per Year	762	810	823	844	907	1,027

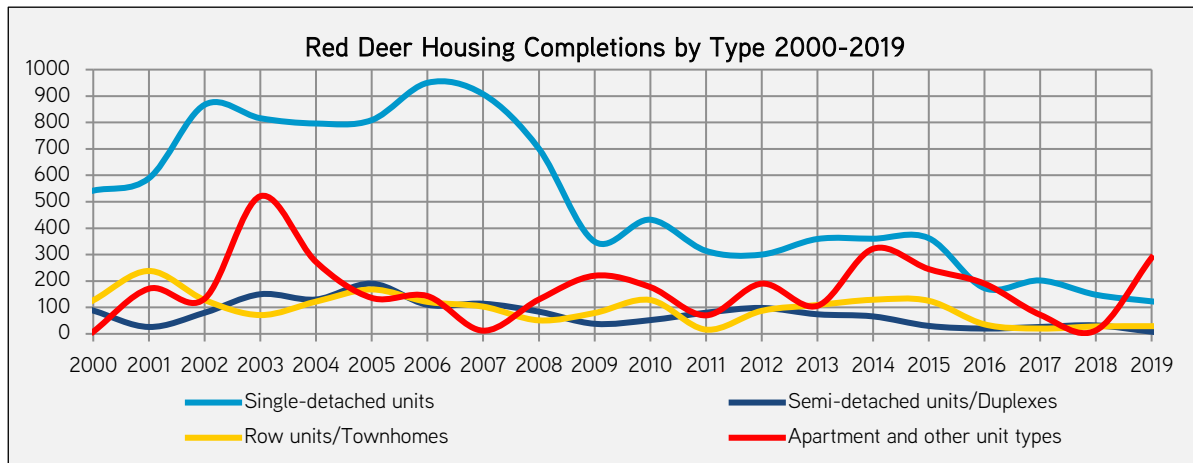
For the period of 2022-2026, it is suggested that of the 823 new units of housing needed per year, approximately 627 units should be of higher density construction such as apartments and townhomes. In the long-term, during the period from 2037-2041, approximately 85% of the roughly 1,027 new units per year would be of higher-density formats. These figures are estimates based on the goal of Red Deer becoming a healthier, denser, and more walkable city. It should be noted that, despite City goals, many consumers within Alberta still prefer a suburban, vehicle dependent lifestyle, and as such, Red Deer may need to incentivize the construction of higher density housing.

2.2 Residential Supply

Over the past ten years, the city has added an average of 564 new units to its housing stock each year, with 49% of those being single-detached homes. The average breakdown of housing types and annual completions is displayed in the charts below.



When looking at housing completions by type, it becomes clear that the City is already experiencing a shift in terms of single-detached compared to higher density formats. As displayed below, 2018-2019 marked the first period where apartment starts have begun to exceed single-detached starts. Since 2013, the City has experienced an average of 527 unit completions per year. Therefore, in order to even keep up with the housing needs of its growing population, Red Deer will need increase its housing output up to approximately 800 units per year.

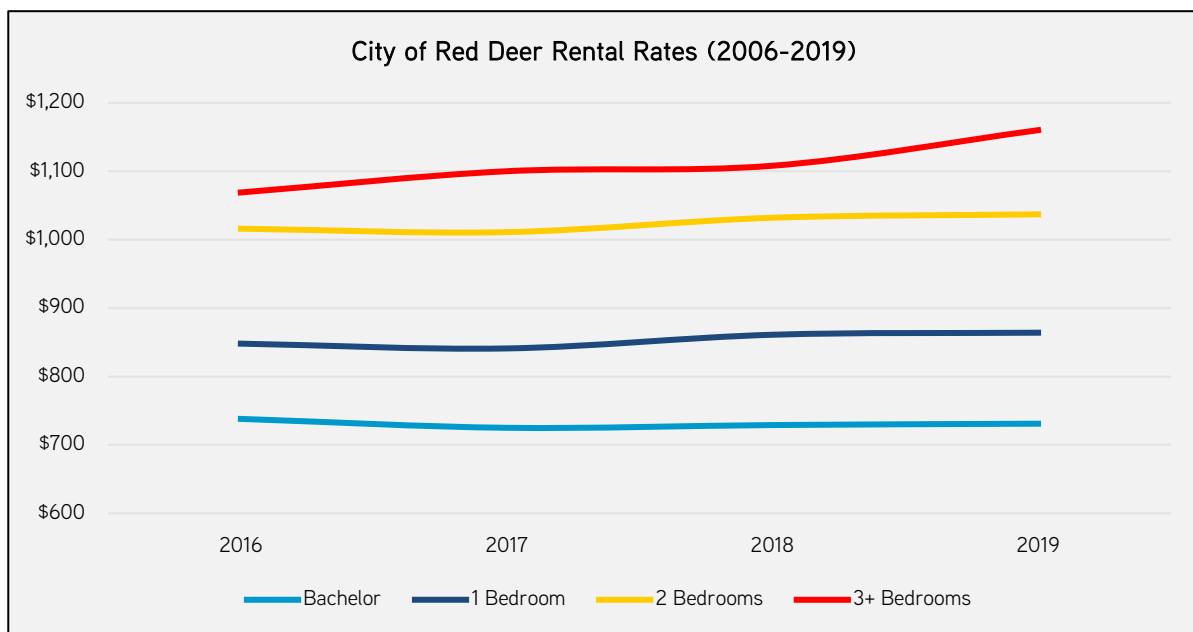
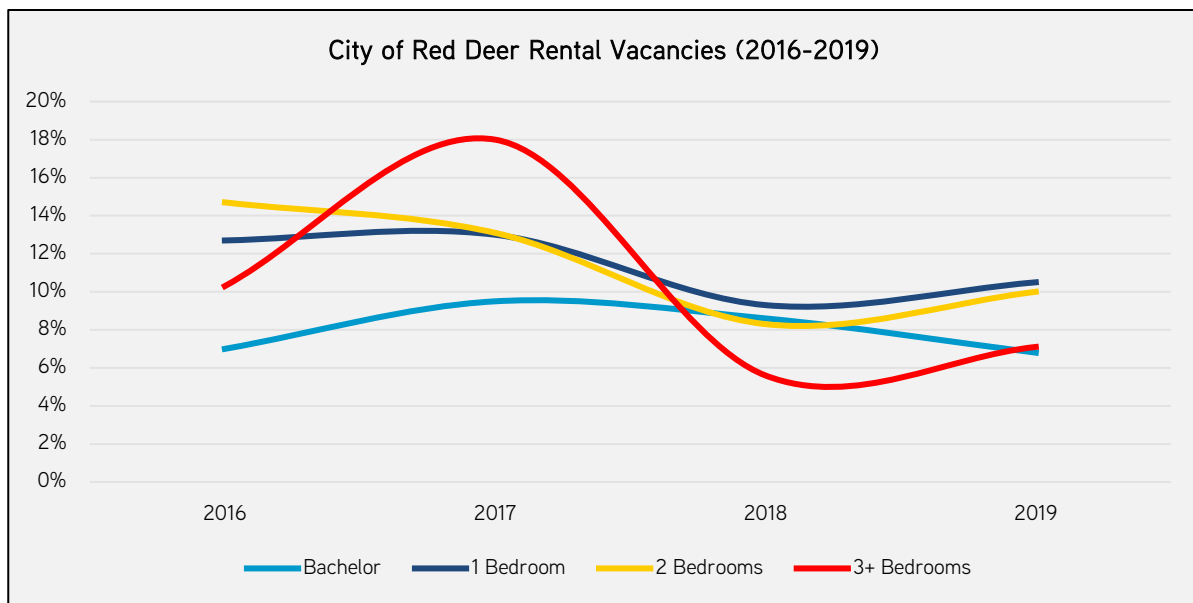


Most of the housing in Red Deer is situated in the Northwest and Southeast subareas which together account for approximately 63% of total housing units and 71% of single-detached homes. The Downtown subarea has only 5% of Red Deer’s housing yet 21% of total apartment stock. Less than 1% of the housing stock is classified as other which may include residences in churches or above commercial uses.

Sub Area	All	Single Detached	Townhouse & Rowhouse	Multiplex & Semi-Detached	Apartment	Manufactured Homes	Other
Downtown	5%	1%	1%	0%	21%	0%	42%
DT Fringe	12%	11%	15%	10%	14%	0%	14%
Northwest	25%	22%	30%	40%	17%	78%	6%
Northeast	13%	15%	12%	12%	9%	0%	29%
Southwest	7%	2%	12%	4%	20%	7%	6%
Southeast	38%	49%	30%	32%	18%	15%	3%
Sub Area	All	Single Detached	Townhouse & Rowhouse	Multiplex & Semi-Detached	Apartment	Manufactured Homes	Other
Downtown	2,240	188	25	20	1,931	0	76
DT Fringe	5,176	2,740	600	521	1,290	0	25
Northwest	10,995	5,280	1,200	2,012	1,594	899	10
Northeast	5,479	3,467	498	606	855	0	53
Southwest	3,158	530	475	212	1,853	77	11
Southeast	16,285	11,697	1,212	1,597	1,600	174	5
Total (2019)	43,333	23,902	4,010	4,968	9,123	1,150	180

2.3 Residential Vacancy (Rental Universe)

As outlined below, CMHC tracks the primary rental market within the City of Red Deer. This is important to understand, as it provides a general view of the existing number of vacant units that could accommodate future demand, as well as the overall health of the housing market within the City. From 2016 to 2017, the City experienced growing vacancies among all rental housing formats, however this pattern reversed itself up until 2018. From 2018 onwards, the City has begun experiencing upward pressure on vacancy rates indicating potential challenges within the housing market due to the overall slowing of the economy. During this period, rental rates have remained relatively stable among all housing formats.



3) Industrial Analysis

3.1 Short Term Industrial Demand

Urbanics Consultants utilized an employment-based methodology to forecast future demand for industrial space, examining employment projections for the industries that use industrial land. The extrapolation, constant-share, and shift-share methods were used to forecast employment of Red Deer residents across the 18 NAICS industries. One of the limitations of this methodology is that while projections for total future industrial land demand are accurate, it is difficult to split up this demand into heavy/light/business service categories. Colliers has updated this data with the latest figures for 2011, 2016, and 2019, with the new 2021 projections summarized below. The updated employment projections estimate a total labour force of approximately 59,300 – 61,600 by 2021, which is lower than the range of 65,100 – 68,500 as projected in the 2013 study. The results are summarized below.

Employment Forecasts	Extrapolation Method			Constant-share Method			Shift-Share Method		
	2011	2016	2021	2011	2016	2021	2011	2016	2021
Employment by Industry (persons)									
Employment in primary industries (1)	5,010	4,620	4,999	5,010	4,620	4,389	5,010	4,620	4,297
Population based employment (2)	27,165	29,678	32,111	27,165	29,678	31,192	27,165	29,678	32,348
Tourism based employment (3)	7,500	8,753	9,470	7,500	8,753	9,195	7,500	8,753	9,216
Industrial based employment (4)	12,795	13,865	15,002	12,795	13,865	14,518	12,795	13,865	14,295
Total Employment in Red Deer	52,470	56,915	61,582	52,470	56,915	59,295	52,470	56,915	60,156

1. Primary industries: include farms, forestry, fishing, hunting and mining oil and gas extraction

2. Population-based employment includes jobs in FIRE, business service, institutional and 50% of retail trade.

3. Tourism-based employment includes jobs in accommodation, food and beverage and other service and 50% of retail trade

4. Industrial-based employment includes jobs in manufacturing, wholesale trade, construction, transportation and storage and utilities

As outlined below, it can be determined that approximately 14,800 people (1,900 more than 2011) will be in the labour force for jobs that use industrial land by 2021. This is notably lower than the projected industrial labour force of 17,900 in the original 2013 report. The fraction of the labour force of each industry group that uses industrial land was estimated and factored into these employment forecasts. Assuming an average density of 9.5 employees per acre, the forecasted total industrial land demand by 2021 is estimated to be approximately 1,560. Due to the slowdown of the economy since the 2013 report was conducted, this is notably lower than the original projections of 2,100 acres.

Industrial Space Demand	Total Industrial Employment (persons)			Total Industrial Space Demand (acres)			Average Annual Demand (acres)	
	2011	2016	2021	2011	2016	2021	2011-16	2017-21
Projection Method								
Extrapolation method	12,924	14,011	15,159	1,360	1,475	1,596	23	24
Constant-share method	12,924	14,011	14,640	1,360	1,475	1,541	23	13
Shift-share method	12,924	14,011	14,593	1,360	1,475	1,536	23	12
Average of the 3 methods	12,924	14,011	14,797	1,360	1,475	1,558	23	17

Employment on industrial land is based on 70% of industrial-based jobs, 10% of the population-based employment and 10% of the employment in tourism, primary industries

3.2 Long Term Industrial Demand

Although the forecast of long-term industrial land demand for periods exceeding 10 years is more prone to unforeseen variables that cannot be accounting for in the mathematical modelling process, Colliers projected future demand based on the same methodology used in the previous section. As outlined below, it is projected that the total labour force within the City of Red Deer will grow to between 68,000 and 78,000 by 2036.

Employment Forecasts	Extrapolation Method			Constant-share Method			Shift-Share Method		
	2026	2031	2036	2026	2031	2036	2026	2031	2036
Employment by Industry (persons)									
Employment in primary industries (1)	5,409	5,852	6,332	4,257	4,172	4,130	3,996	3,756	3,568
Population based employment (2)	34,744	37,593	40,676	32,783	34,455	36,212	35,260	38,433	41,892
Tourism based employment (3)	10,247	11,087	11,996	9,664	10,157	10,675	9,705	10,219	10,761
Industrial based employment (4)	16,232	17,563	19,003	15,201	15,915	16,663	14,738	15,195	15,666
Total Employment in Red Deer	66,632	72,096	78,007	61,905	64,699	67,681	63,698	67,603	71,887

1. Primary industries: include farms, forestry, fishing, hunting and mining oil and gas extraction

2. Population-based employment includes jobs in FIRE, business service, institutional and 50% of retail trade.

3. Tourism-based employment includes jobs in accommodation, food and beverage and other service and 50% of retail trade

4. Industrial-based employment includes jobs in manufacturing, wholesale trade, construction, transportation and storage and utilities

Using the long-term employment projections, it can be determined that approximately 17,500 people will be in the labour force for jobs that use industrial land by 2036. If these numbers hold over the projection period, the City can expect demand for a total of approximately 1,850 acres of industrial land by 2036.

Industrial Demand	Total Industrial Employment (persons)			Total Industrial Space Demand (acres)			Average Annual Demand (acres)		
	2026	2031	2036	2026	2031	2036	2022-26	2027-31	2032-36
Projection Method									
Extrapolation method	16,402	17,747	19,203	1,727	1,868	2,021	26	28	31
Constant-share method	15,311	16,019	16,766	1,612	1,686	1,765	14	15	16
Shift-share method	15,213	15,877	16,588	1,601	1,671	1,746	13	14	15
Average of 3 methods	15,642	16,548	17,519	1,647	1,742	1,844	18	19	20

Employment on industrial land is based on 70% of industrial-based jobs, 10% of the population-based employment and 10% of the employment in tourism, primary industries

3.3 Industrial Supply

The City of Red Deer has a total of approximately 1,652 acres of industrial land with at least 9.84 million square feet of industrial floor area (site coverage ratio of 13.7%) spread out over 9 industrial parks. This includes the vacant and unserviced land within Queens Business Park. Below, Colliers examines additional parcels of land designated for industrial use that may also be suitable to accommodate future growth. However, based on the market data collected below, the City has a current vacancy rate of approximately 6.1% within its existing serviced industrial land. There is also an additional 1,390 acres of industrial land in the surrounding areas of Red Deer County, outside of City limits.

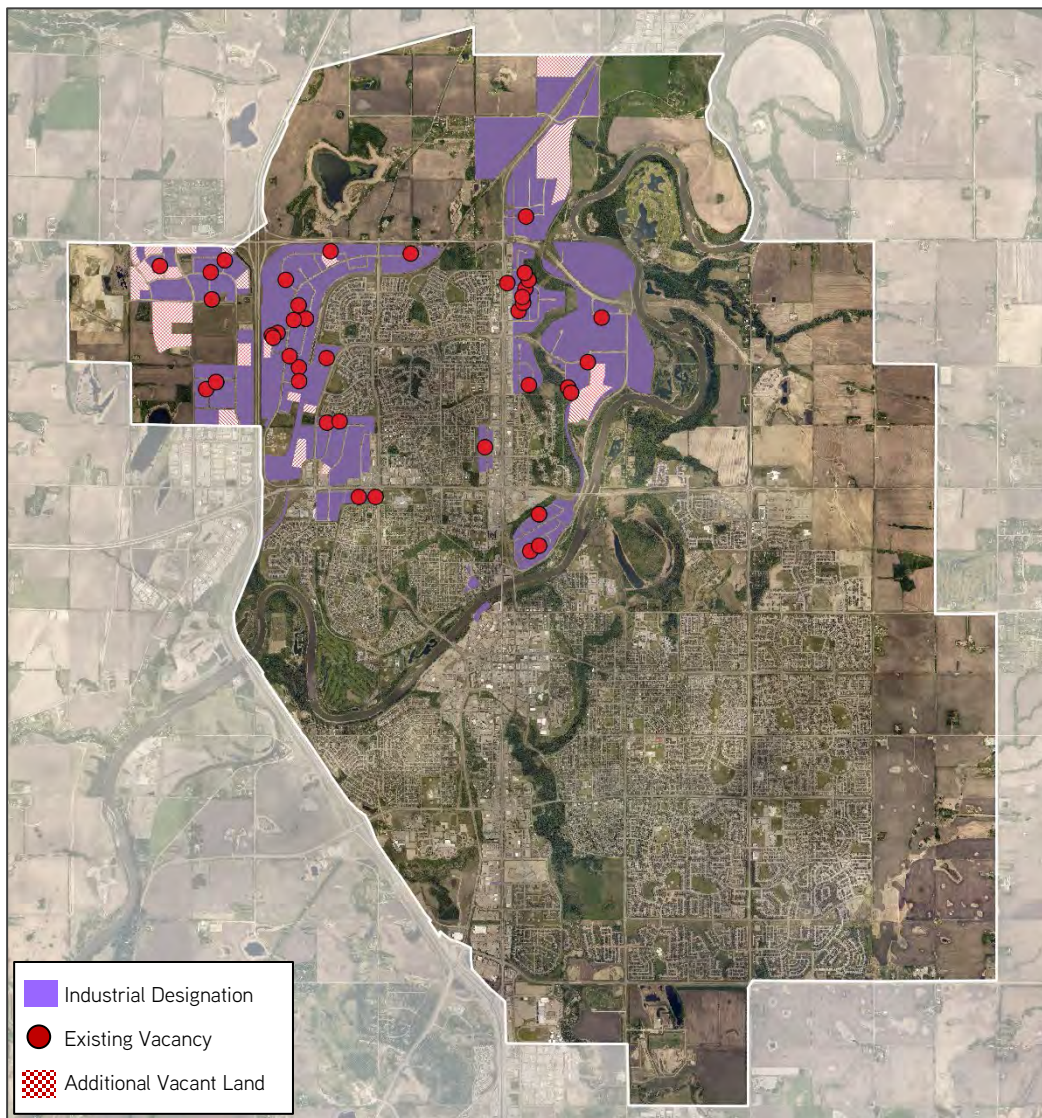
Most of the industrial districts within Red Deer have a light overall utilization with site coverage ratios below 15%, particularly in Red Deer County. Some of the more efficient and higher utilized industrial parks include 52nd Avenue Industrial District (34%), Riverside Light Industrial (30%), Northland Industrial Park (26%), and Piper Creek Business Park (23%). The majority of the remaining industrial areas have site coverage ratios between 5% - 15%.

Industrial District	Sub-Area	Acreage	Land (sf)	Building (sf)	SCR	Vacancy
52nd Avenue Industrial Dist.	Northwest	20.2	879,916	302,500	34.4%	0.0%
Chiles Industrial Park	Northwest	233.0	10,149,521	575,550	5.7%	3.3%
Edgar Industrial Park	Northwest	443.6	19,323,293	3,268,895	16.9%	3.4%
Goldenwest Industrial Park	Northwest	156.1	6,799,743	1,175,485	17.3%	3.7%
Northland Industrial Park	Northwest	130.3	5,675,891	1,454,411	25.6%	9.3%
Piper Creek Business Park	South	13.5	588,062	134,956	22.9%	14.2%
Queens Business Park	Northwest	130.1	5,667,156	841,810	4.8%	4.9%
Queens Business Park*	Northwest	269.0	11,717,640	N/A	N/A	N/A
Riverside Heavy Industrial	Northwest	185.3	8,071,700	1,149,747	14.2%	6.3%
Riverside light Industrial	Northwest	72.0	3,136,333	932,745	29.7%	9.7%
Total Industrial	Red Deer	1,652	72,048,528	9,836,099	13.7%	6.1%
Belich Business Park	RD County	56.0	2,440,865	484,056	19.8%	11.4%
Blindman Industrial Park	RD County	280.3	12,209,917	841,702	6.9%	25.4%
Burnt Lake Business Park	RD County	280.3	12,209,917	1,503,518	12.3%	10.5%
Clearview Industrial Park	RD County	135.6	5,906,760	788,623	13.4%	2.9%
McKenzie	RD County	58.4	2,543,914	339,900	13.4%	0.0%
Other Industrial Areas	RD County	519.3	22,620,709	765,264	3.4%	12.3%
Petrolia Business Park	RD County	60.0	2,613,610	388,760	14.9%	1.8%
Total Industrial	RD County	1,390	60,545,692	5,111,823	8.4%	9.2%

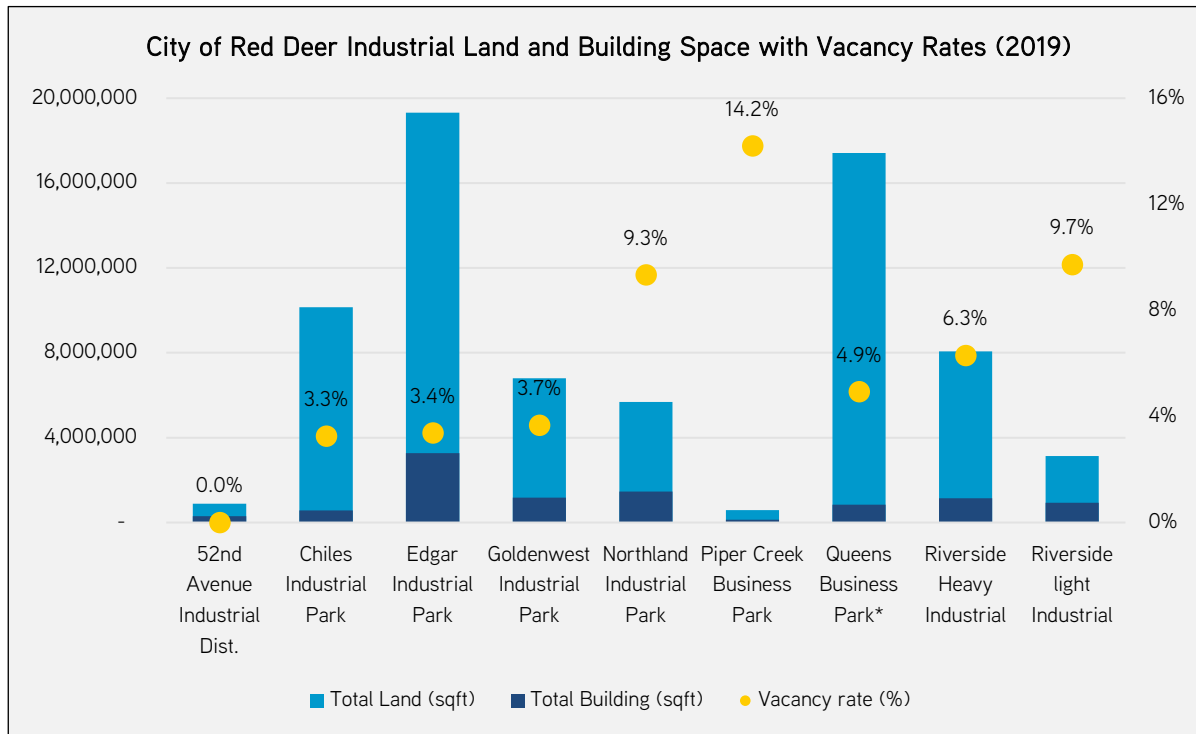
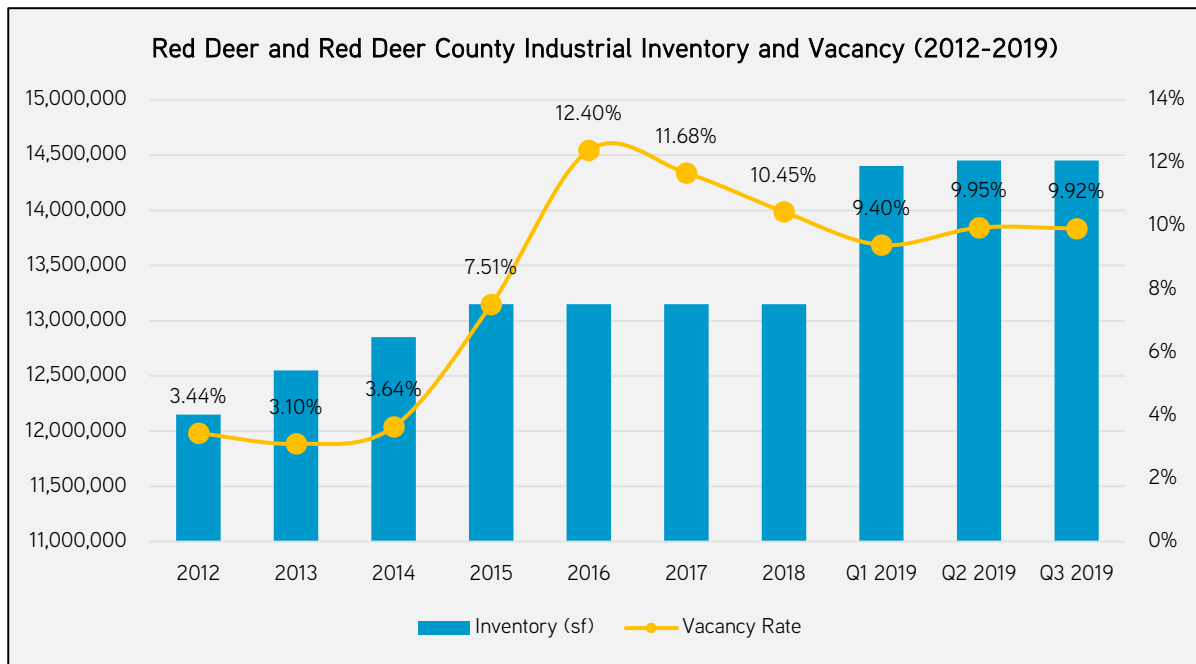
*As of February 2020, 130.1 acres of Queens Business Park are sold and/or services, with a remaining 269 acres for future phases which is yet to be serviced.

Upon examination of data provided by local brokers, the vacancy rate of 6.1% is higher than what would be considered a “healthy vacancy rate” of 5%, indicating a softer industrial market in 2020 when compared to 2013. Vacancy rates are highest among the Piper Creek Business Park, Northland Industrial Park, and Riverside Light Industrial. As displayed in the table on the previous page as well as the map below, the vacant land within existing serviced and developed industrial areas along with the 270 acres of unserviced land within Queens Business Park accounts for 370 acres of the total 1,652 acres of industrial land within the City of Red Deer.

This surplus land is expected to be able to accommodate future growth over the short-to-medium term. Furthermore, Colliers has identified parcels using an analysis of orthographic images that may represent additional vacant land within areas designated for industrial use. Colliers estimates this to be an additional 170 acres. In total, this creates 540 acres of land within the City of Red Deer that could fulfill future industrial demand.



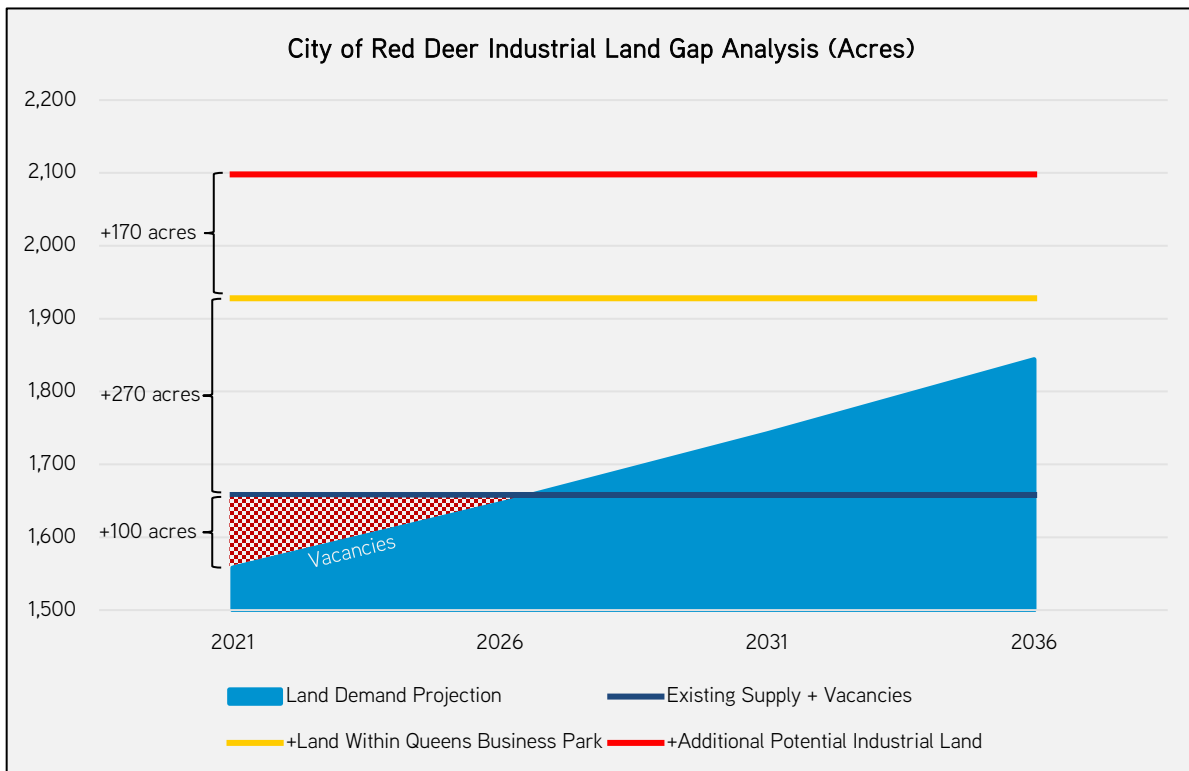
The figures displayed below provide an initial visual analysis of Red Deer industrial land, building space, and vacancy rates broken down by region. Despite a slowing market, the industrial sector has been more resilient than the office sector, with positive absorption in recent years and an average vacancy now in the single digits. 2019 marked the first year since 2014 with a positive absorption (~170,000 square feet), however this is less than half of the absorption figures the City experienced in 2012 (396,000 square feet), 2013 (416,000 square feet), and 2014 (236,000 square feet).



3.4 Industrial Gap Analysis

Based on the long-term projections, it is estimated that the City of Red Deer will experience demand for approximately 290 acres of additional industrial land by 2036. The chart displayed below examines the gap between existing supply and future demand, along with potential additional supply that could fulfill demand upon currently existing vacancies along with the 270 acres of unserviced land within Queens Business Park and 170 acres of potential additional land identified in the previous section of this report.

This analysis demonstrates that the current vacancies within the City of Red Deer represent enough supply to satisfy demand up until approximately 2026. For the following years, the land within Queens Business Park is expected to satisfy the remaining demand for industrial land throughout the projection period. If the City of Red Deer experiences unexpected economic and population growth during this period, it is still likely that any additional demand for industrial land could still be satisfied within the City.



4) Office Analysis

4.1 Short Term Office Demand

Similar to the industrial demand analysis, Urbanics Consultants used an employment-based model to forecast future demand for office space using the extrapolation, constant-share, and shift share methods. Although the table displayed below replicates that of the industrial demand analysis, it is also included in this section facilitate a standalone understanding of future office demand.

Employment Forecasts	Extrapolation Method			Constant-share Method			Shift-Share Method		
	2011	2016	2021	2011	2016	2021	2011	2016	2021
Employment by Industry (persons)									
Employment in primary industries (1)	5,010	4,620	4,999	5,010	4,620	4,389	5,010	4,620	4,297
Population based employment (2)	27,165	29,678	32,111	27,165	29,678	31,192	27,165	29,678	32,348
Tourism based employment (3)	7,500	8,753	9,470	7,500	8,753	9,195	7,500	8,753	9,216
Industrial based employment (4)	12,795	13,865	15,002	12,795	13,865	14,518	12,795	13,865	14,295
Total Employment in Red Deer	52,470	56,915	61,582	52,470	56,915	59,295	52,470	56,915	60,156

1. Primary industries: include farms, forestry, fishing, hunting and mining oil and gas extraction
2. Population-based employment includes jobs in FIRE, business service, institutional and 50% of retail trade.
3. Tourism-based employment includes jobs in accommodation, food and beverage and other service and 50% of retail trade
4. Industrial-based employment includes jobs in manufacturing, wholesale trade, construction, transportation and storage and utilities

Assuming office employment densities will remain at a Red Deer standard of 100 square feet per employee, future demand for office space can be calculated as outlined below. The fraction of employment for each industry group which uses office space was also estimated and factored into the forecasts. Based on the updated Municipal Census population data and Statistics Canada Census employment data, it is projected that the City will experience demand for approximately 2.27 million square feet of office floorspace by 2021. This is slightly lower than the 2.46 million square feet of demand projected in the 2013 report. The forecasts are summarized below, and the following pages include further analyses of supply, vacancies, and implications regarding demand for office space in different areas of the City.

Office Space Demand	Total Office Employment (persons)			Total Office Space Demand (square feet)			Average Annual Demand (square feet)	
	2011	2016	2021	2011	2016	2021	2011-16	2017-21
Projection Method								
Extrapolation method	19,113	21,064	22,791	1,930,413	2,127,414	2,301,861	39,400	34,890
Constant-share method	19,113	21,064	22,084	1,930,413	2,127,414	2,230,526	39,400	20,622
Shift-share method	19,113	21,064	22,642	1,930,413	2,127,414	2,286,799	39,400	31,877
Average of the 3 methods	19,113	21,064	22,506	1,930,413	2,127,414	2,273,062	39,400	29,130

Office employment is based on 10% of industrial-based jobs, 50% of population and tourism-based jobs, and 10% of primary industry-based jobs
Projections assume an industry standard of 101 square feet required per employee

4.2 Long Term Office Demand

As displayed below, the employment forecasts used for the long-term office demand are the same as the industrial demand forecasts yet still included in this section to assist in a thorough understanding.

Employment Forecasts	Extrapolation Method			Constant-share Method			Shift-Share Method		
	2026	2031	2036	2026	2031	2036	2026	2031	2036
Employment by Industry (persons)									
Employment in primary industries (1)	5,409	5,852	6,332	4,257	4,172	4,130	3,996	3,756	3,568
Population based employment (2)	34,744	37,593	40,676	32,783	34,455	36,212	35,260	38,433	41,892
Tourism based employment (3)	10,247	11,087	11,996	9,664	10,157	10,675	9,705	10,219	10,761
Industrial based employment (4)	16,232	17,563	19,003	15,201	15,915	16,663	14,738	15,195	15,666
Total Employment in Red Deer	66,632	72,096	78,007	61,905	64,699	67,681	63,698	67,603	71,887

1. Primary industries: include farms, forestry, fishing, hunting and mining oil and gas extraction

2. Population-based employment includes jobs in FIRE, business service, institutional and 50% of retail trade.

3. Tourism-based employment includes jobs in accommodation, food and beverage and other service and 50% of retail trade

4. Industrial-based employment includes jobs in manufacturing, wholesale trade, construction, transportation and storage and utilities

Using the long-term employment projections, it can be determined that approximately 27,547 people will be in the labour force for office jobs by 2036. If these numbers hold over the projection period, the City can expect demand for a total of approximately 2.78 million square feet of office space by 2036.

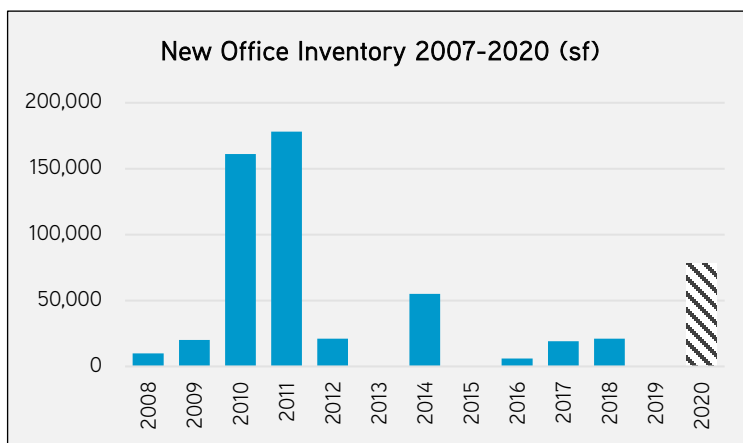
Office Demand	Total Office Employment (persons)			Total Office Space Demand (square feet)			Average Annual Demand (square feet)		
	2026	2031	2036	2026	2031	2036	2022-26	2027-31	2032-36
Extrapolation method	24,660	26,682	28,870	2,490,614	2,694,844	2,915,822	37,751	40,846	44,195
Constant-share method	23,169	24,315	25,523	2,340,106	2,455,784	2,577,815	21,916	23,136	24,406
Shift-share method	24,356	26,221	28,250	2,459,928	2,648,352	2,853,243	34,626	37,685	40,978
Average of 3 methods	24,062	25,739	27,547	2,430,216	2,599,660	2,782,293	31,431	33,889	36,527

Office employment is based on 10% of industrial-based jobs, 50% of population and tourism-based jobs, and 10% of primary industry-based jobs

4.3 Office Supply

Based on the most up-to-date local office market knowledge outlined by Solomons Commercial in their Q3 2019 office report, there is a total of approximately 2.1 million square feet of office space within the City. The majority (84%) of total supply is within the Downtown sub area as identified below, aligning with City goals of promoting downtown as the focal area for office, commercial, and public activity.

Sub Area	Inventory (sf)	# Properties	Vacant (sf)	Absorption (Q3 2019 YTD)	Vacancy (Q3 vs Q2 2019)	Average Rate (\$/sf)
Downtown	1,723,572 (84%)	83	230,126	17,887	13.4% (14.1%)	\$14.38
Class A	598,064 (29%)	12	126,808	15,689	21.2% (21.5%)	\$20.02
Class B	829,728 (40%)	41	53,348	9,782	6.4% (7.6%)	\$14.92
Class C	295,780 (14%)	30	49,970	(7,584)	16.9% (17.5%)	\$9.79
North Red Deer	81,940 (4%)	4	41,578	(38,421)	50.7% (50.7%)	\$17.27
South Red Deer	247,600 (12%)	15	73,780	(46,143)	29.8% (13.3%)	\$15.00
Total	2,053,112	102	↑ 345,484	(66,677)	↑ 16.8% (15.5%)	↓ \$14.65



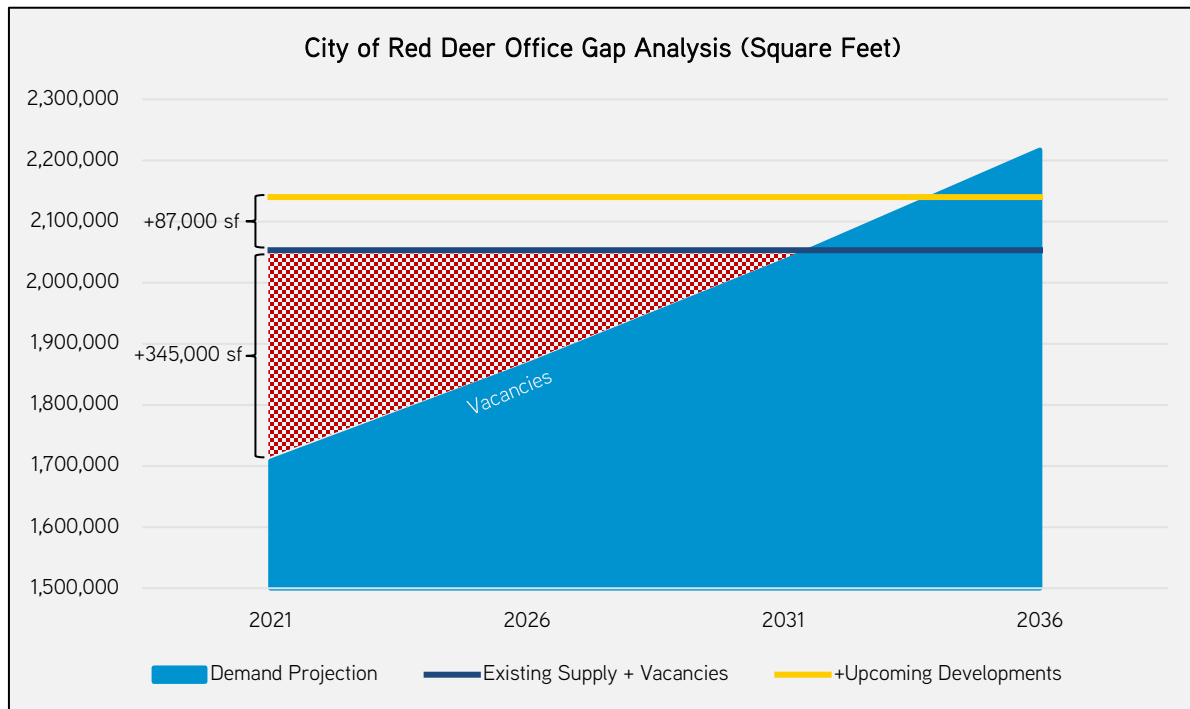
Similar to other areas of Alberta, the office market within Red Deer has not been performing well in recent years, with office vacancies creeping up primarily in South Red Deer (including Gasoline Alley). One encouraging sign, however, is the positive absorption and decreasing vacancy rate within Downtown, which is indicative of greater demand for office space in the Downtown core of the City when compared to outlying regions. In total, the City has a vacancy rate of 16.8% as of Q3 2019, up from 15.5% in Q2 2019. This has caused downward pressure on average lease rates, which are now hovering at approximately \$14.70 per square foot.

Moving forward, the Capstone development on Taylor Drive moves forward with construction of a 4 storey office building of almost 60,000 square feet with completion expected by the end of 2020 or early 2021. The new location of Ing & Mckee on 19th street is also expected to be completed in mid-2020 bringing on an additional 27,000 square feet of new inventory to the market.

4.4 Office Gap Analysis

Based on the long-term projections, it is estimated that the City of Red Deer will experience demand for approximately 510,000 square feet of additional office floorspace by 2036. The chart displayed below examines the gap between existing supply and future demand, along with potential additional supply that could fulfill demand upon current vacancies and upcoming developments.

This analysis demonstrates that the current vacancies within the City of Red Deer and upcoming developments represent enough supply to last until approximately 2033 due to the relatively soft office market within the City and high levels of vacancy. It should be noted, however, that this doesn't mean the City will experience any additional office development during this period. Rather, there is likely to be a modest amount of new supply built to replace older, dated office buildings that are unable to attract tenants for reasons other than market demand. Although this chart shows a shortage of supply from 2033 onwards, Colliers believes this could easily be accommodated by new developments within existing land zoned to permit office uses.



5) Retail Analysis

5.1 Retail Demand

The most accurate method of calculating future demand for retail space is by projecting future expenditures among retail and commercial services subcategories. Colliers' proprietary retail-commercial demand model projects the retail expenditure potential from a population based on socioeconomic variables, provincial data, and retail industry benchmarks. Expenditure are then split against retail categories using the most recent provincial profile of retail sales data from Statistics Canada. The model uses Personal Disposable Income (PDI) as a basis to calculate the total retail expenditure potential within a given area.

The first step is to delineate trade areas from which the majority of retail sales are expected to originate. Under the assumption that retail demand at the City level should be contained within, the Primary Trade Area is considered to be the entire City. It is assumed that roughly 100% of Red Deer retail trade is satisfied within the City. Due to the City's positioning along the Red Deer Corridor between Calgary and Edmonton, the Secondary Trade Area is estimated to include the remainder of Red Deer County, as well as Lacombe and Ponoka Counties (correlating to Census Division 8).

Next, an average per capita income estimate is calculated by dividing household income projections by household size. Using the differential between the trade area per capita incomes and the Alberta average, Colliers calculates the PDI for each trade area. This allows for a local PDI but does not rely on specific income data, which can be prone to large degrees of error. Since not all income is spent on retail goods, the next step is to reduce the PDI by a retail expenditure to PDI ratio which is an adjusted rate provided by the Conference Board of Canada (43.5% in Red Deer). Market capture rates are then applied based on the competitive retail environment and physical/psychological barriers that impact accessibility. The resulting potential expenditures are then converted into warranted retail floorspace using market appropriate productivity rates. Within the City of Red Deer's trade areas, the initial income metrics are outlined below.

Income Statistics	Province of Alberta	Primary Trade Area	Secondary Trade Area
Average Personal Disposable Income (PDI)	\$41,697	\$40,788	\$39,718
Provincial Factor	1.000	0.962	0.893
Household Size	2.6	2.3	2.5

It is assumed that many of the convenience retail needs within the Secondary Trade Area could be supplied within their respective communities, however a significant portion of comparison retail expenditures will be spent elsewhere within Red Deer, as well as Calgary and Edmonton. For the purposes of this analysis, it is assumed that approximately 80% of comparison-shopping expenditures generated from the Secondary Trade Area could be captured within Red Deer.

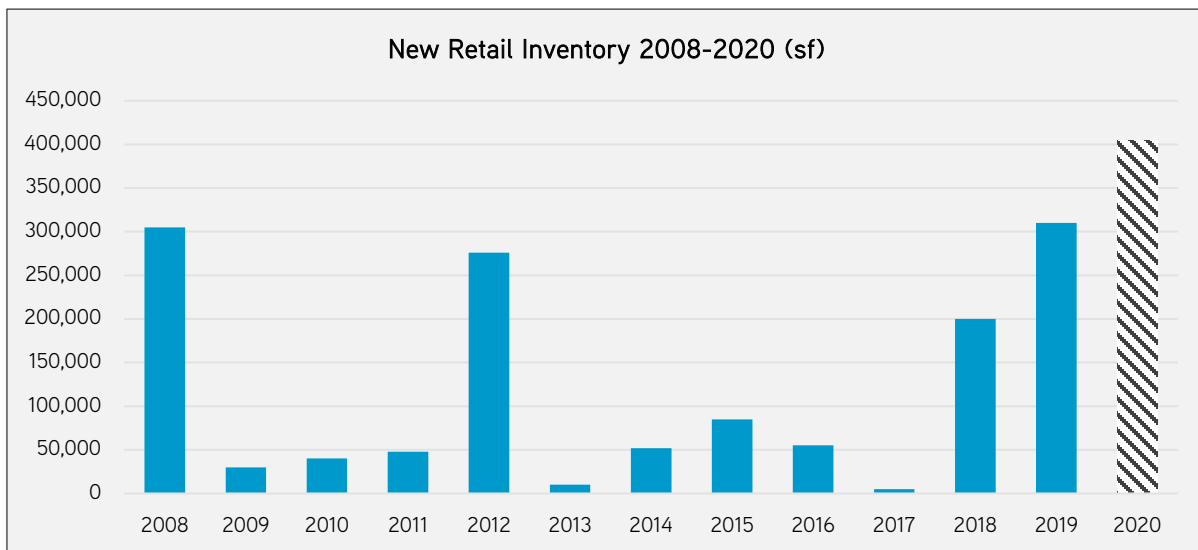
Using the demand model, current estimates of existing occupied and vacant retail space, the estimated impacts of ecommerce, and the middle growth population forecast, Colliers projected future additional retail demand broken down by the 18 NAICS categories as identified below. In total, it is estimated that the City of Red Deer could support an additional 1.01 million square feet of retail and commercial floor area by 2036. It should be noted that this is the future projected demand based on sales performance requirements growing at a conservative rate of 1% per annum. If there is less than 1.01 million square feet of additional retail floorspace introduced to the City during this period, it can realistically be assumed that existing tenants will experience higher sales performance resulting in relatively less tenant turnover. Following this logic, it would be more harmful for the City to have an oversupply rather than an undersupply of retail floorspace.

Additional Floor Area Demand by Category (sf)	2016-2021	2022-2026	2027-2031	2032-2036	Total
Furniture and home furnishings stores [442]	12,884	14,488	14,220	14,824	43,532
Electronics and appliance stores [443]	10,869	12,222	11,996	12,505	36,723
Building material and supplies [444]	17,085	19,212	18,857	19,658	57,727
Food and beverage stores [445]					
Grocery stores [4451]					
Supermarkets and other grocery stores [44511]	46,452	42,681	41,146	43,196	127,023
Convenience stores [44512]	3,481	3,198	3,083	3,237	9,518
Specialty food stores [4452]	2,916	2,764	2,673	2,803	8,240
Beer, wine and liquor stores [4453]	11,479	10,547	10,167	10,674	31,388
Health and personal care stores [446]	15,530	14,522	14,024	14,712	43,258
Clothing and clothing accessories stores [448]	24,565	27,623	27,113	28,263	82,999
Sporting goods, hobby, book and music stores [451]	11,175	12,566	12,334	12,857	37,757
General merchandise stores [452]	58,201	65,447	64,238	66,964	196,649
Miscellaneous store retailers [453]	12,423	13,970	13,712	14,294	41,976
Additional Retail Floor Area (sf)	227,060	239,242	233,563	243,987	716,792
Drinking places (alcoholic beverages) [7224]	1,979	1,850	1,787	1,875	5,512
Full-service restaurants [722511]	21,383	19,995	19,309	20,258	59,562
Limited-service restaurants [722512]	22,475	21,016	20,295	21,292	62,603
Additional Food & Beverage Floor Area (sf)	45,838	42,862	41,391	43,424	127,677
Service Commercial	54,580	56,421	54,991	57,482	168,894
Total Additional Commercial Floor Area (sf)	327,477	338,525	329,945	344,893	1,013,363

5.2 Retail Supply

The City of Red Deer currently has an estimated 8.64 million square feet of retail space, of which approximately 870,000 square feet is vacant (10.1%). Over the past 12 years, the City has seen the introduction of an annual average of approximately 140,000 square feet. With a population of 101,002, the City has an estimated 77 square feet of retail floorspace per capita, higher than Medicine Hat's 60 square feet per capita and Edmonton's 44 square feet per capita. This is likely due to Red Deer being a destination for a large trade area of over 200,000 people with a significant portion of demand coming from outside of the City.

Retail Format	Inventory (sf)	# Properties	Vacant (sf)	Absorption (Q3 2019 YTD)	Vacancy (Q3 vs Q2 2019)	Average Rate (\$/sf)
Power Centre	1,384,434	8	56,830	(12,154)	4.10% (4.12%)	\$29.00
Enclosed Mall	1,030,936	2	211,381	(23,137)	20.50% (18.92%)	\$23.88
Shopping Centre	271,664	6	5,268	1,887	1.94% (3.16%)	\$28.00
Strip Mall	1,640,402	91	266,246	(62,907)	16.23% (14.21%)	\$17.00
General Retail	4,284,629	361	329,459	(31,332)	7.64% (7.85%)	\$15.89
Total	8,639,765	482	↑ 869,184	(12,154)	↑ 10.1% (9.63%)	↓ \$19.44



5.4 Retail Gap Analysis

Based on the long-term projections, it is estimated that the City of Red Deer will experience demand for approximately 1.01 million square feet of additional retail floorspace by 2036. The chart displayed below examines the gap between existing supply and future demand, along with potential additional supply that could fulfill demand upon current vacancies and upcoming developments.

This analysis demonstrates that the current vacancies within the City of Red Deer and upcoming developments represent enough supply to last throughout the projection period. The City already has a significant amount of retail, particularly due to the growing impacts of ecommerce, and Colliers therefore believes there is a suitable amount of land dedicated for retail uses at this point. However, it is likely that some existing properties will experience redevelopment into retail formats more desirable for prospective tenants and/or mixed-use formats that may be more financially feasible.

