Benchmarking Edmonton's Business Cost Competitiveness

Executive Summary

As of 2016, Edmonton is competitive in terms of business cost environment for a city of its size, and there is little to distinguish it from other Western Canadian cities; however, it is not a leader in any cost categories. Edmonton is average, or below average, on most cost drivers relative to other Western Canadian Cities. The exception to this is in effective income tax costs, where Edmonton is currently ranked second. Canada remains a relatively low-cost location for business, meaning that all Canadian cities including Edmonton fare well in comparison to other global centres. Internationally, Edmonton has a good standing in terms of cost drivers, which are important for attracting industry and selling product.

While many business costs have increased over the past decade in Edmonton and in other cities as well, there is general weakening in several Edmonton benchmark indicators since 2006, with specific deterioration in labour cost, taxation and incentives since 2012.

However, being a low-cost jurisdiction is not sufficient to attract the type of investment, growth, and diversification that Edmonton wants. Cities increasingly compete based on non-traditional factors. Labour costs, specific project fit and low input costs are no longer the sole drivers for location selection, especially among innovation driven industries. Two-thirds of the most important selection factors according to industry executives are not direct costs, with labour skills and availability (and the quality of life to attract and retain them) becoming critical.

For those factors where Edmonton does compete well, effective brand and communication will be critical since so many location factors (for labour or businesses) are either non-quantifiable or very comparable to competitive cities.

Over the long term, consistent research, including that by Enrico Moretti of UC Berkley, makes a compelling case that a city's economic strength is directly linked to the relative strength of its innovative industries, as well as to the size and prosperity of its innovation and creativity generating companies, employees, and educational foundations. Moretti observes that there is now a shift in value generation for cities from producing physical goods to innovation and knowledge. Globalization and technological progress are transforming physical goods into commodities. Going forward, economic growth will be driven by return on human capital and innovation. The entire economy of a city will be dependant on these innovative "basic" industries. Research suggests that the prosperity of all the "non-basic" industries is tied to the success of the basic industries. This is demonstrated today with barbers, waiters, doctors and teachers in innovative cities making a higher salary than similarly educated and experienced workers in the same roles from non-innovative cities. The size and strength of the non-basic economy is strongly influenced by the basic components of the economy.

With competitive advantage becoming more dependant on human capital and innovation, regions are benchmarked by the size and composition of workforce and ability to innovate. Edmonton has the relative salaries that will attract skilled labour; however, its labour force is weighted away from traditionally innovative backgrounds, it has a smaller knowledge economy / STEM workforce and it performs worse on its innovative report card than other Western Canadian cities it competes with.

Study Parameters

Context

This report is a benchmarking study on Edmonton's business environment competitiveness. It was completed in response to the following request from Edmonton City Council:

> *The City of Edmonton administration, in consultation with relevant stakeholders, including Edmonton Economic Development Corporation (EEDC) and the Edmonton Chamber of Commerce, will provide a report benchmarking Edmonton's business climate competitiveness against other strategic and comparable global cities and comparable global city regions.*

In addition to a holistic benchmarking of Edmonton's relative competitiveness, the City Council request indicated the following should be included:

- historical data showing non-residential tax increases over the previous ten-year period with a comparison to other large Canadian cities,
- the non-residential assessment methods used and how shifting assessment impacts business,
- an analysis on the effect of these cumulative tax increases on commercial lease rates including any other known effects,
- comparison of business license fees, permit fees and wait times, user fees,
- comparison of incentives for business attraction and retention and the effectiveness of these incentives,
- comparison of key areas of competition for the city: e.g. Health Innovation, Energy Services, Logistics, Industrial Land sales, etc.,
- comparison of investment in innovation and analysis of emerging factors important to attracting increasingly cautious global capital and business investment,
- comparison of Human Capital (Talent) Competitiveness: Workforce Productivity and Global Fluency,
- analysis of overall economic participation, job growth and income growth.

Analysis of these 9 elements is woven within the full assessment of Edmonton's competitive benchmarking, however an abridged response to the specific elements requested by City Council is summarized in Appendix 1.

What is Edmonton Competing For?

A key concept in urban economics and economic development is the distinction between basic and non-basic industries. Basic industries primarily export goods and services outside of a given region, and non-basic industries primarily provide goods and services within a region to citizens and other basic and non-basic sectors. Basic industries are driven mainly by comparative advantage and broad economic trends, while non-basic industries are driven mainly by local demand. Edmonton is in competition for the basic industries.

This distinction between basic and non-basic is important when evaluating a city's business competitiveness, since the two types of industries will consider distinct factors when deciding to locate in a region. For example, a grocery store chain (non-basic industry) considering expansion will not choose Edmonton for a new location if the demographics do not suggest there will be demand for their product, regardless of how cost competitive the business environment. Conversely, a software firm that sells services to clients around the world (basic industry) will care less about Edmonton's local demand than its overall comparative advantage in that industry – including, but not limited to, cost competitiveness.

Although it is challenging to quantify, it is generally accepted that basic industries make up less than one-third of a city's total GDP, but drive much of the remaining non-basic aspects of the economy. It is for these basic industries that Edmonton is in competition with other Canadian and international cities. Academic research suggests that the future prosperity of cities will be determined by its success with innovation driven basic industries, rather than traditional basic industries (such as lowest costs manufacturing) which are becoming like commodities.

Lastly, it is not efficient, nor effective, to aim to be competitive in all industries. Edmonton's current economic development strategies focus on health and life sciences; agri-foods and processing; advanced manufacturing; information and communications technology (ICT); and energy (processing & support). This report will focus on industry competitiveness on average, and in these current strategic industries. A potential update on Edmonton's long term economic strategy and the City's "The Way We Prosper" strategy in 2018 may realign which innovation driven industries should be the focus of business attraction efforts.

Who is Edmonton Competing With?

By the definition of a basic industry, regions compete to attract innovative companies and the products they produce. Edmonton is competing globally with hundreds of cities around the world, however comparable data is not easily available. A sample of global cities with immediately comparable data may not always ideal, however they are indicative of relative strengths, positioning and trends against the regions where these cities are located.

For this report, the international cities are:

- Manchester
- Frankfurt
- Melbourne
- Yokohama/Tokyo
- Paris
- Denver
- Portland
- Seattle

For the most part these cities are major global centres and are not commonly compared with Edmonton. However, limited data availability over the 10-year study period means that these cities are the best options for benchmarking Edmonton's business costs at a global level. Deeper analysis shows that the largest qualitative differentiators are not municipally driven, but rather national or regional in nature. Just as Edmonton does not vary significantly from the other major centres in Canada, the same can be said for these larger cities (like Paris) being a reasonable representative of the smaller centres (like Lyon and Marseille).

This report will primarily focus on a group of cities in Western North America with whom Edmonton feasibly competes for business attraction.

For this report, the regional competitor cities are:

- Vancouver
- Saskatoon
- Calgary
- Winnipeg

On What Basis Does Edmonton Compete?

The way competition is defined can be approached in a variety of ways. For this benchmarking report, two approaches are considered:

Retraining and Attracting Businesses Using Traditional Site Selector Factors

Edmonton is competing daily for the attraction and retention of businesses. Therefore, competitiveness can be benchmarked by seeing how Edmonton compares on factors that businesses care about when choosing a location. This "company" view considers key site selection criteria and finds available, quantifiable benchmarks that align to these criteria.

Long Term Success of Cities Determined by Innovation and Education

Globally, knowledge based industries are the fastest growing and are becoming the foundation on which future economies are built. As these knowledge industries grow, many demonstrate an inherent tendency toward geographic agglomeration. This means that both knowledge industries and their desired labour are predisposed to locating where others already are. This can be seen in the continued attraction, innovation and success of high cost jurisdictions like Seattle, Silicon Valley and Boston. In this view, the "it" cities are not simply collections of individuals, but a complex, interrelated environment that fosters the generation of innovative ideas and new ways of doing business. The downside to this trend is that there will be winners and losers, and some cities are being left behind. To participate in this agglomeration, cities need to have some existing innovation industry strength and then competitively differentiate based on higher/attractive salaries and the desired quality of life that results in a large educated and innovative labour force.

The make-up and trends of the labour force's skills, salary and education, as well as the level of innovation in a city, are emerging benchmarks by which a city's future competitiveness will be measured.

Limitations of Research

To benchmark accurately and affordably, this report has utilized only secondary research, from credible sources with reliable methodologies applied across the study cities.

Unfortunately, some limitations result from having limited data (example – using 2011 census data due to 2016 census data being unavailable at this time) and therefore some competitive drivers are identified, but not quantified. Of course, future opportunities exist for the City of Edmonton to consider additional research or paid consulting and research to round out this benchmarking.

Benchmarking Report Findings: Traditional Site Selection Factors

Area Development Magazine is an organization that produces an Annual Corporate Survey that it ranks the importance of different traditional site selection factors for retaining and attracting businesses. For full survey results, see Appendix 2. Based on the site selection factors that are most frequently prioritized as important or very important by business executives and the scope of City Council's request, the following factors were selected for benchmarking:

- Highway accessibility (see Appendix 3)
- Availability of skilled labor
- Occupancy or construction costs
- Labor costs
- Corporate tax rate
- State and local incentives
- Energy availability and costs
- Proximity to major markets (transportation costs)

Only about one-third of the factors are specific to cost drivers and can easily be quantified. Others, such as availability of skilled labour, are widely studied by economists and can also be benchmarked. This information is sourced from multiple secondary sources, such as KPMG Competitive Alternatives Study, Statistics Canada, the Conference Board of Canada, and more.

Our main source was the biennial KPMG Competitive Alternatives Study – a study that models average income statements for hypothetical expansion businesses, within 19 specific industry sectors and across dozens of participating cities.[1] The advantage of using this study is that it allows for comparison across complex municipal, provincial, and federal policies, taxation, and business environments with the common denominator being the impact on the business. It provides current figures from 2016 reports, as well as comparable analysis from 5 additional reports over the last 10 years.

It is important to note that the data for each year of the KPMG study in this section represents the annual average of projected costs and revenues over a future 10-year period for a new business. It does not represent changes in costs for the same business over time. Tables 1 and 2 show the ten-year annual average costs and revenues for a benchmark new business facility from the 2016 KPMG study and each city's ranking. For cost measures, low costs translate to high rankings (e.g. the city ranked (1) has the lowest cost) and vice versa for revenue measures.

Tables 1 and 2 show Edmonton's current competitive ranking compared to the group of Western Canadian and international competitor cities. As of the 2016 Competitive Alternatives study, Edmonton was competitive on most of the factors considered in this report, especially in terms of the effective total tax rate where Edmonton is ranked second to Saskatoon. The following sections will examine each cost factor in more detail and compare cost trends over the past decade.

[1] It should also be noted that Calgary did not participate in the KPMG study in 2014 and 2010, and therefore their trendline displayed in the analysis differs slightly from their counterparts, however their included data points consistently align with expectations.

Table 1. 10-Year Average Annual Costs and Revenues for a New Business Location by City
2016 KPMG study year, average of all industries, total projected cost in $CAD thousands unless otherwise noted

	Net profit after tax per year		Total labour cost per year		Facility lease cost per year		Total incentives, per job, after estimated tax effects	
Winnipeg	$5,592	(1)	$8,278	(1)	$451	(2)	$10,133	(1)
Vancouver	$5,367	(2)	$8,733	(3)	$571	(10)	$5,660	(5)
Saskatoon	$5,320	(3)	$8,502	(2)	$541	(6)	$7,408	(4)
Edmonton	**$5,297**	**(4)**	**$8,867**	**(4)**	**$540**	**(5)**	**$5,306**	**(7)**
Calgary	$5,210	(5)	$9,160	(5)	$493	(4)	$5,338	(6)
Melbourne	$4,699	(6)	$9,490	(6)	$548	(7)	$8,808	(3)
Paris	$4,438	(7)	$10,177	(8)	$859	(12)	$9,036	(2)
Frankfurt	$3,782	(8)	$10,609	(9)	$483	(3)	$0	(13)
Tokyo	$3,762	(9)	$9,737	(7)	$1,117	(13)	$1,232	(12)
Manchester	$2,686	(10)	$12,065	(12)	$381	(1)	$2,632	(10)
Denver	$2,622	(11)	$11,727	(10)	$564	(9)	$3,541	(8)
Portland	$2,617	(12)	$11,915	(11)	$554	(8)	$3,150	(9)
Seattle	$2,137	(13)	$12,964	(13)	$734	(11)	$2,512	(11)

Table 2. 10-Year Average Annual Costs and Revenues for a New Business Location by City (cont.)
2016 KPMG study year, average of all industries, total projected cost in $CAD thousands unless otherwise noted

	Property tax per year		Effective total tax as % of net income		Total utility cost per year		Total transportation cost per year	
Winnipeg	$164	(7)	22.4%	(4)	$149	(1)	$1,579	(9)
Vancouver	$204	(9)	23.6%	(5)	$193	(2)	$1,296	(5)
Saskatoon	$120	(3)	21.6%	(1)	$238	(6)	$1,612	(10)
Edmonton	**$143**	**(6)**	**22.0%**	**(2)**	**$255**	**(7)**	**$1,382**	**(7)**
Calgary	$128	(5)	22.2%	(3)	$223	(5)	$1,346	(6)
Melbourne	$86	(1)	28.6%	(7)	$339	(9)	$1,230	(4)
Paris	$113	(2)	27.3%	(6)	$375	(11)	$1,085	(2)
Frankfurt	$125	(4)	32.9%	(8)	$500	(12)	$1,095	(3)
Tokyo	$614	(13)	40.2%	(13)	$503	(13)	$623	(1)
Manchester	$168	(8)	36.1%	(9)	$345	(10)	$1,528	(8)
Denver	$467	(12)	38.7%	(12)	$216	(4)	$1,865	(13)
Portland	$310	(11)	38.6%	(10)	$209	(3)	$1,638	(12)
Seattle	$252	(10)	38.7%	(11)	$280	(8)	$1,616	(11)

This report focuses on the aggregate averages across all industries and specifically looked at the four industries that align to the ones Edmonton intends to compete for: food processing (agri-food), video game development (ICT), medical devices (health/life sciences) and general manufacturing (advanced manufacturing). Overall each of these sectors has little variance to the aggregated average and thus the conclusions apply equally across these industries.

Following the site selector priorities identified in the Area Development survey, this report addresses Edmonton's relative competitiveness, for each quantifiable factor, through the KPMG Study rankings. Since Edmonton's competitive position relative to the broader international group of cities has not changed drastically since 2006, for brevity the graphs in the following section will include trend analysis of Edmonton's cost-competitiveness compared to the Western Canadian cities only. The data source for all tables and charts in this section are the 2006 to 2016 KPMG Competitive Alternatives studies unless otherwise noted.

Availability of Skilled Labour

Edmonton has high levels of employment growth, labour force participation, and income growth. However, its average educational attainment is the lowest among Western Canadian competitor cities.

Growing companies are now more worried about adequately fulfilling demand than generating it. Having a sufficient supply of skilled labour capable of supporting ever increasing levels of complexity, specialization and automation is becoming more frequently a key decision criteria than the cost of this labour.

Table 3 shows that over the past decade, the Edmonton region has performed relatively well on most aggregate indicators of labour market performance including employment growth, labour force participation, and median income. However, this performance does not necessarily have a strong link to competitiveness and is more indicative of overall economic performance.

While Edmonton's tight labour markets and high income growth might make it more competitive in attracting new labour and non-basic (local demand driven) industry, with all else being equal, scarce labour supplies would make the region less attractive outside investment in basic, non-innovation driven industries. Innovation driven industries will prioritize the total size of their desired labour pool and their required skills and level of educational attainment, rather than comparing unemployment rates with an eye to finding low-cost labour.

Table 3. Selected Labour Market Characteristics

	Employment growth (CAGR, 2006-2016)	Labour force participation rate (2016)	Median family employment income (CAGR, 2006 – 2014)
Winnipeg	1.0%	68.6%	2.3%
Saskatoon	2.6%	70.1%	3.6%
Calgary	1.8%	73.6%	2.7%
Edmonton	2.7%	73.3%	3.1%
Vancouver	1.7%	66.4%	1.7%

Source: Statistics Canada: Labour Force Survey, T1 Family File

Table 4 shows that Edmonton's population has a relatively low average level of educational attainment, which reflects the structure of the economy. Compared to the competitor cities, Edmonton has the highest share of employed labour force in goods-producing and transportation occupations, which tend to require trades certificates rather than four-year university degrees. Across all the chosen cities there is an inverse relationship between educational attainment and the prevalence of goods-producing and transportation employment.

Table 4. Educational Attainment and Share of Employed Labour Force in Trades Occupations
2011

	Edmonton	Calgary	Vancouver	Winnipeg	Saskatoon
Total population 15 years and older	935,285	976,570	1,926,225	590,295	209,695
High school diploma or equivalent (%)	26.7%	24.9%	26.8%	28.6%	27.5%
Apprenticeship or trades certificate or diploma (%)	10.9%	8.2%	8.1%	8.7%	11.1%
University certificate, diploma or degree at bachelor level or above (%)	21.9%	28.8%	27.7%	22.2%	23.0%
% of employed labour force 15 years and older in non-management, goods-producing and transportation occupations	22.0%	17.5%	16.3%	18.8%	21.4%

Source: Statistics Canada, 2011 National Household Survey

Therefore, the effect of Edmonton's human capital (measured by educational attainment) on its competitive position differs by industry. For the goods-producing target industries such as manufacturing and agri-food, the workforce is competitive, but for knowledge industries its workforce may be less competitive compared to Calgary and Vancouver.

Occupancy Costs

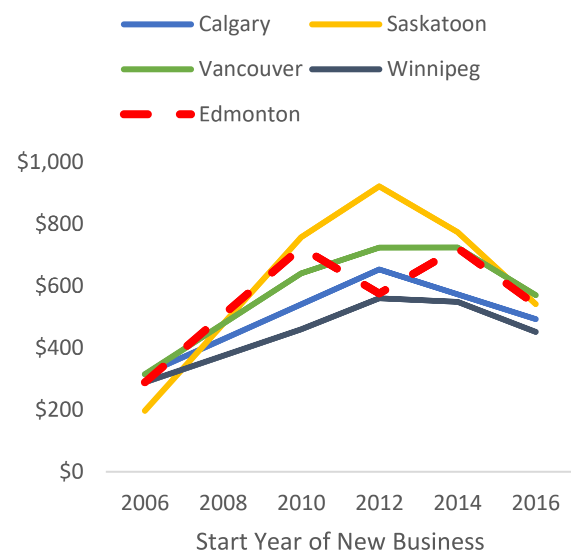
Edmonton ranks 5th in facility lease costs and 7th in new building construction costs when compared to its 12 competitor cities.

The cost to lease or build a facility is consistently top of mind during site selection, usually because of the initial set up costs and the immediate impact on cash flows. As an ongoing cost, facilities are approximately 2% of total ongoing expenses.

Edmonton's facility lease costs competitiveness follows the peaks and valleys of the cyclical economy. Currently Edmonton (5th) sits behind Calgary and Winnipeg in the 2016 benchmark; however, costs in both Edmonton and Calgary would be expected to continue their downward trend today. Winnipeg has consistently lead the group since 2008. International trends have followed the same cyclical flow, with Edmonton being in the middle of the group.

Edmonton's new building construction costs rank 7th in 2016, again behind Calgary and Winnipeg. Building costs for previous years are not available.

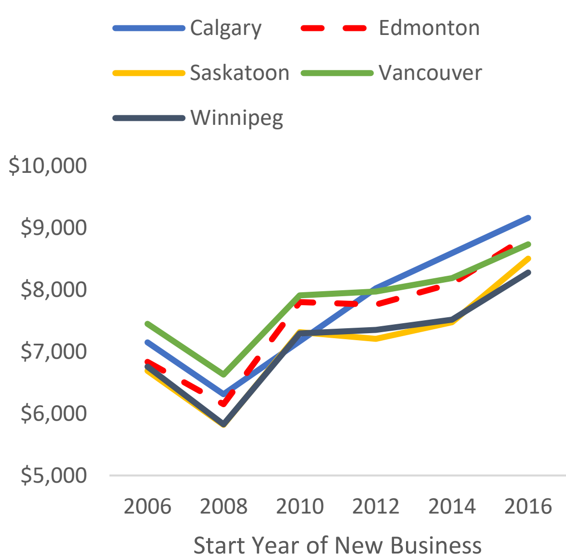
Figure 1. 10-Year Annual Average Facility Lease Cost
Average of all industries, CAD thousands



Labour Costs

Edmonton ranks 4th in total labour costs when compared to its 12 competitor cities. The city has 7 percent higher labour costs than Winnipeg, which was ranked in 1st place.

Figure 2. 10-Year Annual Average Total Labour Cost
Average of all industries, CAD thousands



Labour costs are key competitive differentiators under traditional site selection evaluation. They make up 20 to 70 percent of the total business' costs within KMPG's 19 studied industries. While lowest cost is not always the sole driver, it will be evaluated in association with other labour supply factors.

It is important to remember that high wages do not preclude outside investment, as cost is only one aspect of comparative advantage. High wages do however contribute positively to the attraction of labour and can help build the innovation environment, thereby drawing in desired businesses. Despite this, in the context of the KPMG data, cities with lower labour costs have a better competitive ranking (i.e. the city ranked (1) has the lowest labour costs.)

Edmonton's total labour costs rank 4th in 2016, following all the Western Canadian cities, except Calgary. Over the previous 5 studies, labour costs have trended similarly across the western cities, with Edmonton being consistently 4% to 8% higher than Saskatoon and Winnipeg.

Corporate Tax Rate

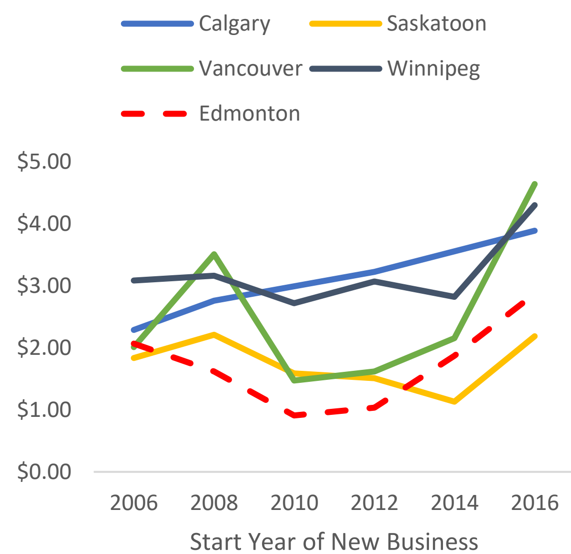
Edmonton ranks 2nd in effective total tax rate when compared to its 12 competitor cities, just behind the city of Saskatoon, which ranked in 1st place.

Property based taxes

Overall, Edmonton's property tax cost is relatively low compared to most of the chosen competitor cities, but has risen since 2012.

As of 2012 Edmonton's property based taxes per sq. ft. (including property taxes, machinery and equipment taxes, and business taxes) was $1.04, lowest among the Western Canadian competitor cities. Since then they have climbed to $2.87 per sq. ft., a change that reflects both an increase in the non-residential mill rate and increasing market values for a new business location.

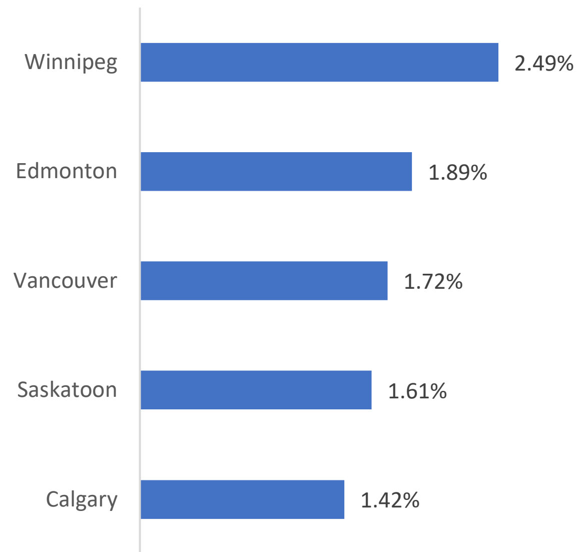
Figure 3.
10-Year Annual Avg. Property-based Taxes per Sq. Ft.
Average of all industries, CAD



Because of the nature of the KPMG data, this does not mean that an individual business' property tax bill has nearly tripled since 2012. It means that on average a new facility opening in 2016 is projected to face higher property tax costs than a similar facility opening in 2012. Since market reassessments are revenue neutral, the key consideration for an individual business over time is how the value of their property increases relative to the average city-wide change. The KPMG data does not consider this – it merely shows the expected cost of property taxes for a new business location, with different property values reflecting real estate market conditions for each city in each year.

Nearly all the competitor cities have also experienced increases in property-based taxes at a similar or greater rate than Edmonton, but as of 2016 it is now second in property tax competitiveness to Saskatoon. Calgary's additional tax cost over Edmonton is primarily due to 5% municipal business tax that is included in the total municipal tax calculation. Winnipeg also has a municipal business tax. Note that in 2012 Calgary City Council approved a plan to eliminate Calgary's business tax by 2019; however, this change will be revenue neutral and the revenue previously generated from business tax will be collected from property taxes.

Figure 4.
Effective Property Tax Rate in KPMG Cost Calculations
% of market value of land and buildings, as of 2015



Though much of each city's property tax rate is municipally controlled, factors outside of local government's control have an impact on the property tax cost to businesses. First are potential non-municipal portions of property tax, for example provincial education tax in Alberta. Second is the assessed value of property – since city mill rates are applied against market assessments, a city may have a competitive mill rate but higher average property tax cost, as in Vancouver and Calgary.

Data from the 2016 REALPAC Canadian Property Tax Rate Analysis shows that from a pure tax rate perspective, commercial property taxes in Edmonton per $1,000 of assessment rose slightly between 2009 and 2012 and have remained essentially flat since. Over the same period taxes per $1000 of assessment fell slightly or stayed flat in most other Western Canadian cities, except for Saskatoon whose property taxes per $1,000 of assessment fell dramatically from 2012 to 2013. This data does not consider business taxes in Calgary or Winnipeg, and therefore paints a different picture than the more business-centric KPMG data.

The discrepancy between the KPMG data and the REALPAC data suggests that the increase in the property-based tax cost per sq. ft. shown in Figure 3 likely stems from changes in the assumed property market value used in each KPMG study year, based on market conditions in each year, and are not entirely due to municipal tax changes. It bears repeating that the KPMG data refers to new locations in each year and does not reflect how an individual business' tax bill changes over time.

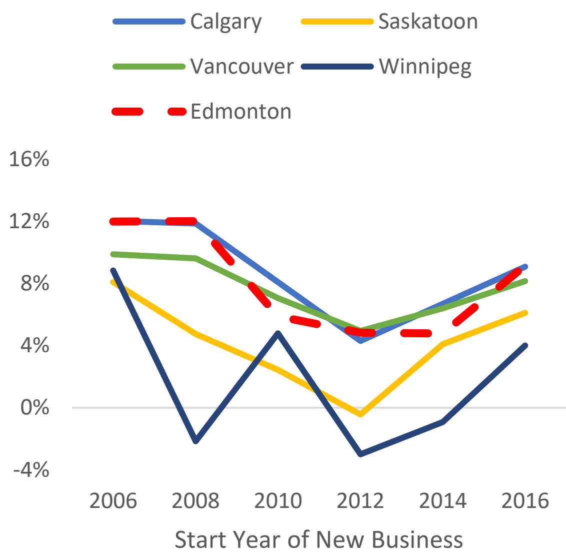
National and provincial corporate income taxes

Effective Canadian corporate income tax rates are very competitive relative to other global regions. Although the gap has narrowed since 2008, Canadian rates have remained steady and predictable.

Over the entire analysis period benchmark firms in Edmonton, along with Calgary, have had relatively high effective corporate income tax rates despite Alberta's corporate income tax rate being the lowest or second-lowest in Canada. This has the single largest impact on their overall tax competitiveness.

Since 2014, when Edmonton was in the middle of the pack in terms of effective state/provincial effective tax rates, its competitive position has worsened and it is now the least-competitive city among the competitor group. However, it is difficult to point to one singe policy change as the cause of this increase, as effective rates remain lower than they were in 2006.

Figure 5.
10-Year Annual Avg. Provincial Corporate Income Tax
Average of all industries, percent of net income, effective rate



Note that these effective rates encompass more than just the marginal corporate income tax rate, and the definition of net income used in Competitive Alternatives may differ from that used for tax purposes in each jurisdiction.

The exact cause of the remarkably low effective rates in Winnipeg during certain time periods is uncertain, but it likely partially relates to a combination of manufacturing and research sector incentives.

Total tax burden

Edmonton (ranked 2nd) is very competitive in terms of combined local, provincial and national taxes, including any tax credit programs. One of the key differentiators was the absence of a provincial sales tax. Removing the sales tax, Edmonton would be approximately tied with Calgary and Vancouver (behind Saskatoon and Winnipeg). In 2016 Saskatoon surpassed Edmonton as the most cost-competitive of the 12 chosen cities, suggesting that its relative national competitive stance is weakening. Internationally Edmonton and all the Canadian cities have a competitive advantage over their global competitors; however, this advantage is also shrinking.

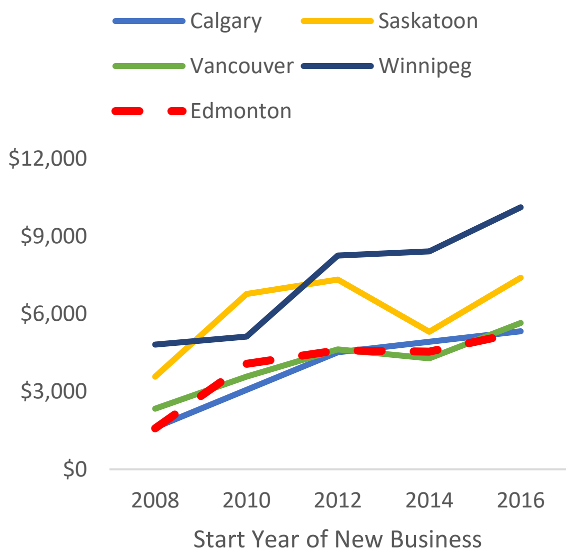
Increases in effective rates for provincial and federal corporate income taxes mean that property taxes currently account for only 10 percent of the overall tax bill for the benchmark Edmonton firm, a share that is roughly in line with the other Canadian cities in the competitor group and has fallen since 2014.

State & Local Incentives

Edmonton ranks 7th in state and local incentives when compared to its 12 competitor cities, last among the five Canadian competitor cities.

Incentives are a combination of Provincial and Federal tax savings and grant programs, often aimed at specific industries or behaviours. These elements are captured within components of net income and total taxation. Compared to policies in Alberta, Saskatchewan and Manitoba have been more aggressive in providing incentives, particularly in manufacturing and innovation.

Figure 6.
10 Year Annual Average of Total Incentives per Job
CAD, after estimated tax effects



During the period of significant jump in incentives for Winnipeg, Manitoba introduced an R&D tax credit boosting the biomed R&D and agriculture R&D sectors. This tax credit includes a 20% non-refundable credit against Manitoba's corporate income tax payable. Manitoba also has a general manufacturing tax credit of 10% applied against the corporate income tax payable in the year earned. The payable is 80% refundable.

The data in Figure 10 shows that the incentive gap between Edmonton and Winnipeg has widened, but only shows its effects on a benchmark new business location. It does not directly speak to the effectiveness of incentives in attraction new businesses. An analysis of that effectiveness would require data on business relocations over time, which is not available.

Energy Costs

Electricity: Edmonton ranks 8th in electricity costs when compared to its 12 competitor cities, last among the five Canadian competitor cities and 110 percent higher than Winnipeg, which was ranked in 1st place.

Gas: Edmonton is effectively tied with Calgary for 1st rank in gas costs when compared to its 12 competitor cities, approximately 25 percent better than Vancouver, which was ranked in 3rd place.

Figure 7. Cost of Electricity
CAD ¢/kWh, incl. transmission and demand charges

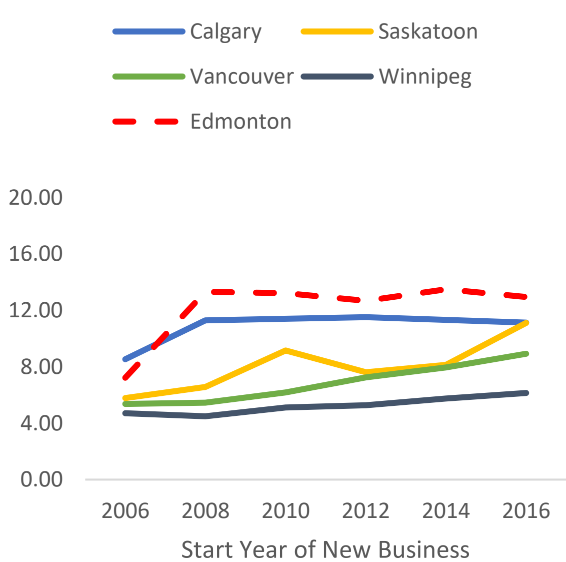
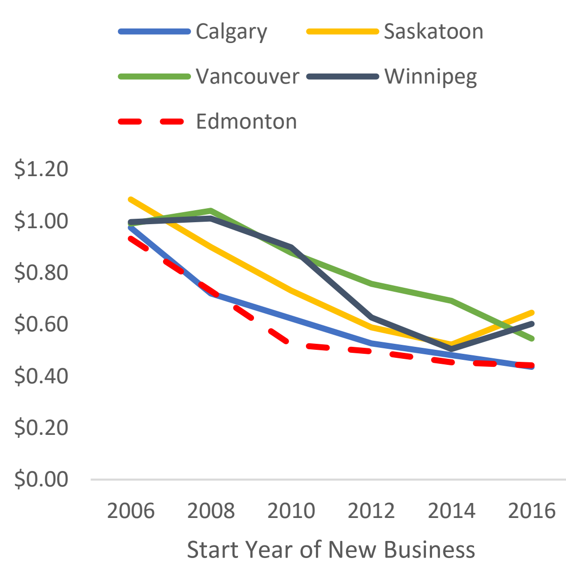


Figure 8. Cost of Natural Gas
CAD$/100cu.ft., incl. transmission and demand charges



Edmonton’s relatively high electricity costs compared to the Western Canadian competitors can likely be attributed to Alberta’s deregulated electricity market (although the costs are still slightly higher than costs in Calgary), and the low natural gas costs are likely a consequence of Alberta’s abundance of natural gas resources.

Combining gas and electricity means that Edmonton’s total utility costs are roughly average – ranking 7th overall among the 12 international competitor cities. Edmonton has the highest total utility costs among the Western Canadian cities; however, costs have been dropping steadily since 2010.

Note that the electricity prices in Figure 7 refer to the most recent prices at the time the KPMG study was conducted in each year. The nature of Alberta’s deregulated electricity market means that the prices shown in Figure 7 are not the most current available prices. Also note that it is difficult to directly compare posted electricity rates because pricing structures (e.g. transmission charges, demand charges, and rate blocks) can vary dramatically between providers.

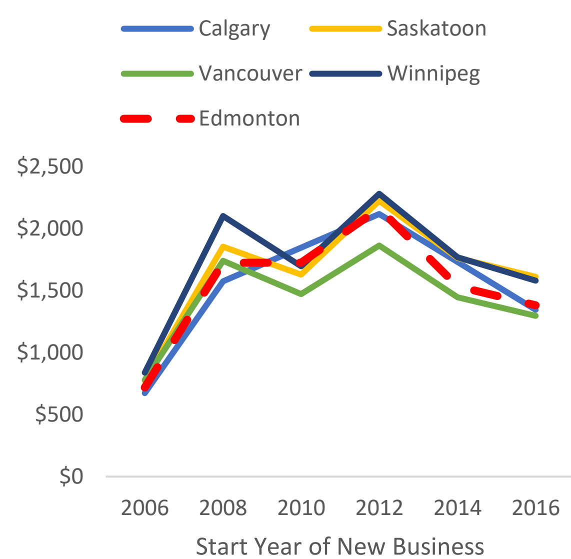
Proximity to Markets (Transportation Costs)

Edmonton ranks 7th in total transportation costs when compared to its 12 competitor cities, ahead of two Canadian cities – Winnipeg and Saskatoon.

Despite being relatively distant from supply chain centers compared to the global competitor group, Edmonton is competitive with Western Canadian cities in terms of transportation costs, and transportation costs have been trending downward as Edmonton’s access to global markets has improved.

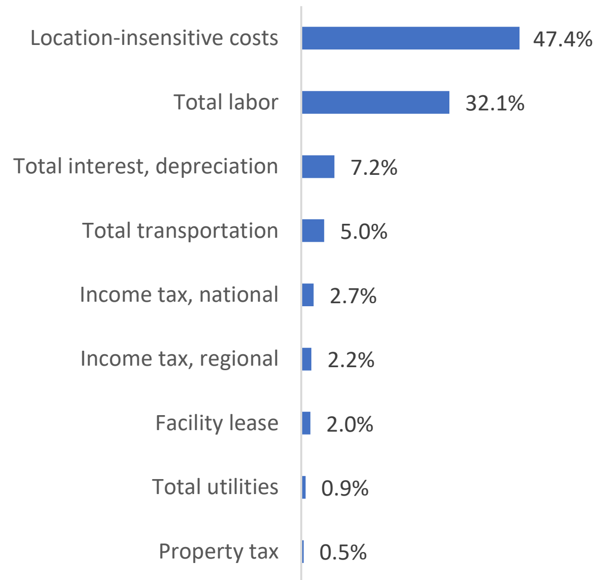
The data in Figure 9 suggests that while Edmonton does not greatly stand out from Western Canadian competitors in terms of transportation costs, those costs should not inhibit business attraction efforts.

Figure 9.
10-Year Annual Average of Total Transportation Cost
Average of all industries, CAD thousands



Relevancy of the Above Factors to a Company's Ongoing Financial Operations

Figure 10. Cost Categories by Percent of Total Costs
2016 KPMG study year, Edmonton overall average

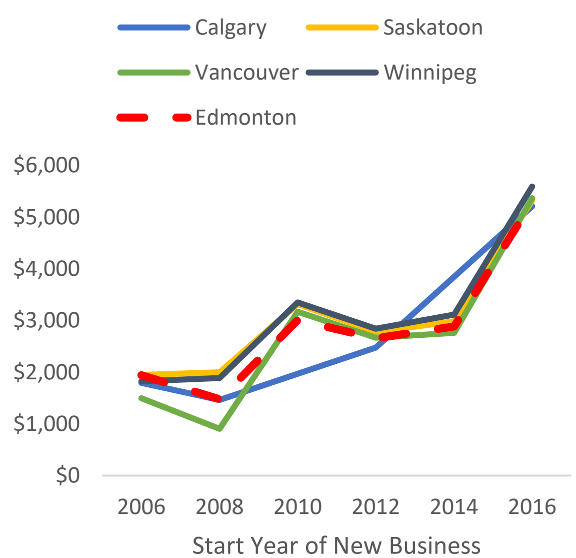


The KPMG dataset attempts to quantify all the costs for the benchmark businesses, and distinguishes costs that do not vary by location (called location-insensitive costs) such as materials and supplies, from those that vary between regions. Labour costs are the most important of the location-driven costs. Total taxes and transportation are a distant 2nd and 4th. Property based taxes are the only cost factor directly influenced by municipalities in Canada, and they are only 10 percent of total taxes and less than 1 percent of the total operating costs from the perspective of the benchmark Edmonton business.

This is not to say that property tax bills are entirely immaterial to business. Instead this says that as a contributor to one part of Edmonton's comparative advantage in attracting outside investment, the costs that are controlled by Edmonton City Council are only a small part of the overall cost picture.

Aggregate of Edmonton's Competitive Drivers

Figure 11.
10-Year Annual Average of Net Profit After Tax
Average of all industries, CAD thousands



All cost drivers analyzed by KPMG's Competitive Alternatives study aggregate together to be reflected in Net Profit After Tax. In this category, Edmonton ranks 4th when compared to its 12 competitor cities. Edmonton ranks behind three Canadian cities in this category - Winnipeg, Vancouver, and Saskatoon – but all Western Canadian competitors are very close.

Overall, when analyzing each factor over the last 10 years for Edmonton, they each trend similarly to other Canadian cities with little to discern as a material competitive advantage[2]. This suggests that Edmonton's relative prosperity over the last 10 years, when compared to other Canadian cities, was not the outcome of competitive cost advantages, but rather other comparative advantages such as proximity to natural resources.

As with the other cost factors examined using the KPMG study, the data shows projected net profit for a

[2] Note: Calgary didn't participate in the 2010 and the 2014 KPMG survey, which is reflected in their trend line. Data points that are represented do align closely behind Edmonton.

new business location opening in each year, and does not show changes in profitability for the same benchmark business over several years.

Table 5.
Edmonton's Competitive Ranking by KPMG Study Year
Five western Cdn cities, lower number = more competitive

	2016	2012	2008	2006
Net profit after tax	4	4	3	2
Total labour cost	4	3	3	3
Facility lease cost	3	2	-	2
Total incentives	5	4	1	-
Property tax	3	1	1	2
Effective total tax	2	1	3	1
Total utility cost	5	5	5	4
Total transportation cost	3	3	2	2

Note: Calgary not ranked in 2010 and 2014

Compared to Edmonton's Western Canadian competitors, its relative position on all cost drivers has weakened since 2006, although in most cases the change in absolute dollar amounts are fairly small.

However, internationally, Edmonton has maintained its cost advantages compared to the broader group of global competitor cities, which has been driven by corporate tax and statutory labour cost advantages.

Benchmarking Report Findings: Long Term Success Due to Innovation & Education

Investment in Innovation

Innovation is hard to quantify, but its importance can be analyzed through investment. When looking at investment in innovation by province, Alberta ranks 4th in Canada in the Conference Board's 2015 innovation assessment, with a C rating overall. This puts Alberta behind Ontario, Quebec, and British Columbia. Globally, the Conference Board ranks Canada as lagging in innovation compared to Nordic countries and the United States.

There is no publicly available data on investment in innovation at the municipal level in Canada. Table 6 shows that at the provincial level research and development spending, as a percentage of gross domestic product, in Alberta is slightly below Manitoba and British Columbia, though how this relates to Edmonton's competitiveness compared to the selected cities is not clear from the available data.

Overall, the limited amount of data we have suggests that Edmonton's long-term competitiveness would benefit from higher investment in research and development and innovation across Canada and Alberta.

Figure 12. Conference Board of Canada Report Card on Innovation
2015

REPORT CARD

Innovation Indicators

	Canada	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Public R&D	B	C	A	A+	C	A	A	B	D	D	C
Researchers	D	D–	D–	D–	D–	C	C	D–	D–	D–	D
Connectivity	C	C	B	D	C	C	B	D	C	B	B
Scientific articles	B	C	C	A	D	B	B	B	B	B	B
Entrepreneurial ambition	A	B	n.a.	B	n.a.	B	A	A	A+	A+	A+
Venture capital investment	B	C	D–	D	D	A	B	D–	D	D	A
Business enterprise R&D	D	D–	D–	D–	D–	C	D	D–	D–	D–	D–
ICT investment	C	D	B	C	D	C	B	C	D	C	C
Patents	D	D–	D–	D–	D–	D	D	D–	D–	D	D
Enterprise entry rate	n.a.	A	A	D	C	D	B	B	A	A	B
Labour productivity	C	B	D–	D	D–	D	D	D	C	B	D

Note: Data for the most recent year available were used. For details on methodology and data sources, see the "Methodology & Data" section of this website.
Source: The Conference Board of Canada.

Table 6. Gross Spending on Research and Development and R&D Intensity by Province/State
2013, all R&D performers and all funding sources, current prices CAD per hour

	Gross R&D expenditure	Gross domestic product	R&D intensity
Manitoba	$746	$62,314	1.2%
Saskatchewan	$715	$83,159	0.9%
Alberta	$3,609	$342,415	1.1%
British Columbia	$3,065	$228,973	1.3%

Source: Statistics Canada

Educated Workforce

Per modern economic development research, attracting a large population of educated, highly paid individuals is an increasingly crucial factor in the long-term success of cities. The available data on STEM (science, technology, engineering, and mathematics) salaries and the STEM labour force in Western Canadian cities shows that while Edmonton offers high wages for workers in these fields, these individuals make up a smaller total number and share of the population than in Calgary or Vancouver.

As with Edmonton's overall level of educational attainment, this is indicative of the structure of the economy – compared to peer cities Edmonton has more workers in traditional goods-producing industries such as manufacturing, construction, and transportation than in engineering or computer science. And thanks to Edmonton's proximity to the oil sands employment in these occupations has helped create massive prosperity across the region.

Table 7. Median Hourly Wage for STEM Careers
As of November 2016

	Edmonton	Calgary	Saskatoon	Winnipeg	Vancouver
Architecture/ Sciences	51.28	58.62	44.71	39.83	41.20
Engineering	55.29	55.29	46.63	45.94	45.00
ICT	49.52	48.72	47.00	46.15	43.96
Mathematicians/Statisticians	42.58	42.58	N/A	36.01	N/A
Medical Doctor, General	60.26	N/A	59.67	66.47	51.30

Source: Government of Canada Job Bank

However, in terms of the long-term competitiveness of the workforce in a 'knowledge economy', an area where Edmonton cannot rely on natural resources, Table 8 shows that Edmonton is currently at an innovative workforce disadvantage relative to Calgary and Vancouver.

Table 8. Population Possessing a STEM Education
2011, all levels of educational attainment

	Population with STEM education	Total population	STEM education share of total population
Edmonton	103,770	1,159,869	8.95%
Calgary	147,885	1,214,839	12.17%
Vancouver	231,120	2,313,328	9.99%
Winnipeg	52,620	730,018	7.21%
Saskatoon	20,000	260,600	7.67%

Source: Statistics Canada, 2011 National Household Survey

Conclusion

From a traditional, short term perspective, Edmonton is competitive in terms of business cost environment for a city of its size and there is little to distinguish Edmonton from other Western Canadian cities. Edmonton is not a leader in any quantifiable cost category and closely trails most Western Canadian competitors on most cost drivers. Globally, Canada remains a relatively low-cost location for business, meaning that all Canadian cities, including Edmonton, fare well in comparison to other global centres.

While many business costs have increased over the past decade in Edmonton and in other cities as well, there is general weakening in several Edmonton benchmark indicators, specifically labour cost, taxation and incentives over the last 10 years.

Edmonton needs to thrive in the long term and maintain its prosperity no matter the state of Alberta's energy industry. Being a low-cost jurisdiction is not paramount to attracting the type of investment, growth, and diversification that Edmonton wants. Inexpensive labour, available facilities and low input costs are no longer the sole drivers for location selection, especially among innovation driven industries. Two-thirds of the most important selection factors according to industry executives are not direct costs, with labour skills and availability (and the quality of life to attract and retain them) becoming critical.

In the modern knowledge economy, innovative businesses and a skilled, educated workforce will differentiate a successful city. Innovative business and skilled workers are drawn to other like-minded businesses, workers and fertile environments. Competitiveness to attract these can be benchmarked through relative workforce salaries and educational composition. Though Edmonton has the elevated average salary levels that should attract educated labour, it is currently at a competitive disadvantage with a lower share of the workforce educated in fields traditionally associated with innovation. While it is always important to ensure Edmonton's cost environment is not an impediment to growth, it is this innovative workforce challenge that will define Edmonton's economic future.

Appendix 1 – Alignment of Material to Questions within the Council Request

Council Request	Report Summary
Historical data showing non-residential tax increases over the previous ten-year period with a comparison to other large Canadian cities	• Property-based taxes on an equivalent facility would be the 2nd lowest among 5 Western Canadian Cities. • Historically Edmonton ranked first until 2014 when costs overtook Saskatoon. • Overall property based taxes are less than 1% of a business' total annual operating costs.
Non-residential assessment methods used and how shifting assessment impacts business	• Specifics for assessment methods are not publicly available for other cities and is outside the expertise of EEDC. • Effects of increasing non-residential assessments will only impact a business' cost relative to its assessment value change compared to the average city-wide change.
Analysis on the effect of these cumulative tax increases on commercial lease rates including any other known effects	• Most commercial real estate leases in Edmonton are 'triple net' – meaning the tenant is responsible for property taxes, insurance, and maintenance, and gross leases are very rare. • Therefore, property tax increases in Edmonton should not have any effect on commercial lease rates. • See Appendix 3.
Comparison of business license fees, permit fees and wait times, user fees	• Very little comparable benchmarking data on municipal fees and wait times for municipalities. • Edmonton does not participate in MBN Canada's survey that would provide some data. • From limited data, Edmonton appears competitive with Calgary and behind Winnipeg.
Comparison of incentives for business attraction and retention and the effectiveness of these incentives	• Edmonton ranks 7th in local incentives when compared to its 12 competitor cities, last among the five Canadian competitor cities. • It is difficult to benchmark the effectiveness of incentives on relocation.
Comparison of key areas of competition for the city: e.g. Health Innovation, Energy Services, Logistics, Industrial Land sales, etc.	• Key areas analyzed through KPMG competitiveness factors for four key industries: Manufacturing, Medical Devices, Food, Software. • No major differences were found versus the all industry averages.

Comparison of investment in innovation and analysis of emerging factors important to attracting increasingly cautious global capital and business investment,	• Alberta ranks 4th in Canada in the Conference Board's 2015 innovation assessment, behind Ontario, Quebec, and British Columbia. • Globally, Canada ranks as lagging in innovation compared to Nordic countries and the United States. • Knowledge based companies are increasing seeking geographic agglomeration, suggesting "like" will attract "like", de-emphasizing traditional cost drivers in decision making. This applies equally for businesses and skilled labour. • Quantifiable cost drivers are being displaced by displaced by a growth number of less easily quantified site selection factors.
Comparison of Human Capital (Talent) Competitiveness: Workforce Productivity and Global Fluency	• Attracting a large population of educated, highly paid individuals is an increasingly crucial factor in the long-term success of cities. • STEM (science, technology, engineering, and mathematics) salaries and the STEM labour force in Western Canadian cities shows that while Edmonton offers high wages for workers in these fields, these individuals make up a smaller total number and share of the population than in Calgary or Vancouver.
Analysis of overall economic participation, job growth and income growth.	• Edmonton has high levels of employment growth (1st), labour force participation (2nd), and income growth (2nd). • However, its average educational attainment is the lowest among Western Canadian competitor cities.

Appendix 2 – Site Selection Survey Full Results

Table 9. Site Selection Factors by Frequency Indicated as Important
Area Development Magazine corporate surveys

	% citing as important	
	2016	2013
Highway accessibility	94.4	93.5
Availability of skilled labor	89.8	95.1
Occupancy or construction costs	86.0	87.4
Labor costs	89.6	90.8
Quality of life	76.4	n/a
Corporate tax rate	82.3	82.4
Available buildings	75.5	83.3
State and local incentives	84.0	81.9
Energy availability and costs	78.5	80.8
Tax exemptions	79.7	80.6
Proximity to major markets	78.1	75.6
Available land	75.3	80.3
Right-to-work state	70.1	80.6
Low union profile	70.8	81.4
Expedited or "fast-track" permitting	71.7	76.3
Environmental regulations	70.8	71.7
Inbound/outbound shipping costs	69.1	70.9
Availability of long-term financing	66.7	74.8
Proximity to suppliers	66.0	67.7
Training programs/technical colleges	66.7	54.0

Source: Area Development Magazine, 2017

Appendix 3 – Other Site Selection Factors

Highway Accessibility

This factor speaks to the ease by which customers and suppliers can get to a business and was consistently ranked as important most frequently. The development of transportation is primarily funded at the provincial level for ring roads, highways and rapid transit, but requires continued municipal prioritization and planning. No data was available for this site selection factor.

The Relationship Between Property Taxes and Commercial Lease Rates

There are two broad types of commercial real estate leases: gross leases and net leases. In a gross lease, the landlord is responsible for paying the building's property taxes, insurance, and maintenance. In a net lease, some of these associated costs are payed by the tenant. In the case of a gross lease, rising property taxes could lead to rising commercial lease rates, as the lease rate covers all the landlord's expenses including the property tax bill. Conversely, an increase in property taxes would have no effect on a net lease, as taxes are payed by the tenant and not included in the lease rate.

Based on conversations with local commercial real estate brokers, the clear majority of commercial real estate leases in Edmonton are 'triple net' – meaning the tenant is responsible for property taxes, insurance, and maintenance, and gross leases are very rare. Therefore, property tax increases in Edmonton should not have any effect on commercial lease rates.

Fees and Wait Times

There is very little comparable benchmarking data on municipal fees and wait times for municipalities across Canada. The following reflects a limited comparison based on the publicly available information found by EEDC. Based on the small amount of available information, Edmonton appears competitive with Calgary in terms of fees and wait times.

According to the Q1 2017 City of Edmonton Development Services Branch Quarterly Activity Report, since 2014 the median time to issue a new non-residential development permit has stayed roughly constant at 55 days. During most quarters since 2014, 85% of new non-residential development permits have been issued in under 120 working days, with a small number of quarters where the 85th percentile number of working days to issue spiked. Compared to Calgary, where as of mid-year 2016 60% of development permit decisions for multi-family, commercial, industrial, and institutional applications were made within 120 calendar days[3], Edmonton is roughly competitive in this regard.

The City of Winnipeg's 2016 Comprehensive Fee Review compares building permit fees per m^2 of new industrial construction, and finds that Edmonton falls between Calgary and Winnipeg. No other large cities were compared in the report.

[3] City of Calgary 2017 Planning and Development Business Plan

Table 10. Industrial Building Permit Fee per m2 of New Construction
As of February 2016

	Calgary	Edmonton	Winnipeg
High hazard	25.8	21.34	15
Medium <= 4500 m2	11.83	9.9	10
Medium > 4500 m2	11.93	9.9	10
Low hazard <= 7500 m2	9.68	8.14	8
Low hazard > 7500 m2	7.53	6.38	8

Source: City of Winnipeg Comprehensive Fee Review

Overall, it is difficult to definitively analyze Edmonton's competitiveness with respect to municipal fees and wait times due to the lack of publicly available information. In the future, city administration may wish to consider participating in Canada-wide benchmarking groups such as Municipal Benchmarking Network Canada.

Workforce Productivity

Labour productivity is typically defined as the amount of goods and services produced (measured by real gross domestic product) per hour of labour input. There is no available city level data on this standard definition of labour productivity.

Note on the Data

Data from the 2006 to 2016 editions of KPMG Competitive Alternatives is used for this analysis. Competitive Alternatives is a biennial study of business costs in dozens of cities around the world, that uses benchmark firms in a variety of industries and simulates their costs and revenues in each city. The study accounts for many cost factors such as labour costs, statutory benefit plans, national, regional, and local corporate income taxes, utility costs, transportation costs, and others. This choice of dataset has two major benefits:

1. Costs identified in this analysis, especially with regards to taxes, reflect what the benchmark businesses experience and not always what official rates and prices suggest. For example, total taxes paid is affected by both the tax rates and the assumptions on revenue in each city.
2. Comparisons of taxes between cities are more 'apples-to-apples' than a simple comparison of tax rates. Comparing tax rates does not account for different assessment methods for property taxes, or grants and tax credits in specific industries, or any number of factors that can make direct comparisons between cities misleading.

The largest drawback of using the Competitive Alternatives data is that the cities and industries studied have not stayed constant over time, and therefore we have a limited number of cities to compare Edmonton against, and the comparisons of overall competitiveness encompass changing groups of industries each year. Further, as we do not have access to the study's underlying assumptions in each year, it is sometimes difficult to explain the factors driving cost changes.

However, despite these limitations Competitive Alternatives provides the most effective means to compare how Edmonton's business climate effects businesses in practice. Although we cannot always explain why costs in other cities are changing, this is secondary to the main purpose of this report: to benchmark Edmonton's cost competitiveness