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CUSTOM REPORT

CALGARY’S CREATIVE INDUSTRIES

Economic and Strategic Impact

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Glenbow, Photo by Jason Lawrence

Executive Summary

At a Glance

- Creative products, produced by creative industries, directly supported the employment of just under 24,000 people in Calgary in 2016 and directly contributed over $2.1 billion in local GDP that same year.
- The full economic footprint of Calgary's creative sector—including the direct, indirect, and induced impact—contributed more than $3.85 billion in GDP to the Canadian economy in 2016.
- It is conservatively estimated that domestic and international travellers spent $71 million on creative goods and services in Calgary in 2016.
- Nearly 49,500 people volunteered for arts and cultural organizations in 2017, equal to 3,670 full-time equivalent jobs and an economic value of $204 million.
- In addition to the economic boost provided by the sector, Calgary also derives significant non-economic benefits from creative industries, including positive effects on quality of life, health and well-being, and civic engagement.

This report shows that the creative sector is a vital contributor to the economy of the Calgary census metropolitan area (CMA) and that of the overall province. Along with providing a comprehensive economic footprint, this report goes a step further by also quantifying the degree to which the sector depends on contributions from a variety of sources, including volunteering, corporate and government financial support, and tourism. Finally, the analysis illustrates the ways the sector has and will continue to play a distinct and strategic role for Calgary in its efforts to help attract and retain a skilled workforce and to facilitate business investment.

Calgary's Creative Industries Direct Impact in 2016

Alberta's creative sector supported just under 50,000 direct jobs in 2016, the latest year for which data are available.[1] Of this total, the Conference Board estimates that just under 24,000 jobs—about 48 per cent—were in the Calgary CMA. This estimate is conservative in that the valuation of the creative sector includes only the benefits associated with the production and sale of creative products. It does not account for the production or sale of non-creative products by creative industries or of creative products produced by non-creative industries.

Even using this conservative estimate, in which the creative sector is defined narrowly as the production and distribution of creative products by creative industries, its direct impact is substantial. It can be summarized for 2016 as follows:

- Direct employment in the creative sector contributes over $1.55 billion in labour income for Calgary residents.

[1] Statistics Canada, Provincial and Territorial Culture Indicators, 2016. The approach used in this report to report on Calgary's creative sector mirrors the approach used by Statistics Canada to identify and measure the creative sector in its Provincial and Territorial Cultural Indicators report.

- Direct total revenues for creative businesses in Calgary total to nearly $3.8 billion.
- Direct GDP associated with the creative sector for the Calgary CMA is estimated at over $2.1 billion. Each creative worker in the Calgary CMA produces just over $90,000 in GDP—3.8 per cent more than the average for all creative workers in Alberta.

Economic Footprint of Creative Industries in Calgary: $3.85 Billion in 2016

To fully appreciate the vast economic footprint associated with the creative sector, we also considered the business linkages of the sector to other industries through the supply chain (indirect impact) and the benefits associated with the re-spending of wages supported either directly by the creative sector or indirectly by industries through the supply chain (induced impact).

GDP and Employment

The full economic footprint—direct, indirect, and induced impacts—of Calgary's creative sector is estimated to have supported about $3.3 billion in provincial GDP and nearly 34,200 jobs in Alberta in 2016. Within the local area, the economic footprint of Calgary's creative sector supported nearly $2.7 billion in local GDP and about 28,100 jobs.

Including the supply chain benefits to businesses outside the province, the overall benefits to Canada of Calgary's creative sector exceeded those found solely within the province. These linkages resulted in the support for a further 9,700 jobs in provinces outside Alberta. Together with the near 34,200 jobs in Alberta, the economic footprint of Calgary's creative sector collectively supported over 43,900 jobs for Canadians. Combined, these linkages accounted for more than $3.85 billion in GDP for Canada.

Government Revenues

In addition to the benefits to GDP and employment, Calgary's creative sector also contributes to government revenues. It is estimated that tax contributions from Calgary attributable to the economic footprint of Calgary's creative sector amounted to about $566.4 million to the federal government, over $238.1 million to the province of Alberta, and about $48.8 million to municipal governments within the Calgary CMA.

Tourism Spending on Calgary's Creative Industries: $71 Million in 2016

Establishing a baseline for tourism spending on Calgary's creative industries is important because one of the core elements in Tourism Calgary's recent destination strategy is to attract and enhance premier cultural experiences.[2] The strategy establishes new visitor growth targets that rely on success in promoting cultural experiences to visitors.

Our estimates suggest that during 2016, tourists to Calgary spent just under $71 million ($50 million from domestic travellers and $21 million from international travellers) on creative goods and services in the local area. While residents account for a larger proportion of the revenues for creative industries, the analysis confirms that tourism activity is still an important source of revenues. In fact, it is

[2] Tourism Calgary, *Calgary: Ultimate Hosts, Ultimate Host City.*

conservatively estimated that creative goods and services account for 3.1 per cent of all domestic tourism spending and 3.9 per cent of all international tourism spending in the city.

Economic Value of Calgarians Volunteering in the Creative Industries: Over $200 Million in 2017

Volunteers make a crucial contribution to Calgary's creative industries by donating thousands of hours of their time each year to help with all aspects of the creative sector. Although volunteer work is unpaid, it can be quantified by estimating the economic value of these services as if the work were paid. Based on our analysis, we estimated that 49,440 people volunteered for arts and cultural organizations in Calgary during 2017 and contributed a total of nearly 7.3 million hours, equal to 3,670 full-time jobs or 0.5 per cent of all full-time employment in Calgary. If this had been paid employment, volunteer work in arts and culture would have added just over $204.5 million to Calgary's local economy.[3]

Creative Sector's Non-Economic Benefits

Cities also derive non-economic benefits from dynamic and thriving creative industries. It has been demonstrated in both Canada and abroad that arts, culture, and entertainment have positive social effects on various aspects including quality of life, health and well-being, urban revitalization and community development, appreciation for diversity, opportunities to enhance education and skills development, and civic engagement.

These non-economic benefits, in turn, also generate additional economic benefits. A vibrant creative ecosystem is a key ingredient of high quality of life and is essential to attracting young, talented, creative people to a city. Cities that are magnets for human capital also tend to be magnets for business investment. This is because the availability of highly skilled workers is a major factor for businesses deciding where to locate.

Accordingly, vibrant creative industries are key for Calgary to remain and grow its standing as one of the most livable cities in the world. Indeed, Calgary's latest economic strategy identifies the creative industries as an emerging cluster in the city.[4] Fostering the development of these industries would lift economic growth, help diversify the economy, and improve the city's quality of life. This would help address some of Calgary's challenges: the retention of students and professionals aged between 20 and 40, people's perception of downtown Calgary as not livable, and the belief, among many Canadians, that Calgary does not offer a comparable level of arts and culture to their current home city.

Benchmarking Analysis Paints a Mixed Picture for Calgary's Creative Industries

We benchmarked Calgary against 11 other Canadian metro areas on five indicators of creative industries, allowing us to assess the relative strength of Calgary's creative sector.

The benchmarking analysis ranked Calgary against its peers on the following indicators:

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[3] The methodology used to estimate these figures is explained in Appendix C.
[4] Calgary Economic Development, *Calgary in the New Economy: The Economic Strategy for Calgary*.

1. share of businesses in creative industries
2. number of creative businesses per 1,000 population
3. share of workers in arts, culture, recreation, and sport occupations
4. average growth of the number of workers in arts, culture, recreation, and sport occupations
5. amount of arts grants per capita

The results of the benchmarking on these five indicators paint a mixed picture for Calgary. We find that Calgary ranks ahead of the national average on two indicators and behind the national average on another two, while ranking second to last in terms of municipal arts grants per capita. Calgary also lags Canada's three big metropolitan areas (Montréal, Toronto, and Vancouver) on all indicators, while outperforming its provincial neighbour, Edmonton, on four out of five indicators (Edmonton's Arts Council receives more arts grant dollars per capita). However, the results in the arts grants per capita indicator will change, as funding in Calgary is poised to double while also increasing in other metropolitan areas.

What is the bottom line? While Calgary's creative industries provide the city with substantial economic and non-economic benefits, the sector is sitting on untapped potential and has further room to grow. A unified strategy of all key stakeholders—Calgary Economic Development, Calgary Arts Development, the City of Calgary, Tourism Calgary, and private sector firms—would provide the creative industries with the best chance to reach their full potential. Such a strategy should be consistent with the City of Calgary's *Cultural Plan for Calgary*, Calgary Arts Development's *Living a Creative Life* strategy, the creative industries-related components of Calgary Economic Development's *Calgary in the New Economy* strategy, Tourism Calgary's strategy to attract and enhance premier cultural experiences, and the federal government's *Creative Canada Policy Framework*.


Alberta Ballet, Photo by Paul McGrath

Introduction

Summary

- This report develops credible and nationally comparable estimates for Calgary's creative sector by leveraging the rigorous approach used by Statistics Canada to define the sector.
- The analysis of Calgary's creative sector is important because extensive resources (at the local, provincial, and federal levels) have already been devoted to developing strategies to strengthen the sector over the coming years.
- This report also benchmarks Calgary's creative sector against those in other Canadian cities on a select number of indicators to identify not only areas of strength but also areas that require additional support.

The creative industries are a priority for Calgary. Indeed, key stakeholders and decision-makers in the city recognize that creative industries improve quality of life, which supports the attraction and retention of students and professionals alike. This in turn helps attract businesses investment and create a more vibrant and diverse economy.

These stakeholders have developed either specific strategies for cultural industries or broader economic strategies that include creative industries as a key pillar. For instance, Calgary Economic Development has recognized the city's creative industries as an emerging cluster, the City of Calgary developed the *Cultural Plan for Calgary*, and Calgary Arts Development put together the *Living a Creative Life* strategy. These strategies "encourage promotion of arts and culture as part of what defines [Calgary]"[5] and recommend ways to help kick-start growth in creative industries, increase funding, foster relationships between creative individuals and organizations, and capture cluster effects. Calgary's commitment to develop and strengthen its creative industries is also aligned with the Government of Canada's policy framework on creative industries, called *Creative Canada*.[6] Notably, the first pillar of *Creative Canada* calls for investing in creators and cultural entrepreneurs given that their talent and skill is the backbone of creative industries.

While these individual strategies for the creative industries are an important first step in solidifying the industries' role in Calgary, a unified strategy of all key stakeholders—Calgary Economic Development, Calgary Arts Development, the City of Calgary, Tourism Calgary, and private sector firms—would give the creative industries the best chance to reach their full potential. For instance, a unified front could help local creators obtain more grants and funding from available sources, such as the Canada Council for the Arts.

This report serves as a step in this direction, exploring the definition and scope of the creative industries, quantifying their impact, filling in some of the data gaps, and discussing the non-economic benefits of these industries. To do this, we developed credible and nationally comparable estimates of Calgary's creative industries guided by the definitions and scope used by Statistics Canada to produce and report

[5] Calgary Economic Development, *Calgary in the New Economy: The Economic Strategy for Calgary*.
[6] Canadian Heritage, *Creative Canada Policy Framework.*

on the creative sector through its Culture Satellite Account—a supplementary framework that permits creative industries to be analyzed in a manner consistent with other industries represented in the traditional national accounting framework.[7]

This report is also needed because, unfortunately, the approach used by Statistics Canada to report on the creative sector stops at the provincial level. Creating estimates for Calgary is important because extensive resources (at the local, provincial, and federal levels) have been devoted to developing strategies that will not only strengthen the sector but also contribute to a stronger economic outlook for Calgary, a better quality of life for Calgarians, and attracting new residents to the city.

Establishing a baseline for tourism spending on Calgary's creative industries is also important because one of the core elements in Tourism Calgary's recent destination strategy is to attract and enhance premier cultural experiences.[8]

In addition to the various quantitative measures reported for Calgary's creative sector, this report also provides an understanding of various qualitative attributes that stem from creative industries. This includes an estimate of the volunteer contribution based on data sourced from Statistics Canada, Calgary Economic Development, Calgary Arts Development, and other culture-related entities. It also touches on the degree to which creative industries contribute to enhancing the quality of life and improved perception of Calgary as a creative centre.

The report concludes with a benchmarking analysis of Calgary's creative sector. This work assesses how Calgary's creative sector compares against those of other Canadian metropolitan areas on a select number of creative industry-focused indicators. This work gives another indication of how Calgary's creative industries are faring, identifying areas of strength and areas requiring additional support.

[7] Statistics Canada, *Conceptual Framework for Culture Statistics 2011.*
[8] Tourism Calgary, *Calgary Destination Strategy: Ultimate Hosts, Ultimate Host City.*

Calgary International Film Festival
Circle of Steel Premiere – Q&A

Quantifying Calgary's Creative Sector

Summary

- The direct employment supported in Calgary in 2016 by creative industries producing creative products is estimated at just under 24,000 people, or 48 per cent of the Alberta total.
- The estimated $3.8 billion in total revenues for the sector directly contributed to over $2.1 billion in GDP for the Calgary census metropolitan area (CMA).
- Of that amount, $1.6 billion was provided in the form of labour income to residents of the Calgary CMA.
- An analysis of labour productivity (output per worker) suggests that average labour productivity of the sector is high, at just over $90,000 of GDP per job.

To quantify Calgary's creative sector, we started by collecting data (where possible) on Alberta's cultural sector, to ensure that the gathering of information on the creative sector in the Calgary census metropolitan area (CMA) was consistent with the approach used by Statistics Canada to define the cultural sector. This process ensured that any measures reported for Calgary would align with those produced for the province of Alberta through Statistics Canada's Provincial and Territorial Culture Indicators report.

The first step in establishing the footprint of the creative sector in the Calgary CMA involved determining the employment levels in the industries that correspond with the "core" and "transversal" creative domains (and subdomains). This step involved the use of various data sources, including Statistics Canada's Canadian Business Counts, the 2016 Census, and Provincial and Territorial Culture Indicators. The process was also informed by figures provided by Calgary Economic Development, Calgary Arts Development, and the City of Calgary.

Assembling employment data from the most comprehensive and relevant data sources revealed that the creative sector in Alberta employed just under 50,000 individuals in 2016. (See Table 1.) All the employment data in Table 1 for Alberta came from Statistics Canada's Provincial and Territorial Culture Indicators for 2016. It should be noted that this level of employment is conservative in that it relates only to the activity associated with the production of creative goods and services. The estimates produced in this report for the Calgary CMA were derived using a similar conservative approach.

Employment

The first step in deriving employment estimates for Calgary involved using Statistics Canada's Business Register data to reproduce estimates of creative sector employment for Alberta. By leveraging the actual employment data reported from Statistics Canada's Provincial and Territorial Culture Indicators, we compiled a series of ratios on an industry-by-industry basis so that the estimates (after applying the ratios) would match the reported data. The final step involved using these ratios on employment estimates derived from Statistics Canada's Business Register for the Calgary CMA.

Based on this approach, it was estimated that the production of creative products by the creative sector in the Calgary CMA employed just under 24,000 individuals in the local area in 2016. This level of employment suggests the Calgary CMA accounted for 47.5 per cent of the creative sector employment in the province. This is well above Calgary's share of overall provincial employment of 36 per cent.

Table 1

Direct Employment Supported by the Creative Sector Producing Creative Products, 2016

Domains	Subdomains	Employment—Alberta	Employment—Calgary CMA	Calgary CMA share
Heritage and libraries	Total	2,280	1,383	60.7%
	Archives	6	4	65.4%
	Libraries	56	31	54.8%
	Cultural heritage	1,483	755	50.9%
	Natural heritage	735	593	80.7%
Live performance	Total	5,484	2,178	39.7%
	Performing arts	5,259	2,064	39.2%
	Festivals and celebrations	225	114	50.6%
Visual and applied arts	Total	9,967	5,411	54.3%
	Original visual art	1,167	571	49.0%
	Art reproductions	71	27	37.7%
	Photography	930	390	41.9%
	Crafts	459	148	32.2%
	Advertising	1,537	814	53.0%
	Architecture	938	546	58.2%
	Design	4,865	2,915	59.9%
Written and published works	Total	6,916	3,308	47.8%
	Books	103	50	48.4%
	Periodicals	926	485	52.4%
	Newspapers	1,876	559	29.8%
	Other published works	35	14	38.7%
	Collected Information	308	271	87.9%
	Multi-subdomain	3,668	1,930	52.6%
Audio-visual and interactive media	Total	9,133	5,818	63.7%
	Film and video	2,252	1,075	47.7%
	Broadcasting	4,293	3,073	71.6%
	Interactive media	2,588	1,670	64.5%
Sound recording	Total	446	204	45.6%
	Sound recording	125	81	64.4%
	Music publishing	321	123	38.3%
Education and training		5,913	1,714	29.0%
Governance, funding, and professional support		9,355	3,459	37.0%
Multidomain*		463	237	51.1%

Total creative sector	49,957	23,711	47.5%

* includes culture industries that affect more than one culture domain and cannot easily be allocated to a single domain
Sources: The Conference Board of Canada; Statistics Canada's Business Counts (December 2016), Provincial and Territorial Culture Indicators (2016).

Revenues

Using the employment estimates for the cultural sector as a guide, it was possible to determine the level of revenues that would be required to support that level of employment. Direct input-output multipliers for the province of Alberta were used for this task. As opposed to traditional input-output model simulations where the level of spending (or industry output) is used to initiate the analysis, in this instance, one key component of the economic footprint (employment) was already known.

Based on the analysis, it was estimated that the overall business revenues necessary to support the level of employment in the creative sector in 2016 were just under $7.7 billion in Alberta, with over $3.7 billion attributed to businesses in the Calgary CMA. (See Table 2.)

Table 2
Revenues of the Creative Sector for Creative Products, 2016
($ millions)

Domains	Sub-domains	Revenues—Alberta	Revenues—Calgary CMA
Heritage and libraries	Total	190.9	119.6
	Archives	1.3	0.9
	Libraries	12.4	7.1
	Cultural heritage	117.0	61.0
	Natural heritage	60.2	50.6
Live performance	Total	417.3	172.7
	Performing arts	398.9	163.0
	Festivals and celebrations	18.4	9.7
Visual and applied arts	Total	1,310.1	731.5
	Original visual art	88.9	44.9
	Art reproductions	7.4	2.9
	Photography	147.8	68.2
	Crafts	110.9	35.9
	Advertising	235.4	129.8
	Architecture	251.6	152.5
	Design	468.1	297.3
Written and published works	Total	1,176.8	566.6
	Books	22.3	11.2
	Periodicals	200.2	109.1
	Newspapers	414.8	128.8
	Other published works	7.6	3.0
	Collected information	66.6	60.9
	Multi-subdomain	465.3	253.5
Audio-visual and interactive media	Total	1,652.1	1,157.2

	Film and video	326.6	157.3
	Broadcasting	888.7	663.0
	Interactive media	436.8	336.8
Sound recording	Total	32.3	15.2
	Sound recording	8.4	5.6
	Music publishing	24.0	9.6
Education and training		789.1	245.0
Governance, funding, and professional support		2,021.4	705.9
Multidomain		103.0	53.4
Total creative sector		7,693.1	3,767.0

Sources: The Conference Board of Canada; Statistics Canada's Provincial and Territorial Culture Indicators (2016), Business Register (December 2016), Provincial Input-Output Multipliers (2014).

GDP

Once again, based on the use of direct input-output multipliers for the province of Alberta, we were able to determine the level of direct GDP generated. Overall, it was estimated that the direct GDP generated by the creative sector in 2016 was just under $4.4 billion in the province of Alberta, with $2.1 billion attributed to the Calgary CMA. (See Table 3.)

Table 3

Direct GDP of the Creative Sector, 2016
($ millions)

Domains	Subdomains	Direct GDP—Alberta	Direct GDP—Calgary CMA
Heritage and libraries	Total	95.0	60.0
	Archives	0.6	0.4
	Libraries	6.0	3.4
	Cultural heritage	59.6	31.9
	Natural heritage	28.8	24.2
Live performance	Total	224.8	92.9
	Performing arts	216.0	88.2
	Festivals and celebrations	8.8	4.6
Visual and applied arts	Total	716.3	404.8
	Original visual art	44.2	22.5
	Art reproductions	3.5	1.4
	Photography	75.6	34.5
	Crafts	52.8	17.1
	Advertising	115.3	63.6
	Architecture	156.9	95.1
	Design	268.0	170.7
Written and published works	Total	668.6	317.8
	Books	12.2	6.2
	Periodicals	110.1	60.0
	Newspapers	246.2	75.2

	Other published works	4.2	1.7
	Collected information	36.6	33.5
	Multi-subdomain	259.3	141.2
Audio-visual and interactive media	Total	921.9	655.3
	Film and video	167.2	80.5
	Broadcasting	454.0	339.2
	Interactive media	300.6	235.5
Sound recording	Total	16.7	7.6
	Sound recording	3.2	2.1
	Music publishing	13.6	5.4
Education and training		574.3	177.7
Governance, funding, and professional support		1,073.7	398.0
Multidomain		61.9	31.7
Total creative sector		4,353.4	2,145.7

Sources: The Conference Board of Canada; Statistics Canada's Provincial and Territorial Culture Indicators (2016), Business Register (December 2016), Provincial Input-Output Multipliers (2014).

Labour Income

Further applying the direct input-output multipliers for the province of Alberta, we estimated that the creative sector supported just over $3.1 billion in labour income for the province of Alberta, with nearly $1.6 billion attributed to residents of the Calgary CMA. (See Table 4.) To properly account for the slightly higher wages paid in the Calgary CMA (relative to the province overall), adjustments were made to the level of direct industry output, GDP, and labour income attributed to the creative sector that reflect the degree to which average local wages exceeded average provincial wages.[9]

Table 4

Direct Labour Income of the Creative Sector, 2016
($ millions)

Domains	Subdomains	Direct labour income—Alberta	Direct labour income—Calgary CMA
Heritage and libraries	Total	80.3	51.0
	Archives	0.4	0.3
	Libraries	3.6	2.1
	Cultural heritage	52.0	28.3
	Natural heritage	24.3	20.4
Live performance	Total	202.8	83.7
	Performing arts	195.4	79.8
	Festivals and celebrations	7.4	3.9
Visual and applied arts	Total	552.4	313.1
	Original visual art	37.3	18.9
	Art reproductions	3.3	1.3

[9] Statistics Canada *Average Full-Time Hourly Wage Paid and Payroll Employment by Type of Work, Economic Region and Occupation.*

	Photography	56.8	25.0
	Crafts	34.1	11.1
	Advertising	89.9	49.6
	Architecture	103.7	62.8
	Design	227.3	144.4
Written and published works	Total	418.2	207.1
	Books	7.6	3.8
	Periodicals	68.1	37.1
	Newspapers	121.9	37.8
	Other published works	2.6	1.0
	Collected information	22.6	20.7
	Multi-subdomain	195.5	106.6
Audio-visual and interactive media	Total	585.2	429.5
	Film and video	56.7	27.9
	Broadcasting	318.7	238.1
	Interactive media	209.8	163.5
Sound recording	Total	13.8	6.4
	Sound recording	3.5	2.3
	Music publishing	10.3	4.1
Education and training		493.0	150.9
Governance, funding, and professional support		750.3	293.0
Multidomain		30.5	16.8
Total creative sector		3,126.5	1,551.6

Sources: The Conference Board of Canada; Statistics Canada's Provincial and Territorial Culture Indicators (2016), Business Register (December 2016), Provincial Input-Output Multipliers (2014).

Labour Productivity

An analysis of the labour productivity suggests the average GDP generated per job is high in the creative sector. In fact, the direct GDP per job is estimated at just over $90,000 in the Calgary CMA—3.8 per cent higher than that of the creative sector in the province as a whole. The highest absolute levels of labour productivity are found in the domains of written and published works, audio-visual and interactive media, and education and training, as well as governance, funding, and professional support. Labour productivity is also high in the category called "multidomain," which includes culture industries that affect more than one culture domain and cannot easily be allocated to a single domain, such as the culture portion of convention and trade show organizers and of internet publishing and broadcasting and web search portal industries. (See Table 5.)

Table 5

Direct Labour Productivity of the Creative Sector, 2016
($ GDP per job)

Domains	Subdomains	Labour productivity—Alberta	Labour productivity—Calgary CMA
Heritage and libraries	Total	41,685	43,358
	Archives	107,080	111,470

	Libraries	107,080	111,470
	Cultural heritage	40,159	42,203
	Natural heritage	39,246	40,855
Live performance	Total	40,999	42,659
	Performing arts	41,074	42,758
	Festivals and celebrations	39,246	40,855
Visual and applied arts	Total	71,870	74,808
	Original visual art	37,902	39,297
	Art reproductions	48,731	50,729
	Photography	81,340	88,585
	Crafts	114,932	115,518
	Advertising	75,021	78,097
	Architecture	167,298	174,157
	Design	55,087	58,558
Written and published works	Total	96,675	96,065
	Books	118,880	123,754
	Periodicals	118,880	123,754
	Newspapers	131,234	134,485
	Other published works	118,880	123,754
	Collected information	118,880	123,754
	Multi-subdomain	70,695	73,180
Audio-visual and interactive media	Total	100,943	112,630
	Film and video	74,264	74,936
	Broadcasting	105,763	110,379
	Interactive media	116,165	141,034
Sound recording	Total	37,487	37,097
	Sound recording	25,397	26,438
	Music publishing	42,188	44,061
Education and training		97,133	103,696
Governance, funding, and professional support		114,769	115,072
Multidomain		133,665	133,881
Total creative sector		87,141	90,494

Sources: The Conference Board of Canada; Statistics Canada's Provincial and Territorial Culture Indicators (2016), Business Register (December 2016), Provincial Input-Output Multipliers (2014).

Eden Robinson at WORDfest, Photo by David Kotsibie

Economic Footprint of Calgary's Creative Sector

Summary

- Including indirect and induced effects, Calgary's creative sector supported nearly $2.7 billion in local GDP and 28,100 jobs for Calgarians.
- The business linkages associated with Calgary's creative sector resulted in a total of 34,200 jobs for residents of Alberta (including those in Calgary) and a further 9,700 jobs outside the province in other parts of Canada.
- The economic footprint analysis shows that the creative sector is a vital contributor to the economy of the Calgary CMA and the province.
- In aggregate, government funding contributes an estimated 5.5 per cent of the total revenues of the creative sector in the province.

To appreciate the full economic footprint associated with Calgary's creative sector, the analysis considered the business linkages of the creative sector to other industries through the supply chain as well as the benefits associated with the re-spending of wages supported either directly in the creative sector or indirectly by industries through the supply chain. An example of the supply chain would be commissioning contractors from the construction industry to build an outdoor stage or producing paint used by artists. Aside from the physical products required by the creative sector, a variety of business services are also needed through the supply chain, including finance, insurance, professional, and technical services located within and outside the province.

To calculate the full economic footprint of the sector, an input-output model was constructed to depict the Alberta economy along with customized local area coefficients that reflect the economic makeup of the Calgary CMA.[10]

Given that the economic footprint is associated only with creative goods and services produced by the creative sector, the overall analysis is conservative. The analysis does not include activities of the creative sector involving non-creative products—for example, food and beverage sales at a performing arts centre.

Despite the very specific activities encompassed in the economic impact analysis, the numbers suggest the footprint of Calgary's creative sector to be significant. **Calgary's creative sector is estimated to have supported nearly $3.3 billion in GDP and 34,200 jobs for the province during 2016. (See Table 6.)[11] Within the local area, the economic footprint of Calgary's creative sector supported nearly $2.7 billion in local GDP and about 28,100 jobs.**

[10] See Appendix B for more details on the input-output model used for this analysis and Appendix D for more information on many of the terms used to convey the results of the economic impact analysis.
[11] See Appendix A for further details on the economic impacts associated with Calgary's creative sector in 2016.

When the benefits to businesses outside the province are included, Calgary's creative sector supports benefits far beyond those reported solely within the province. In fact, the extensive business linkages support a further 9,700 jobs in provinces outside Alberta. Including the nearly 34,200 jobs in Alberta, the economic footprint of Calgary's creative sector collectively supported over 43,900 jobs for Canadians. These linkages also helped support nearly $3.85 billion in GDP for Canada.

Table 6

Direct, Indirect, and Induced Economic Footprint of Calgary's Creative Sector, 2016*

	Economic footprint on Calgary CMA	Economic footprint on Alberta	Economic footprint on Canada
GDP ($ millions)	$2,679.4	$ 3,299.5	$ 3,854.6
Employment (full-year jobs)	28,100	34,200	43,900
Taxes ($ millions—federal shown for Canada, provincial for Alberta, municipal for Calgary CMA)	$48.8	$238.1	$566.4

* based on revenues of $3.76 billion for creative goods and services in Calgary's creative sector

Source: The Conference Board of Canada.

In addition to the benefits to GDP and employment, Calgary's creative sector also contributes significantly to government revenues. **It is estimated that tax contributions from Calgary attributable to the direct, indirect, and induced economic footprint of Calgary's creative sector amounted to $566.4 million to the federal government, $238.1 million to the province of Alberta, and a total of $48.8 million to municipal governments within the Calgary CMA.**

Government Support for the Creative Sector

As the economic footprint analysis has shown, the creative sector is a vital contributor to the economy of the Calgary CMA and that of the overall province. Furthermore, the sector has and will continue to play a distinct and strategic role for Calgary in terms of attracting and retaining a skilled workforce and facilitating strategic business investments. However, for the city to truly capitalize on the potential of its creative sector, it must understand the degree to which the sector depends on various revenue streams.

To provide a perspective on the degree to which the operation of the creative sector relies on various levels of government funding, data on government expenditures were used to calculate the proportion of cultural business revenues attributed to government funding.[12] While this level of government expenditure data from Statistics Canada is available only at the provincial level and is rather dated (2009–2010), it still helps to present a picture of the role that various levels of government play in the operation of the sector. **In aggregate, government funding contributed an estimated 5.5 per cent of the total revenues of the creative sector in Alberta.** (See Table 7.)

[12] Statistics Canada, Catalogue 87F0001X, *Government Expenditures on Culture: Data Tables, 2009/2010.*

Table 7

Dependency of Alberta's Creative Businesses on Various Levels of Government Funding, 2009–10

Domains	Federal government ($ 000s)	Provincial government ($ 000s)	Municipal government ($ 000s)	Total government ($ 000s)	Overall reliance on government (as a % of total revenues)
Heritage and libraries	29,143.7	66,890.8	13,410.3	109,444.8	84.6%
Live performance	11,147.0	20,774.0	21,988.0	53,909.0	19.1%
Visual and applied arts	1,647.0	6,407.0	-	8,054.0	0.8%
Written and published works	3,978.0	2,194.0	-	6,172.0	0.4%
Audio-visual and interactive media	61,323.0	23,402.0	-	84,725.0	4.2%
Sound recording	11.0	125.0	-	136.0	0.3%
Multidomain	3,586.0	25,302.0	-	28,888.0	37.7%
Total creative sector	110,835.7	145,094.8	35,398.3	291,328.8	5.5%

Sources: The Conference Board of Canada; Statistics Canada.

Although the anonymized and aggregated data from Calgary Arts Development in Table 8 refer only to the non-profit arts sector, the data still reveal useful information about the range of creative businesses the organization supports with municipal funding and the degree to which their reliance on government support varies based on their specific creative category. (See Table 8.)

Table 8

Dependency of Calgary's Not-for-Profit Creative Businesses on Various Revenue Streams, 2016 (% of total funding)

Creative category	Earned/ticketed	Government (all levels)	Private sector	Other	Total
Dance	64	20	16	0	100
Film/new media	23	45	31	0	100
Literary arts	25	52	24	0	100
Music	33	20	43	4	100
Theatre	51	23	26	0	100
Visual arts	26	48	26	0	100
Multidisciplinary	34	28	38	0	100
Arts services	12	75	13	0	100
Total	42	25	31	2	100

Sources: The Conference Board of Canada; Calgary Arts Development Authority.

Table 8 shows that while many of the non-profit organizations supported by Calgary Arts Development rely on earned revenues and/or private sector contributions for a large portion of the funding required to support their operations, a significant portion of their revenues also comes from government financial support.

Although the government expenditure data in Table 7 do not segment the sector into for-profit and not-for-profit businesses, the figures in Table 8 hint that not-for-profit operations have a higher reliance on government funding to support their operations.

To provide a more detailed perspective on the degree to which various levels of government contribute to the funding of non-profit creative businesses in Calgary, the government funding data were further disaggregated by the level of government. (See Table 9.)

Table 9

Dependency of Calgary's Non-Profit Creative Businesses on Various Levels of Government Funding, 2016
(as a % of total funding)

Creative category	Government (all levels)	Federal government	Provincial government	Municipal government
Dance	20	4	11	5
Film/new media	45	13	23	9
Literary arts	52	12	32	8
Music	20	5	11	4
Theatre	23	5	12	6
Visual arts	48	4	39	5
Multidisciplinary	28	8	13	7
Arts services	75	56	17	2
Average of all creative categories	**25**	**5**	**15**	**5**

Sources: The Conference Board of Canada; Calgary Arts Development.

Table 9 shows that, in conjunction with the federal government, the province of Alberta and the municipality of Calgary play a critical role in providing a financial boost necessary for non-profit businesses in the creative sector to continue to operate. In fact, Table 9 suggests that for every dollar invested at the municipal level, another $4 is leveraged from other levels of government.

National Music Centre, Photo by Baden Roth

Importance of Tourism to Calgary's Creative Sector

Summary

- A conservative estimate suggests overnight visitors to Calgary spent $70.6 million on creative goods and services in 2016—with $49.6 million coming from domestic visitors and $21.0 million from foreign travellers.
- This is important because one of the core elements in Tourism Calgary's recent destination strategy is to attract and enhance premier cultural experiences in the city.
- A benchmarking exercise shows that 46.8 per cent of overnight visitors participate in at least one creative activity while visiting. Calgary ranks seventh (out of nine CMAs) on the likelihood of visitors to participate in creative activities.

Aside from understanding the importance of various revenue streams to creative businesses in Calgary, it is also beneficial to recognize the importance that tourism spending has on the creative sector. This is important because one of the core elements in Tourism Calgary's recent destination strategy[13] is to attract and enhance premier cultural experiences. The strategy establishes new visitor growth targets that rely on successfully promoting cultural experiences to visitors.

Establishing a baseline of tourism spending on creative goods and services requires an initial estimate of the level of creative goods and services generated in the Calgary CMA from both the creative sector itself and businesses outside the sector. It is important to note that while most creative goods and services are produced by creative industries, many other businesses outside the creative sector also produce cultural goods and services. In many respects, this discrepancy exists because of the rather narrow industrial classification system that defines the creative sector. An example for this would be that the "crafts" subdomain is primarily defined by an industry classification that is dominated by jewellery, silverware, and other miscellaneous goods. However, crafts can be produced by a wide variety of businesses within and even outside the broader manufacturing sector.

Using the ratios of creative goods and services produced within the creative sector (versus those produced outside the sector) from Statistics Canada's Provincial and Territorial Culture Indicators table for Alberta in 2016, **we estimate that the level of creative goods and services produced in the Calgary CMA is nearly $4.8 billion.** (See Table 10.)

[13] Tourism Calgary, *Calgary: Ultimate Hosts, Ultimate Host City.*

Table 10

Total Output of Creative Goods and Services in Calgary, 2016

Domain	Subdomain	Ratio of total output to output in the cultural sector	Total output in Calgary CMA ($ millions)
Heritage and libraries	Total		144.5
	Archives	2.13	1.9
	Libraries	2.46	17.4
	Cultural heritage	1.09	66.5
	Natural heritage	1.16	58.7
Live performance	Total		223.5
	Performing arts	1.30	212.5
	Festivals and celebrations	1.13	11.0
Visual and applied arts	Total		1,072.6
	Original visual art	1.09	48.8
	Art reproductions	1.00	2.9
	Photography	1.24	84.6
	Crafts	9.01	323.4
	Advertising	1.19	154.2
	Architecture	1.06	161.4
	Design	1.00	297.3
Written and published works	Total		652.6
	Books	1.13	12.6
	Periodicals	1.18	129.2
	Newspapers	1.14	147.2
	Other published works	1.42	4.3
	Collected Information	1.70	103.8
	Multi-subdomain	1.01	255.4
Audio-visual and interactive media	Total		1,676.4
	Film and video	1.00	157.8
	Broadcasting	1.30	865.3
	Interactive media	1.94	653.4
Sound recording	Total		20.7
	Sound recording	1.94	10.9
	Music publishing	1.02	9.8
Education and training		1.00	245.0
Governance, funding, and professional support		1.00	705.9
Multidomain		1.00	53.4
Total cultural sector			4,794.7

Sources: The Conference Board of Canada; Statistics Canada's Provincial and Territorial Culture Indicators (2016).

Based on the estimated level of creative goods and services produced in the local economy, it is possible to use ratios from Statistics Canada that show the estimated share that comes from tourism spending. Using these ratios then allows for an analysis of the tourism spending on creative goods and services in the Calgary CMA. It should be noted that the ratios derived from Statistics Canada are produced for Canada overall. Therefore, the resulting tourism ratios likely underestimate the proportion of tourism spending that goes toward creative goods and services in urban centres such as Calgary.

Still, based on these national averages, **it is estimated that tourists to Calgary spent $70.6 million on creative goods and services** in 2016. (See Table 11.) Compared with the overall reported tourism spending of just over $2.13 billion, this implies that creative goods and services account for 3.3 per cent of all tourism spending in the Calgary CMA.

Table 11

Total Tourism Spending on Creative Goods and Services in Calgary, 2016

Domains	Subdomains	Ratio of tourism spending to total output of creative goods and services	Total tourism spending in Calgary CMA on creative goods and services ($ 000s)
Heritage and libraries	Total	0.7%	1,082.3
	Archives	0.0%	0.1
	Libraries	0.0%	1.0
	Cultural heritage	1.0%	689.6
	Natural heritage	0.7%	391.6
Live performance	Total	11.0%	24,616.7
	Performing arts	10.2%	21,602.2
	Festivals and celebrations	27.4%	3,014.4
Visual and applied arts	Total	2.7%	28,938.6
	Original visual art	37.2%	18,154.8
	Art reproductions	0.0%	-
	Photography	0.0%	0.6
	Crafts	3.3%	10,783.2
	Advertising	0.0%	-
	Architecture	0.0%	-
	Design	0.0%	-
Written and published works	Total	1.7%	11,166.3
	Books	10.3%	1,297.8
	Periodicals	3.8%	4,855.9
	Newspapers	2.1%	3,081.1
	Other published works	3.4%	147.7
	Collected information	1.7%	1,775.3
	Multi-subdomain	0.0%	8.6
Audio-visual and interactive media	Total	0.2%	4,176.9
	Film and video	2.6%	4,176.8
	Broadcasting	0.0%	0.1

	Interactive media	0.0%	-
Sound recording	Total	0.0%	-
	Sound recording	0.0%	-
	Music publishing	0.0%	-
Education and training		0.0%	1.9
Governance, funding, and professional support		0.1%	615.6
Multidomain		0.0%	1.7
Total cultural sector		1.5%	70,600.1

Sources: The Conference Board of Canada; Statistics Canada's Provincial and Territorial Culture Indicators (2016), Tourism Spending on Culture and Sport Products (2016).

By applying the share of tourism spending on cultural goods and services attributed to domestic visitors from Statistics Canada's tourism spending on cultural goods and services report, we can estimate that of the overall $70.6 million spent by tourists in 2016, $49.6 million came from domestic visitors, with the remaining amount of $21.0 million coming from foreign travellers. (See Table 12.) Based on the reported $1.59 billion that Calgary receives from domestic travellers and another $538 million from international travellers,[14] the analysis suggests creative goods and services account for 3.1 per cent and 3.9 per cent of domestic and international expenditures, respectively.

Table 12

Total Tourism Spending on Creative Goods and Services in Calgary, 2016

Domain	Subdomain	Ratio attributed to domestic tourism	Domestic tourism Spending in Calgary CMA on creative goods and services ($ 000s)	Foreign tourism spending in Calgary CMA on creative goods and services ($ 000s)	Total tourism spending in Calgary CMA on cultural goods and services ($ 000s)
Heritage and libraries	Total	73%	788.5	293.9	1,082.3
	Archives	66%	0.1	0.0	0.1
	Libraries	100%	1.0	-	1.0
	Cultural heritage	77%	530.5	159.1	689.6
	Natural heritage	66%	257.0	134.7	391.6
Live performance	Total	65%	16,116.2	8,500.5	24,616.7
	Performing arts	65%	14,142.6	7,459.7	21,602.2
	Festivals and celebrations	65%	1,973.6	1,040.8	3,014.4
Visual and applied arts	Total	72%	20,948.5	7,990.1	28,938.6
	Original visual art	72%	13,106.2	5,048.6	18,154.8
	Art reproductions	65%	-	-	-
	Photography	0%	-	0.6	0.6
	Crafts	73%	7,842.3	2,940.9	10,783.2

[14] Statistics Canada, Travel Survey of Residents of Canada; Statistics Canada; International Travel Survey.

	Advertising	77%	-	-	-
	Architecture	0%	-	-	-
	Design	0%	-	-	-
Written and published works	Total	77%	8,569.7	2,596.6	11,166.3
	Books	77%	996.0	301.8	1,297.8
	Periodicals	77%	3,726.7	1,129.1	4,855.9
	Newspapers	77%	2,364.7	716.5	3,081.1
	Other published works	77%	113.3	34.3	147.7
	Collected information	77%	1,362.4	412.9	1,775.3
	Multi-subdomain	77%	6.6	2.0	8.6
Audio-visual and interactive media	Total	65%	2,732.5	1,444.4	4,176.9
	Film and video	65%	2,732.5	1,444.4	4,176.8
	Broadcasting	65%	0.1	0.0	0.1
	Interactive media	67%	-	-	-
Sound recording	Total	0%	-	-	-
	Sound recording	0%	-	-	-
	Music publishing	0%	-	-	-
Education and training		0%	-	1.9	1.9
Governance, funding, and professional support		68%	416.5	199.2	615.6
Multidomain		66%	1.1	0.6	1.7
Total creative sector		70%	49,573.0	21,027.1	70,600.1

Sources: The Conference Board of Canada; Statistics Canada's Provincial and Territorial Culture Indicators (2016), Tourism Spending on Culture and Sport Products (2016).

While the analysis contained thus far in the report has shown that the creative sector is an important contributor to the economic vitality of the Calgary CMA, the focus in this section of the report also highlights the degree to which the sector's performance is tied to funding streams such as tourism.

Tourist Participation in Creative Activities Benchmark

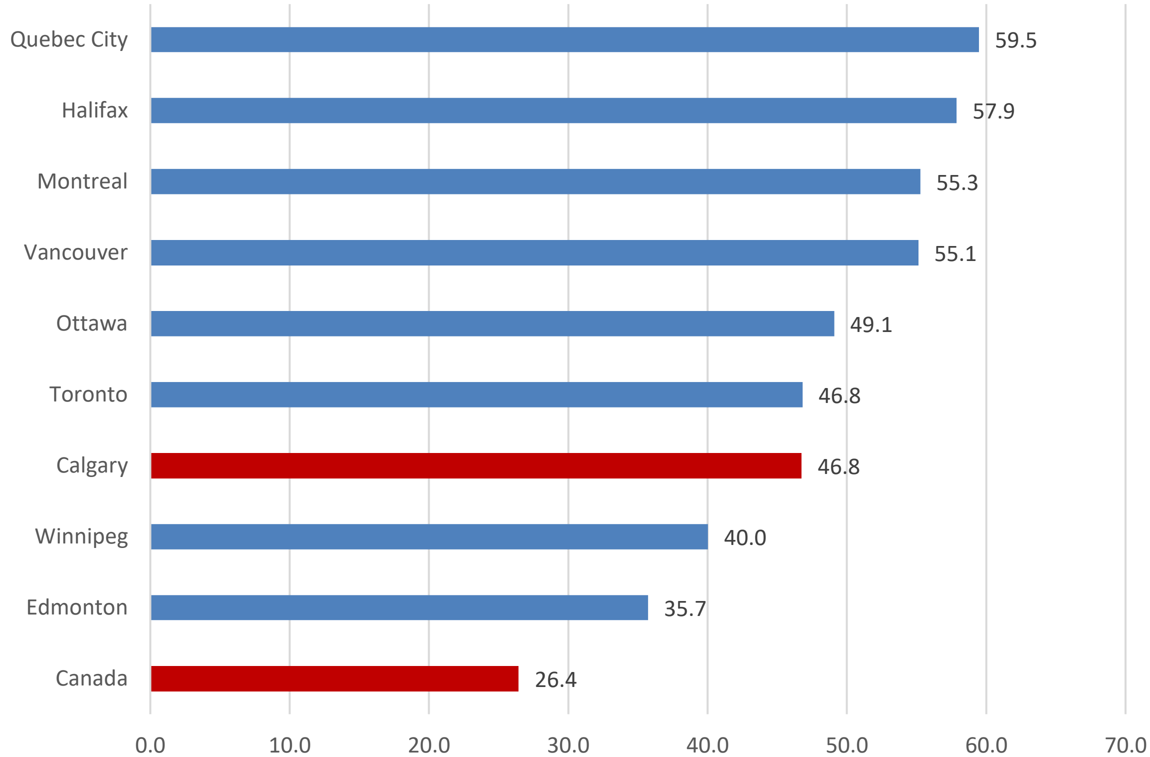
To provide a high-level benchmark on the likelihood of tourists to participate in creative activities in Calgary versus other Canadian cities, we used tabulations from Statistics Canada's International Travel Survey and Travel Survey of Residents of Canada microdata files. The tabulations focused only on overnight pleasure travellers because this is the segment most likely to participate in creative activities. The result of this comparison is shown in Chart 1.

Of all domestic and international overnight pleasure travellers to Calgary, 46.8 per cent participated in at least one creative activity. This ratio implies that Calgary would rank seventh out of the nine CMAs benchmarked. Perhaps not surprisingly, the comparison shows that pleasure travellers to all nine CMAs benchmarked are more likely to participate in creative activities than the national average.

Chart 1

Percentage of Tourists Participating in Creative Activities, 2016

(overnight pleasure travellers who participate in cultural activities as a share of total overnight pleasure travellers)



Sources: Statistics Canada; The Conference Board of Canada.

JONESIN' at Calgary Film Centre

Contribution of Volunteers in Creative Industries in Calgary

Summary

- We estimate that some 49,500 people volunteered in arts and culture in Calgary in 2017, up from 45,000 in 2013.
- These individuals each volunteered an average of 147 hours in 2017, which would be the equivalent of 3,670 full-time jobs.
- Using the average wage in the non-profit sector, we conclude that the volunteer effort in Calgary would have added some $204.5 million to the economy in 2017 if volunteer work were paid.
- In addition to its economic value, volunteerism contributes to Calgary's creative industries by helping the local arts and culture community thrive. It also provides valuable life experiences and skills development for volunteers, and it has been linked to improved health outcomes and life expectancy for volunteers.

Volunteers make a crucial contribution to Calgary's creative industries by donating thousands of hours of time each year to support all aspects of the sector. Although volunteer work is unpaid, it can be quantified by estimating the value of these services as if the work were paid. We used Statistics Canada's Giving, Volunteering and Participating public-use microdata file from the 2013 General Social Survey to estimate volunteer hours in Calgary's arts and culture sector. To estimate the value of this volunteering, we used Statistics Canada data on average wages and population by age cohort—specifically, the average wage in the non-profit sector because it reflects the value of volunteering better than the minimum wage. The average wage in the non-profit sector in Alberta is significantly lower than the average wage across all industries in the province.

Estimating Volunteering in Arts and Culture

According to the General Social Survey, 1.6 million Albertans, or 49.9 per cent of the population aged 15 years and older volunteered in 2013. Of this number, 134,907 people volunteered with arts and cultural organizations.[15] Those aged 15 to 24 had the highest volunteer participation rate in arts and culture, while those aged 65 and over contributed the most time, averaging some 235 hours per volunteer that year. We extended these data to estimate the number of people who volunteered in 2017. Tables 13 and 14 show the survey results and our estimates of volunteering activity in Alberta and Calgary, respectively, in 2013 and 2017.[16]

[15] To remain consistent with the rest of this report, we excluded volunteer work in recreation and sports.
[16] See Appendix C for a detailed explanation of the methodology used to extend data to 2017 and to estimate volunteer numbers and hours for Calgary.

Table 13
Alberta's Volunteer Rate and Volunteer Hours in Arts and Culture

	2013	2017	Average annual growth
Total population 15 and over (000s)	3,269	3,492	1.7%
Number of volunteers	134,907	144,917	1.8%
Volunteer rate (%)	4.1	4.2	
Total annual volunteer hours (000s)	16,412	18,113	2.5%
Average annual volunteer hours per volunteer (hours)	121.7	125.0	0.7%
Total number of full-time jobs equivalent	8,113	9,167	3.1%

Sources: Statistics Canada; The Conference Board of Canada.

Table 14
Calgary's Volunteer Rate and Volunteer Hours in Arts and Culture

	2013	2017	Average annual growth
Total population 15 and over (000s)	1,114	1,222	2.3%
Number of volunteers	44,765	49,440	2.5%
Volunteer rate (%)	4.0	4.0	
Total annual volunteer hours (000s)	6,338	7,251	3.4%
Average annual volunteer hours (hours)	141.6	146.7	0.9%
Total number of full-time jobs equivalent	3,133	3,670	4.0%

Sources: Statistics Canada; The Conference Board of Canada.

To calculate the above estimates, we made two basic assumptions:

1) The propensity to volunteer by age cohort in Alberta remains constant over time.
2) These same propensities apply to Calgary.

This means that since Calgary accounts for 33.3 per cent of Alberta's cohort of 15- to 24-year-olds, we assume it also accounts for 33.3 per cent of Alberta's volunteers in that age group. Table 15 shows the number of volunteers and the hours volunteered in arts and culture by age group in Calgary.

Based on these assumptions, the annual growth in total volunteer hours in arts and culture in Calgary between 2013 and 2017 averaged 3.4 per cent. This is higher than average population growth because underlying changes in the composition of the population over time led to an aggregate increase in the propensity to volunteer. **The total volunteer effort in arts and culture in Calgary in 2017 represented about 3,670 full-time equivalent jobs**, or 0.5 per cent of all Calgary full-time employment, the same share as in 2013.

Table 15
Calgary's Volunteer Numbers and Hours in Arts and Culture by Age Group, 2017

Age cohort	Number of volunteers	Average hours	Total volunteer hours
15 to 24	10,950	28.9	316,070
25 to 34	5,335	108.0	575,930
35 to 44	6,042	68.2	412,299
45 to 54	6,457	146.1	943,335
55 to 64	10,843	306.8	3,326,058
65 and over	9,814	170.9	1,677,380
15 and over	**49,440**	**146.7**	**7,251,072**

Sources: Statistics Canada; The Conference Board of Canada.

Estimating the Economic Value of Volunteering in Arts and Culture

To calculate the economic value of volunteer work, we multiplied the total number of volunteer hours in a year by the value of work, measured as the average hourly wage. Because volunteering activity mostly takes place in non-profit and charitable organizations, we used the average wage in the core non-profit sector, which was $28.21 per hour in Alberta in 2017. The average wage has been used in previous studies to estimate the economic value of volunteering, including in a 2018 paper by The Conference Board of Canada[17] and a in 2013 study by TD Bank.[18]

Using the conservative assumption that the provincial hourly wage in the sector is the same in Calgary, we calculated that volunteer work in arts and culture would have added just over $204.5 million to the local economy in 2017, up from almost $158.5 million in 2013 (when the average hourly wage in the non-profit sector was $25.01). Table 16 shows these results.

Table 16
Economic Value of Volunteer Work in Arts and Culture in Calgary

	2013	2017	Average annual growth
Total value of volunteer time ($ millions)	158.5	204.5	6.6%
Average wage in non-profit sector (Alberta, $/hr)	25.01	28.21	3.1%
Total annual volunteer hours (000s)	6,338	7,251	3.4%

Sources: Statistics Canada; The Conference Board of Canada.

Qualitative Benefits of Volunteering

Of course, there are broader benefits to volunteering, as highlighted by Conference Board of Canada research that reviewed the impacts of volunteering in Canada and elsewhere.[19] For example, a review by Rachel Casiday and others, *Volunteering and Health: What Impact Does It Really Have?*, found that

[17] The Conference Board of Canada, *The Value of Volunteering in Canada*.
[18] TD Economics, *The Impact of Volunteerism and Charitable Giving*.
[19] The Conference Board of Canada, *The Value of Volunteering in Canada.*

volunteering had a positive impact on the health outcomes of volunteers, notably linking volunteering to improvements across health indicators such as mortality, mental health, and life satisfaction.[20] However, the review noted that factors such as age, time commitment, support, and training were also important in determining the health of the volunteers.

In a study of volunteering and public health, Caroline Jenkinson and others led a meta-analysis linking volunteering and health outcomes.[21] They concluded that volunteering helped reduce depression and improve life satisfaction and well-being, but that it had no impact on physical health. They noted that it was difficult to demonstrate a causal link between volunteering and health and that further research was necessary.

An additional study by Andrew Wilson and Francesca Hicks explored the benefits to businesses when employees take part in volunteering activity.[22] They found that employees who engaged in employer-sponsored volunteering programs developed business-relevant skills that could be transferred back to their jobs. The costs to firms of participating in these programs were minimal, and firms were able to find an alternative way of developing skills.

To summarize, volunteers make a valuable contribution to Calgary's creative industries by helping the local arts and culture community thrive. In turn, these activities provide volunteers with valuable life experiences and skills development. Volunteering has also been linked to improved health outcomes and life expectancy of volunteers. Although their contributions do not have monetary value, our estimates suggest that their effort would have added over $200 million to the economy in 2017 if they had been paid.

Creative industry volunteers help Calgary in another key way: by devoting their time to organizations in the sector, they enhance its vibrancy. This, in turn, boosts Calgary's quality of life and complements city efforts to attract and retain talent, key elements in Calgary's economic development strategy. The links between arts and culture, quality of life, and human capital attraction, along with other qualitative benefits of the creative industries, are explored more deeply in the next chapter.

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[20] Casiday, Kinsman, Fisher, and Bambra, *Volunteering and Health: What Impact Does It Really Have?*
[21] Jenkinson and others. *Is Volunteering a Public Health Intervention? A Systematic Review and Meta-Analysis of the Health and Survival of Volunteers*.
[22] Wilson and Hicks, *Volunteering—The Business Case.*

Lily Singh, Photo by David Kotsibie

Non-Economic Benefits of Calgary's Creative Industries

Summary

- Beyond their economic footprint, creative industries generate many non-economic benefits in Calgary, including positive effects on health and well-being, urban revitalization, community development, and civic engagement.
- The creative industries are an emerging cluster in Calgary, and its development can help promote talent attraction and retention.
- We benchmarked Calgary against 11 other Canadian cities on five indicators of creative industry. The results paint a mixed picture for Calgary: it has a small share of creative businesses and workers but ranks better in terms of creative businesses per capita and average annual growth in creative workers.
- This said, there are reasons to be optimistic about the future of creative industries: Calgary has adopted a cultural plan that aligns closely with Canada's recent policy framework for creative industries.

In this chapter, we look past the economic footprint of creative industries to explore some of the qualitative benefits of a vibrant creative sector. The non-economic benefits of arts, culture, and entertainment are indeed real and important. Notably, it has been demonstrated in Canada and other countries that arts, culture, and entertainment have positive social effects on quality of life, health and well-being, urban revitalization, community development and social cohesion, appreciation for diversity, community safety and social behaviour in youth at risk, opportunities for cognitive growth, learning and skills development, and civic engagement.[23] In addition, cultural activities are believed to improve children's communication skills, creative thinking, and literacy and language development.[24] Although most studies do not establish explicit causal links between cultural endeavours and positive health, community, and social impacts, there is consensus about the literature of the strong positive relationship between culture and personal and social health and fulfillment. Finally, as we have already stated, a vibrant and dynamic cultural sector and other attributes related to quality of life are a necessary condition for attracting people, businesses, and investment.

Creative Industries and Health Outcomes

Arts and culture can have a significant impact on health, as reported by a Scottish government study.[25] This report used data from the 2011 Scottish Household Survey to study the impact of cultural engagement and sports participation on health. Among other results, the authors found that people who attended a cultural place or event were almost 60 per cent more likely to report good health than those who did not attend. Furthermore, those who participated in a creative or cultural activity were 38 per cent more likely to report good health than those who did not. The study took into account other

[23] Department of Canadian Heritage, *Social Impacts and Benefits of Arts and Culture: A Literature Review*.
[24] The Conference Board of Canada, *Valuing Culture: Measuring and Understanding Canada's Creative Economy.*
[25] Leadbetter and O'Connor, *Healthy Attendance? The Impact of Cultural Engagement and Sports Participation on Health and Satisfaction With Life in Scotland.*

determining factors, such as economic status, age, income, education, disability or illnesses, and smoking.

Other studies have also found that life satisfaction and quality of life are positively correlated with participating in arts and cultural activities. For example, a U.K. study found that visits to museums and participation in the arts (as a creator or as audience) are positively correlated with self-reported increases in happiness and health.[26] Another report in England found evidence that arts can enable social interaction and help those receiving social care to pursue creative interests.[27] As an example, the report highlights how dance can reduce loneliness and alleviate depression and anxiety among people in social care environments. It also highlights how poetry and writing sessions offer patients alternative methods to express themselves.

Along these lines, another study used filming, interviews, and measurements to explore the link between ballet and its effects on people with Parkinson's disease.[28] The authors found that not only did ballet improved balance and stability, it also provided participants with stress relief, increased life satisfaction, and promoted overall well-being. Of course, the effects of ballet could not be completely isolated because of the unpredictability of the disease's symptoms. Despite this, the authors concluded that dance sessions are an appropriate way to encourage exercise and create social networks among people with Parkinson's disease.

In all, there is strong evidence that participation in creative activities can improve the health outcomes and overall well-being of those partaking in these activities. Even if a causal link is not always clear, correlation effects are usually identified in most of the available research. More research is nonetheless required to cement creative industries' benefits to health.

Creative Industries and Education

Arts and culture participation can also boost education and skills attainment. Reports from England's Culture and Sport Evidence (CASE) program highlight several positive impacts associated with learning through arts and culture.[29] For instance, they concluded that participation in structured arts activities improves academic attainment in secondary-school students. These reports also found that participation in arts activities improves young people's literacy skills, cognitive abilities, and transferable skills. Finally, they found that children from low-income families who take part in arts activities at school are more likely to get a post-secondary degree than children from low-income families who don't.

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[26] Fujiwara, *Museums and Happiness: The Value of Participating in Museums and the Arts.*

[27] Consilium Research and Consultancy, *What Do We Know About the Role of Arts in the Delivery of Social Care?*

[28] Houston and McGill, "A Mixed-Methods Study into Ballet for People Living With Parkinson's".

[29] EPPI-Centre (Institute of Education, University of London), *Understanding the Impact of Engagement in Culture and Sport: A Systematic Review of the Learning Impacts for Young People*; EPPI-Centre and Matrix Knowledge Group, *Understanding the Drivers, Impact, and Value of Engagement in Culture and Sport: An Over-Arching Summary of the Research*; Mowlah, Niblett, Blackburn, and Harris, *The Value of Arts and Culture to People and Society: An Evidence Review.*

Similarly, a report that used four longitudinal studies to examine the relationship between involvement in the arts and academic achievement found that young adults of low socio-economic status who are involved in the arts show better academic outcomes than those less involved in the arts, obtaining better grades and enrolling in college at higher rates. As an example, the authors note that, among high school students of low socio-economic status, those who earned many arts credits were five times more likely to have graduated than those with few or no arts credits. The authors also found that students of low socio-economic status with "intensive arts experiences" in high school were more likely to earn a bachelor's degree than those without arts experiences.[30]

Along with these studies, many other publications and reports have established a positive correlation between creative activities and educational attainment. Many governments around the world recognize the importance of creative activities in shaping the future of their workforce and are actively working to increase creative activities in school curricula.

Creative Industries and Social Development

Arts and culture also have multiple positive social impacts. For example, a 2013 study showed that reading literary fiction contributes to the development of social relationships by increasing performance on tests of "theory of mind," which is defined as "the human capacity to comprehend that other people hold beliefs and desires and that these may differ from one's own beliefs and desires."[31] Similarly, research has found that high school students who engage in arts at school are more likely to volunteer, to vote as adults, and to become and remain involved in their local communities.[32] What is more, another study found that volunteering is perceived as a way to develop skills and is thus positively correlated to education and employment outcomes.[33]

Talent Attraction and Retention

All the above non-economic benefits, in turn, also generate additional economic benefits. Indeed, in addition to having an impact on education, childhood development, civic pride, and community development, a vibrant creative ecosystem also helps to identify metropolitan areas as dynamic and exciting, enhances a city's brand and reputation, and is a key component in creating a compelling case for business investment.

A vibrant and dynamic creative ecosystem is also a key ingredient of a high quality of life and is essential to attracting people to a city, especially young, talented, creative people, an idea popularized by urban studies expert Richard Florida.[34] Cities that are magnets for human capital also tend to be magnets for business investment. This is because the availability of highly skilled workers is a major factor for businesses deciding where to locate. What is more, the weight that businesses place on access to talent

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[30] Catterall and others, *The Arts and Achievement in At-Risk Youth: Findings From Four Longitudinal Studies.*
[31] Kidd and Castano, "Reading Literary Fiction Improves Theory of Mind."
[32] Mowlah, Niblett, Blackburn, and Harris, *The Value of Arts and Culture to People and Society: An Evidence Review.*
[33] Lee, Marini, Morrell, and Smith, *Barriers and Facilitators to Pro-Social Behaviour Among Young People: A Review of Existing Evidence.*
[34] Florida, *The Rise of the Creative Class.*

in their location decisions is likely to grow in importance in the future, in line with the trend of newly created jobs becoming more cognitively complex. A Gallup study of 26 communities across the United States also found there is a significant correlation between residents' attachment to their communities and GDP growth, that nationwide economic woes had little impact on local attachment, and that communities with the highest levels of attachment also had the fastest GDP growth.[35]

Conference Board of Canada research points this way as well, adding further evidence that for Canadian cities to become design, architecture, and cultural hubs, they need to not only invest in physical infrastructure but also sustain vibrant cultures and become excellence centres in education, all with the objective of attracting talented and creative people.[36]

Creative industries are also important in the current Canadian context of an aging population, as the positive impact of arts and culture on well-being can help alleviate some of the strain that a larger share of older individuals will put on public services.

Conference Board research also contends that arts and culture can raise diversity awareness and bridge differences by establishing common cultural connections,[37] which will be key as immigrants continue to make up a larger share of the population.

Overall, the non-economic and qualitative benefits of creative industries are well documented and generally accepted, even if causal relations are difficult to prove and have not been widely determined. For Calgary, this highlights the importance of creative industries as the city aims to remain and grow its standing as one of the most livable cities in the world. Indeed, Calgary's latest economic strategy, *Calgary in the New Economy: The Economic Strategy for Calgary*, identifies the creative industries as an emerging cluster in the city. Fostering the development of this industry would not only lift economic growth and help diversify the economy, it would also improve the city's quality of life. In particular, this latter benefit would help address some of Calgary's challenges: the retention of students and professionals aged between 20 and 40, people's perception of downtown Calgary as not livable, and the belief, among Canadians, that Calgary does not offer a level of arts and culture comparable to their current home city.[38]

Against this backdrop, we benchmarked Calgary against 11 other Canadian metro areas on five indicators of creative industries, allowing us to assess the relative strength of Calgary's creative industries. By quantifying an otherwise qualitative feature of a metro region, such an exercise, in turn, can help us make relative judgements about Calgary's quality of life. The results of this exercise are detailed in the section below.

[35] Gallup, *Knight Soul of the Community.*

[36] The Conference Board of Canada, *Valuing Culture: Measuring and Understanding Canada's Creative Economy.*

[37] Ibid.

[38] Ibid.

Creative Industries Benchmarking

Now that we have quantified the economic footprint of Calgary's creative industries and explored the non-economic benefits of a vibrant creative landscape, we can explore how Calgary's creative industries compare to the creative industries in other regions across Canada. Using data from Statistics Canada's 2016 Canadian Business Counts by Economic Region, from the federal government's National Occupation Classification, from Calgary Arts Development, and from The Conference Board of Canada's own databases, we developed useful metrics to rank Calgary's creative industries against those in other major regions in the country.

For the indicators in this section, the level of geography we use is either economic region or census metropolitan area, as determined by data availability. An economic region is a grouping of complete census subdivisions created as a standard geographic unit for analysis of regional economic activity. A census metropolitan area consists of one or more neighbouring municipalities situated around a core; a CMA must have a total population of at least 100,000 of which half or more live in the core. We also compare Calgary to national averages. Table 17 lists the selected areas with both their economic region and census metropolitan area names.

Table 17

Selected Economic Regions and Census Metropolitan Areas

Economic regions	Census metropolitan areas
Halifax	Halifax
Capitale–Nationale	Québec
Montréal	Montréal
Ottawa	Ottawa–Gatineau
Toronto	Toronto
Winnipeg	Winnipeg
Regina–Moose Mountain	Regina
Saskatoon–Biggar	Saskatoon
Calgary	Calgary
Edmonton	Edmonton
Lower Mainland–Southwest	Vancouver
Vancouver Island and Coast	Victoria

All the selected economic regions and census metropolitan areas meet one or more of the following criteria:

- The area is likely to be viewed as one of Calgary's Canadian competitors in terms of attracting talent and business investment.
- The area is a provincial capital.
- The area's population is similar in size to Calgary's.

We also wanted to ensure our analysis has a widespread geographic distribution, so our list of comparators includes at least one metro area in each Canadian region (West Coast, Prairies, Central Canada, Atlantic Canada) except Northern Canada, which has no census metropolitan areas.

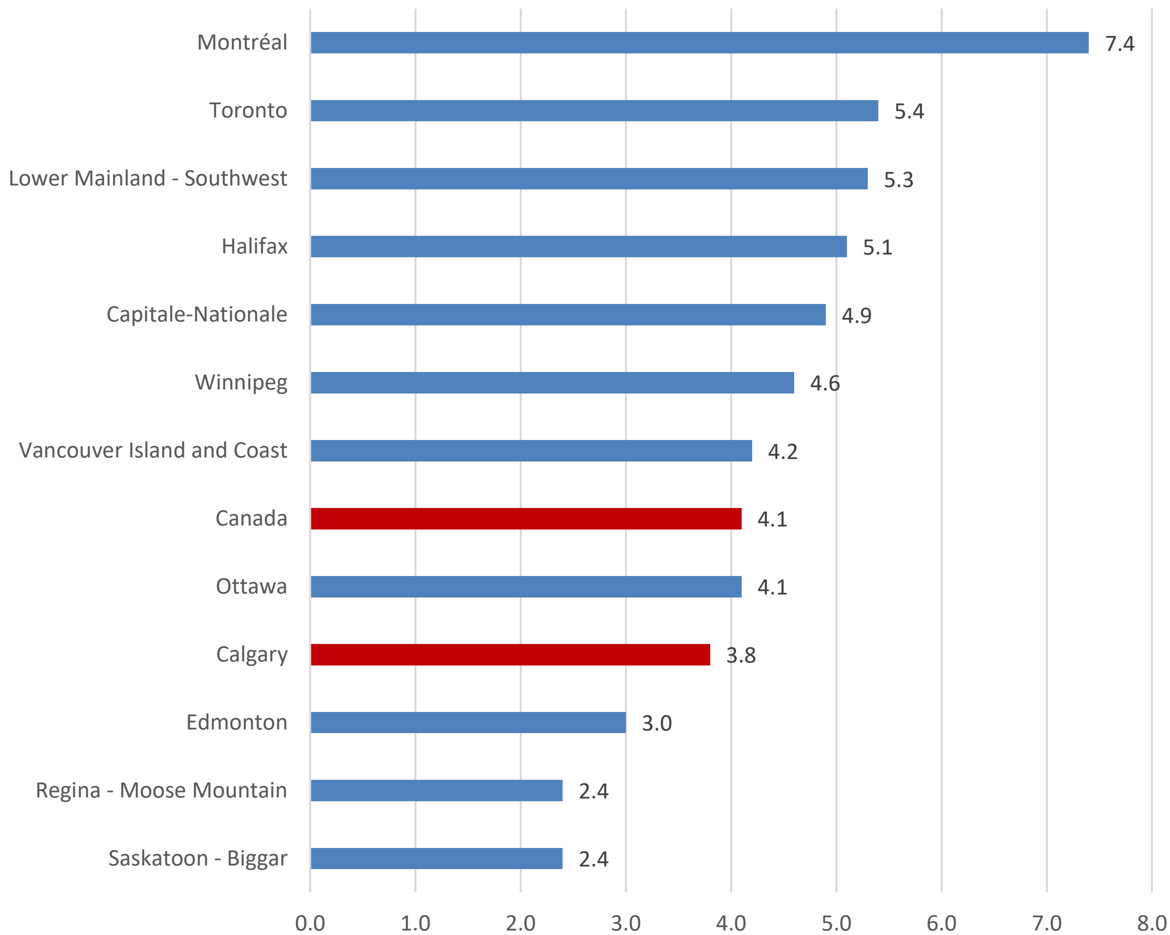
Creative Businesses in Calgary vs Other Canadian Economic Regions

Our first metrics used Statistics Canada's 2016 Canadian Business Counts to compare the number of active businesses in creative industries across economic regions. To do this, we cross-tabulated North American Industrial Classification System (NAICS) categories with business counts. We then used Statistics Canada's *Classification Guide for the Canadian Framework for Culture Statistics* to guide our selection of which NAICS codes are considered creative industries. This list includes businesses whose main type of economic activity is linked to creative industries (arts, heritage, performances, visual arts, written and published work, etc.). We counted both businesses with employees and businesses without employees (i.e., sole proprietorship businesses). These indicators were scaled by the total number of businesses. The data were for the year 2016.

Building the number of creative businesses using Statistics Canada business count data required some approximation, because even though an industry can be classified as creative according to NAICS, not all employment in that industry will be classified as creative according to the Statistic Canada's Culture Satellite Account. For example, marketing, legal, and security jobs in a museum are not considered creative occupations, even though the museum is a creative establishment. As a result, we restricted the number of creative industries based on the proportion of employees in each industry who are considered to occupy creative jobs, according to the Culture Satellite Account. If less than 10 per cent of an industry's employees were in creative occupations, we excluded all businesses in that industry from our estimations. This means we included all industries where 10 per cent or more of its employees were in creative occupations. This exercise reduced the number of creative businesses in Calgary from 14,024 to 7,769.

Chart 2

Creative Industry Businesses as a Share of Total Businesses, 2016 (per cent)



Sources: Statistics Canada; The Conference Board of Canada.

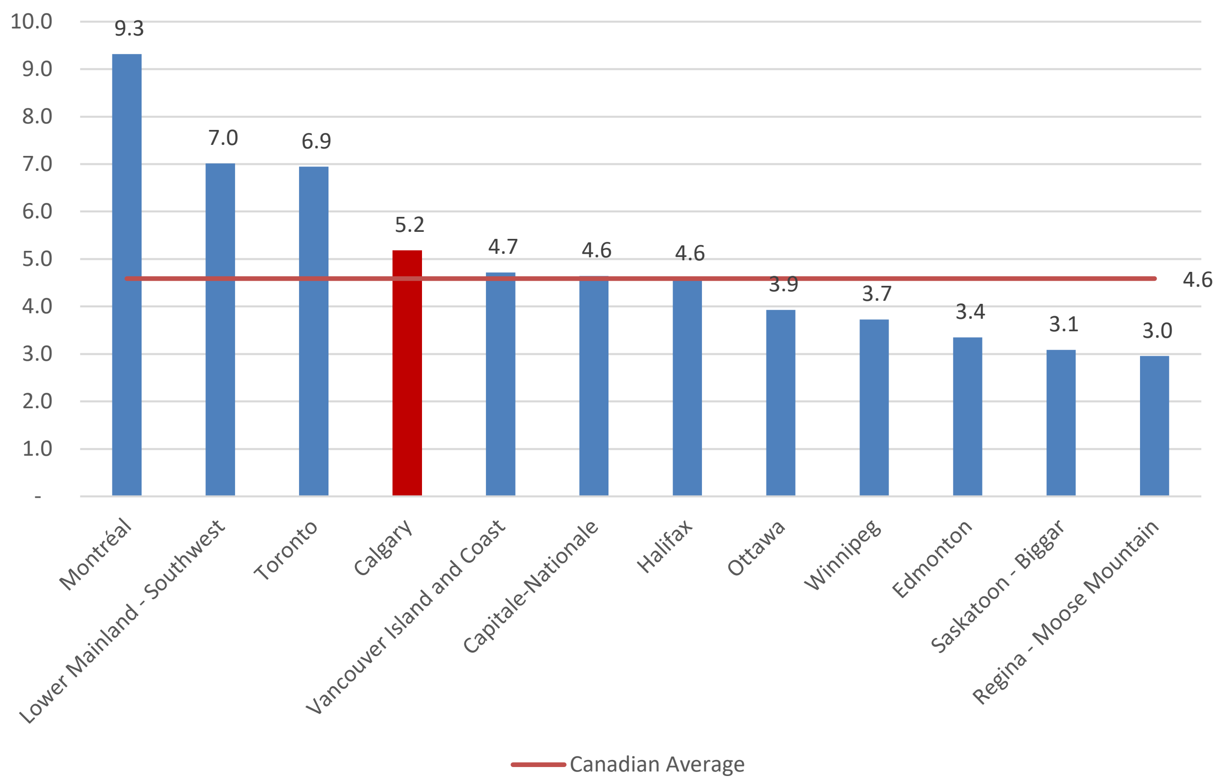
In Figure 2, we show how Calgary stacks up in terms of the number of creative industry businesses as a share of all businesses. Essentially, this indicator tells us what portion of all the businesses in an economic region operate in the creative industries. This gives us an indication of the relative weight and economic role that creative industries have in a given area. A higher number means more opportunities to partake in creative activities, as a creator or as a consumer.

In Calgary, the region's 7,700 creative businesses represent 3.8 per cent of all its businesses, which places Calgary ninth out of the 12 economic regions benchmarked here, coming in slightly behind the Canadian average of 4.1 per cent. Montréal, Toronto, and the Lower Mainland–Southwest (Vancouver area) top the chart with 7.4 per cent, 5.4 per cent, and 5.3 per cent of their businesses operating in the creative industries, respectively. The Halifax and the Capitale-Nationale (Québec City area) economic regions round up the top five. On the other hand, Edmonton, Regina–Moose Mountain, and Saskatoon–Biggar (together with Calgary) are at the bottom of the rankings, with each having less than a 4.0 per cent share of creative industry businesses.

Montréal's, Toronto's, and Vancouver's top positions are not too surprising. They are Canada's three biggest metropolitan areas, and they are generally viewed as both dynamic and vibrant places to live and work. Ottawa's eighth-place ranking is somewhat surprising given that is the national capital and it benefits from hosting federally funded cultural institutions like the National Arts Centre and various museums.

Chart 3

Creative Businesses per 1,000 People by Economic Region, 2016



Sources: Statistics Canada; The Conference Board of Canada.

Because creative industries revolve around the interactions between creators and consumers, we also scaled the number of creative businesses by the population. This metric is important because it gives us a sense of the supply of creative products and services in an economic region, taking into account its population. A higher number of creative businesses per capita suggests that people have a relatively greater opportunity to participate in or to consume creative industries products and services, while a lower number means there is less access.

While creative businesses account for a larger share of total firms in Halifax than in Calgary, there are more creative businesses per person in Calgary. This is also the case for the economic regions of Québec City, Winnipeg, and Victoria. Indeed, Calgary's creative businesses per capita is among the highest in the country, coming in fourth after Montréal, the Lower Mainland–Southwest (Vancouver), and Toronto. There are 5.2 creative businesses per 1,000 individuals in Calgary. That said, Calgary significantly lags the big three of Montréal, Vancouver, and Toronto, which have 9.3, 7.0, and 6.9 creative business per 1,000 people, respectively. These four regions, as well as Vancouver Island and Coast, exceed the Canadian average of 4.6 creative businesses per 1,000 individuals. Saskatoon–Biggar and Regina–Moose Mountain close out the rankings with 3.1 and 3.0 creative businesses per 1,000 people, respectively. These results are shown in Chart 3.

Combined, charts 2 and 3 tell us that even though Calgary's creative-oriented businesses make up a very small percentage of its economic landscape, the number of such businesses on a per capita basis is the highest in Canada outside the regions of Montréal, Vancouver, and Toronto.

Creative Workers in Calgary vs Other Canadian Economic Regions

In addition to business counts, the National Occupational Classification (NOC) system provides another way to measure and benchmark the footprint of creative industries in major Canadian metropolitan areas. Instead of assessing the creative sector by the number of businesses, the NOC system allows us to assess the sector by the number of people doing creative work. These assessments will differ somewhat because not all employees who work for a creative business occupy creative jobs and not all creative workers are employed by creative businesses. For example, a creative business like a theatre company may also have on its staff human resources professionals, accountants, and janitors, not just writers, directors, and actors. The opposite is also true, as non-creative businesses such as oil companies and government agencies may also hire creative workers such as translators and graphic designers.

In 2017, 23,900 people were directly engaged in arts, culture, recreation, and sport occupations (full- and part-time) in the Calgary CMA.[39] Although this is very close to the Conference Board's own estimate of 24,000 direct jobs in the creative industries, the two figures are estimated using different conceptual frameworks. The first number is calculated through an occupational lens by focusing on tasks that workers perform, while the second number is calculated through an industry lens by focusing on the primary activity that businesses undertake.

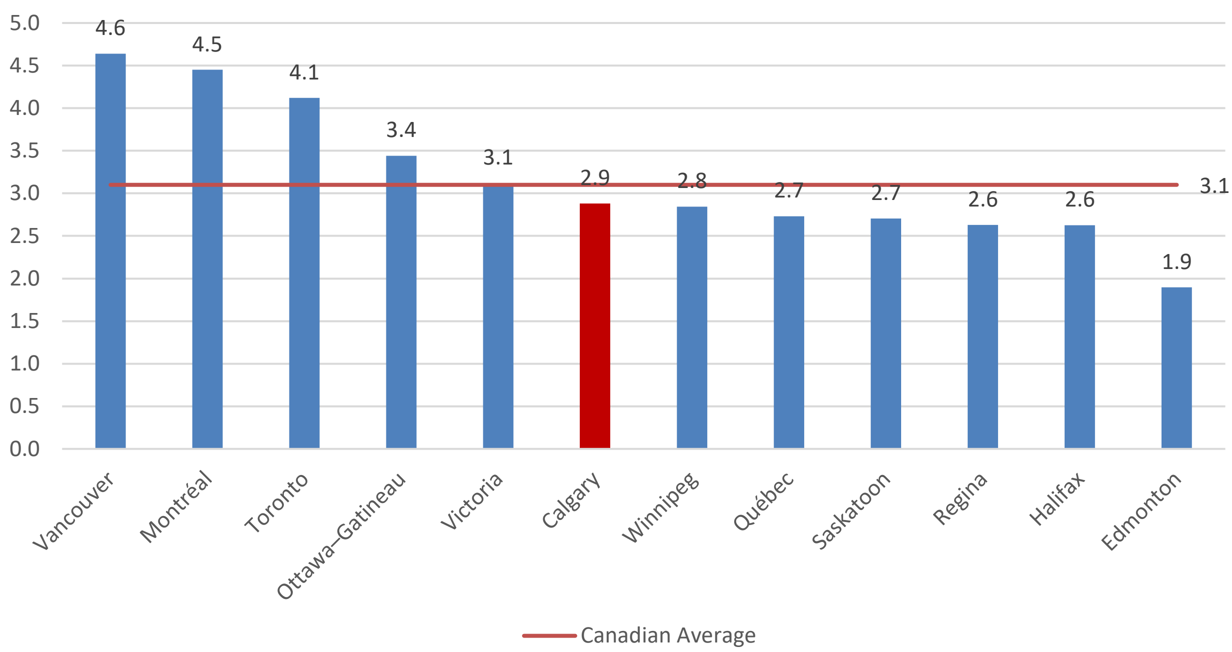
Unfortunately, the NOC data tell a slightly more pessimistic story about Calgary's creative sector than the business count data. According to the NOC data, 2.9 per cent of the Calgary CMA's workers are engaged in arts, culture, recreation, and sport work. (See Chart 4.) This places the Calgary metro area sixth behind Vancouver, Montréal, Toronto, Ottawa–Gatineau, and Victoria. This also places Calgary behind the Canadian average of 3.1 per cent. Calgary does perform much better on this indicator than Edmonton, its provincial counterpart, which ranks last.

Analyzing recent job growth in the creative sector tells a similar story. As Chart 5 shows, employment in arts, culture, recreation, and sport in Calgary averaged growth of 1.8 per cent annually between 2008 and 2017, a tad slower than total job growth in Calgary over the same period (1.9 per cent) and good for sixth place among the 12 census metropolitan areas compared here. Fortunately, this places Calgary slightly ahead of the Canadian average growth of 1.7 per cent.

[39] Publicly available occupational data do not allow us to separate sport and recreation employment from the broader arts and cultural figures.

Chart 4

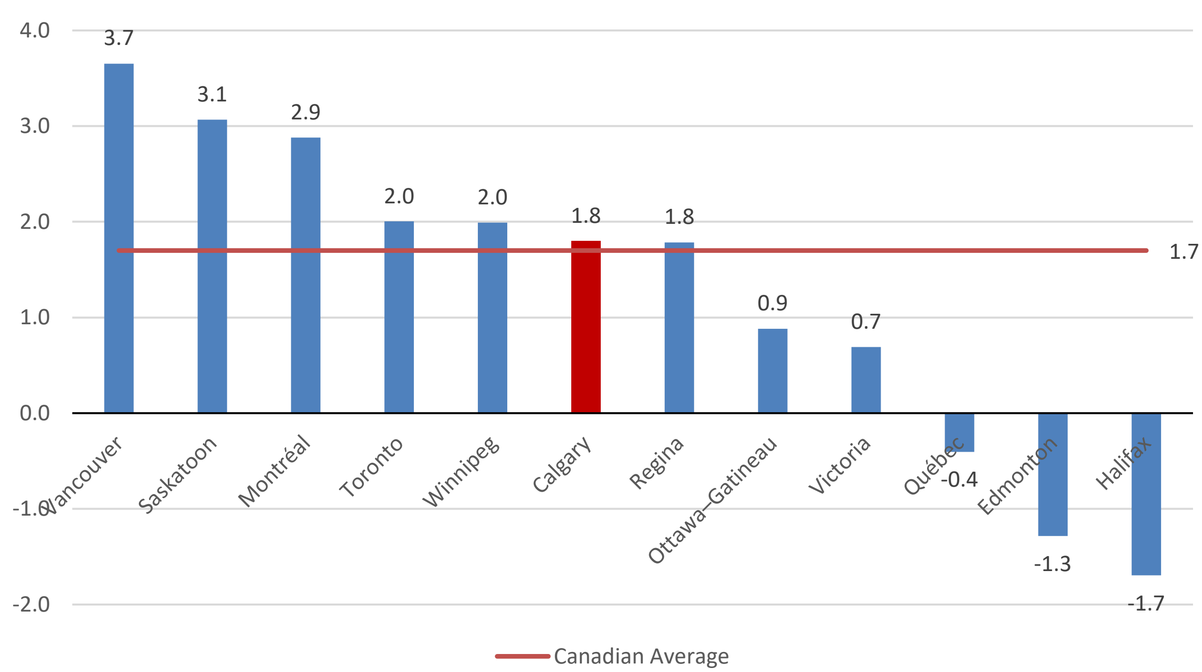
Share of Workers in Arts, Culture, Recreation, and Sport Occupations, 2017 (per cent)



Sources: Statistics Canada; The Conference Board of Canada.

Chart 5

Average Annual Employment Growth in Arts, Culture, Recreation, and Sport, 2008–17 (per cent)



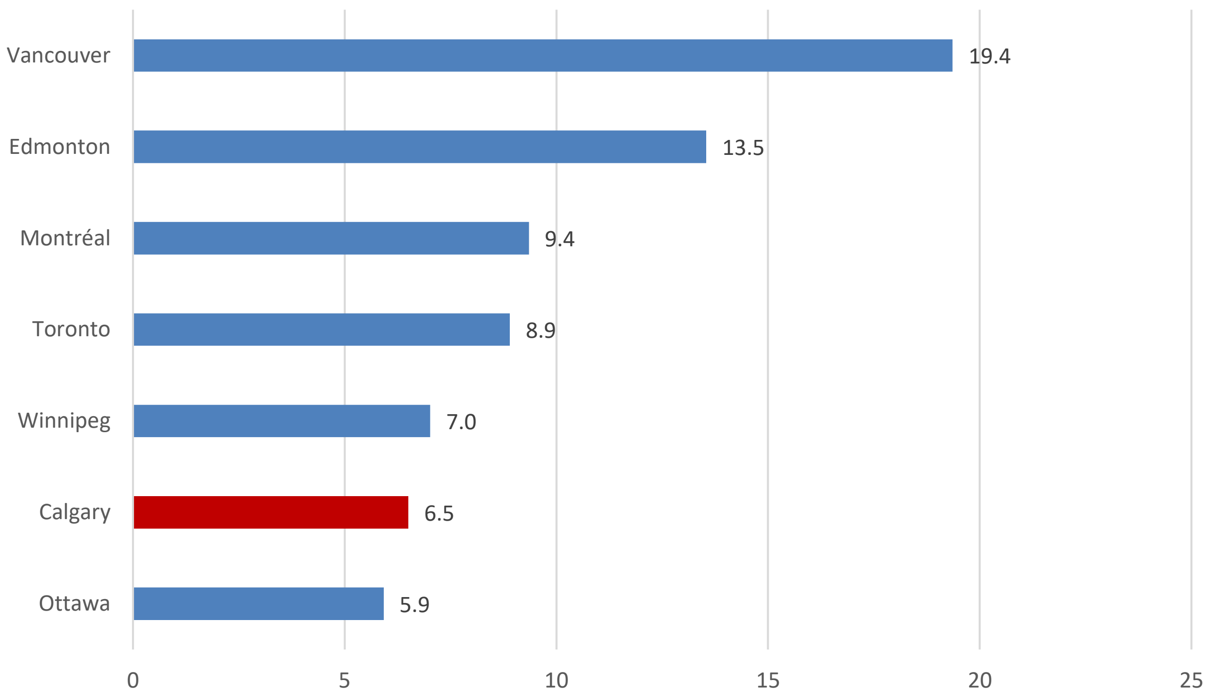
Sources: Statistics Canada; The Conference Board of Canada.

Arts Funding in Calgary vs Other Canadian Economic Regions

The final way we benchmarked Calgary's creative industries was to use data gathered by Calgary Arts Development to compare the value of arts grants per capita among our selected areas. These data are available at the city level and include only Montréal, Ottawa, Toronto, Winnipeg, Calgary, Edmonton, and Vancouver. Chart 6 shows these data, as presented in Calgary Arts Development's report *Civic Arts Funding Across Canada*. These data include funding to civic arts councils and direct funding from the cities to arts organizations. In the case of Vancouver, the data are based on its total culture grants total from the 2015 cultural services administrative report, Cultural Infrastructure Grant Program, and Grants for Emerging Artists Program (Vancouver does not have an arts council). In the case of Edmonton, the data are "based on amounts granted through the Edmonton Arts Council in their General Fund, Program Fund, and Community Investment Grants."[40]

Chart 6

Dollar Value of Arts Grants per Capita, 2015



Source: Calgary Arts Development.

Chart 6 tells us that one of the culprits behind Calgary's mixed results in our benchmarking exercise could be relatively low civic arts funding. Indeed, Calgary's civic arts funding of $6.50 per capita is second last among this group, with only Ottawa ranking lower, at $5.90 per capita. Vancouver easily tops the chart with a relatively impressive $19.40 of arts funding per capita, followed by Edmonton's $13.50. However, funding has almost doubled in Calgary since these data were published and has also

[40] Calgary Arts Development, *Civic Arts Funding Across Canada.*

increased in other metropolitan areas. The results of this indicator are thus set to change once all the new data becomes available.

Alberta, and thus likely Calgary, also lags when it comes to funding from the Canada Council for the Arts, a federal Crown corporation that offers a broad range of grants, services, and payments to professional Canadian artists and arts organizations across the country. In 2016–17, the latest fiscal year for which data are available, Alberta-based artists and organizations received $10.5 million in funding from the Council, equivalent to $2.51 per capita.[41] This was the lowest amount among the 10 provinces in per capita terms. As a comparison, Quebec received the highest amount of funding on a per capita basis, at $7.05.

This said, Calgary Economic Development has recognized the city's creative industries as an emerging cluster, based on their "strategic fit" and "potential to grow."[42] The city has also developed the *Cultural Plan for Calgary*,[43] and Calgary Arts Development created *Living a Creative Life*, an arts development strategy.[44] These initiatives "encourage promotion of arts and culture as part of what defines [Calgary]."[45] Officials recognize that creative industries are a key element to improve quality of life, which is an important location factor for students and young professionals alike.

These initiatives highlight an array of recommendations to help expand the role of arts, culture, and creative industries in Calgary. Among these, the *Cultural Plan for Calgary* recommends an increase in funding for arts organizations; the promotion of Calgary as a music city and film, television, and digital media hub; the creation of opportunities to develop skills in cultural occupations through education; and the use of existing planning tools to help artists secure affordable living and working spaces.[46]

Calgary's commitment to develop and strengthen its creative industries is in line with the Government of Canada's policy framework on creative industries, dubbed *Creative Canada*.[47] Notably, the first pillar of *Creative Canada* calls for investment in creators and cultural entrepreneurs given that their talent and skill is the backbone of creative industries. As part of this framework, the Government of Canada has increased its investment in the cultural sector by doubling the Canada Council for the Arts' budget between 2016 and 2021 to support a new funding model for artists and organizations.[48] This policy framework also includes government investment in creative hubs to "nurture and incubate the next generation of creative entrepreneurs and small business start-ups,"[49] a policy that aligns with some of the recommendations found in the *Cultural Plan for Calgary*.

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[41] Canada Council for the Arts, *Canada Council Grant Funding to Artists and Arts Organizations Across Canada in 2016–17*.
[42] Calgary Economic Development, *Calgary in the New Economy: The Economic Strategy for Calgary*.
[43] MDB Insight and City of Calgary, *Cultural Plan for Calgary*.
[44] Calgary Arts Development, *Living a Creative Life.*
[45] Calgary Economic Development, *Calgary in the New Economy: The Economic Strategy for Calgary*.
[46] MDB Insight and City of Calgary, *Cultural Plan for Calgary*.
[47] Canadian Heritage, *Creative Canada Policy Framework.*
[48] Ibid.
[49] Ibid.

Benchmarking: the Bottom Line

The above benchmarking analysis paints a mixed picture of the strength of Calgary's creative industries when compared against other major Canadian metro areas. Indeed, Calgary's creative sector ranks ahead of the national average on two indicators (the number of creative businesses per 1,000 population and the growth in the number of workers in arts, culture, recreation, and sport occupations) and below the national average on two other indicators (the share of businesses in creative industries and the share of workers in arts, culture, recreation, and sport occupations). Calgary lags behind Canada's three big metropolitan areas (Montréal, Toronto, and Vancouver) on all indicators, while outperforming its provincial neighbour, Edmonton, on four out of five (Edmonton's Arts Council receives more arts grant dollars per capita). Calgary received $6.50 in arts funding per capita in 2015, the lowest amount after Ottawa among the cities examined on this indicator. This, however, is poised to change, as Calgary has recognized creative industries as an emerging cluster, the City of Calgary has significantly increased its investment in arts and culture, and the Canadian federal government is increasing its investments in creative industries across the country.

All in all, the evidence suggests that the size and scope of the creative industries in Calgary allow the metropolitan area to capture some of the non-economic benefits of arts and culture, such as improvements in health and well-being, community development, and social cohesion. The positive effect of the creative industries on quality of life also helps draw in people to Calgary and, thus, enhances the city's business climate. Nevertheless, the above benchmarking exercise hints that, even with a healthy and growing creative industry, there is room for further growth.

Cultural Plan for Calgary has highlighted many recommendations and strategic priorities that should help kick-start growth in creative industries, increase funding, foster relationships between creative individuals and organizations, and capture cluster effects. City council is also planning to nearly double Calgary Arts Development's funding starting in 2019, which clearly indicates a desire to support growth and development in the creative industries.

Remote Head and Crane Workshop

Conclusion

Summary

- The quantitative assessment of the creative sector suggests it is a vital contributor to the economy of the Calgary CMA and that of the overall province.
- Establishing credible estimates of the sector's contribution is important because of the extensive resources that have been dedicated at the local, provincial, and federal levels toward strengthening the sector in the years ahead.
- The analysis reveals that the operation of the sector depends on stable and predictable funding sources, including those from various levels of government.
- The benchmarking analysis comparing Calgary's creative industries against those in other Canadian cities shows that Calgary tends to rank in the middle or lower half of the rankings in most indicators.

The creative sector is a vital contributor to the economy of the Calgary metropolitan area and that of the overall province. From a conservative perspective, Calgary's creative sector supported 28,100 local jobs and a total of 34,200 jobs across the province in 2016. Within the Calgary CMA, nearly $2.7 billion in local GDP can be traced back to the creative sector. Including the benefits to businesses outside the province, Calgary's creative sector supported over 43,900 jobs for Canadians and resulted in more than $3.85 billion in direct, indirect, and induced GDP nationwide.

Although Calgary's creative sector receives financial support from all levels of government, it also contributes back to government in a substantial way. Through the taxes paid by businesses, workers and consumers, Calgary's creative sector contributed $566.4 million to the federal government, $238.1 million to the province of Alberta, and about $48.8 million to the municipal government within the Calgary CMA.

Along with this comprehensive economic footprint, this report also provides insights into the degree to which the sector depends on contributions from a variety of sources including volunteering, corporate and government financial support, and tourism. The report shows how creative industries play a distinct and strategic role for Calgary in terms of attracting and retaining a skilled workforce and in facilitating strategic business investments. Creative industries provide the city with immeasurable non-economic benefits. A vibrant creative sector has been shown to improve health and well-being, foster community development, and generate social cohesion. These positive effects on quality of life, in turn, also generate significant economic benefits by acting as a business investment tool.

These benefits reinforce the reason why the creative industries are considered a key pillar of Calgary's efforts to remain and grow its standing as one of the most livable cities in the world. Indeed, the creative industries are identified as an emerging cluster in the city's latest economic strategy. Not only would fostering the development of this industry help lift economic growth and diversify the economy, it would also help address some of Calgary's challenges, such as the retention of students and professionals aged between 20 and 40 and people's perception of downtown Calgary as not livable.

Against this backdrop, we conducted a benchmarking exercise that compared Calgary's creative industries against those in other Canadian cities, allowing us to assess the relative strength of Calgary's creative industries. This benchmarking analysis paints a mixed picture of the strength of Calgary's creative industries. Calgary ranks ahead of the national average on the number of creative businesses per 1,000 population and the growth in the number of workers in arts, culture, recreation, and sport occupations, but it ranks below the national average on the share of businesses in creative industries and the share of workers in arts, culture, recreation, and sport occupations. At the same time, Calgary lags behind Canada's three big metropolitan areas (Montréal, Toronto, and Vancouver) on all indicators, while outperforming its provincial neighbour, Edmonton, on four out of five (Edmonton's Arts Council receives more arts grant dollars per capita). This, however, is poised to change, as Calgary has recognized creative industries as an emerging cluster, Calgary Arts Development Authority's budget is set to nearly double, and the Canadian federal government is increasing its investments in creative industries across the country.

In fact, *Cultural Plan for Calgary* includes many recommendations and strategic priorities that should help kick-start growth in creative industries, increase funding, foster relationships between creative individuals and organizations, and capture cluster effects. This plan highlights an array of recommendations to help expand the role of arts, culture, and creative industries in Calgary. Among these, the plan recommends an increase in funding for arts organizations; the promotion of Calgary as a music city and film, television, and digital media hub; the creation of opportunities to develop skills in cultural occupations through education; and the use of existing planning tools to help artists secure affordable living and working spaces.

This commitment to develop and strengthen creative industries is also in line with the Government of Canada's policy framework on creative industries, dubbed *Creative Canada*. This policy framework calls for investment in creators and cultural entrepreneurs because their talent and skill is the backbone of creative industries. In addition to increasing investment in the cultural sector, *Creative Canada* sets the stage for the development of creative hubs to incubate the next generation of creative entrepreneurs and small businesses, which mirrors some of the recommendations found in the *Cultural Plan for Calgary.* Support from the sector's stakeholders and all levels of government would go a long way to help Calgary's creative industries capture the benefits of this initiative.

Aside from these strategic plans, Calgary's creative sector is also a vital component in Tourism Calgary's recent destination strategy.[50] In fact, some of the various growth targets identified in the strategy require the success of activities associated with attracting and enhancing premier cultural experiences to visitors.

All in all, this report shows that Calgary's creative industries provide the city with substantial economic and non-economic benefits. High-potential sectors include film and television production, e-learning, and digital media. That said, this report also shows that the sector has room to grow and is sitting on untapped potential. A unified strategy of all key stakeholders—Calgary Economic Development, Calgary

[50] Tourism Calgary, *Calgary Destination Strategy: Ultimate Hosts, Ultimate Host City.*

Arts Development, the City of Calgary, Tourism Calgary, and private sector firms—would provide the creative industries with the best chance to reach their full potential. Such a strategy should be consistent with the City of Calgary's *Cultural Plan for Calgary*, Calgary Arts Development's *Living a Creative Life* strategy, the creative industries-related components of Calgary Economic Development's *Calgary in the New Economy* strategy, Tourism Calgary's strategy to attract and enhance premier cultural experiences, and the federal government's *Creative Canada Policy Framework*.

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Appendix A: Calgary's Creative Sector Economic Footprint Tables (2016)

The following tables depict more detailed findings from the economic impact analysis of Calgary's creative sector than those provided in the main body of the report. Figures for Alberta include Calgary, and figures for Canada include Alberta. Tables that relate to the direct impact phase refer only to "front-line" creative businesses and not to any indirect or induced impacts, and so the impacts across all geographic areas displayed are equal.

Table A1

Summary of Key Impact Measures Associated With Calgary's Creative Sector

Summary Sheet	Calgary	Alberta	Canada
Cultural Sector Revenues	$3,767,039,016	$3,767,039,016	$3,767,039,016
GDP Impact (Direct, Indirect & Induced Phase)	$2,679,449,224	$3,299,518,995	$3,854,559,406
Labour Income Impact (Direct, Indirect & Induced Phase)	$1,833,449,841	$2,185,925,727	$2,520,637,600
Employment Impact (Direct, Indirect & Induced Phase - Person-Years)	28,131.7	34,167.7	43,916.6
Tax Contributions (Direct, Indirect & Induced Phase)	$644,291,851	$804,686,688	$930,776,236

Table A2

GDP Impacts (Direct Impact Phase)

GDP (Direct)	Calgary	Alberta	Canada
Crop and animal production	$0	$0	$0
Forestry and logging	$0	$0	$0
Fishing, hunting and trapping	$0	$0	$0
Support activities for agriculture and forestry	$0	$0	$0
Mining, quarrying, and oil and gas extraction	$0	$0	$0
Utilities	$0	$0	$0
Residential construction	$0	$0	$0
Non-residential building construction	$0	$0	$0
Repair construction	$0	$0	$0
Other activities of the construction industry	$0	$0	$0
Manufacturing	$45,631,061	$45,631,061	$45,631,061
Wholesale trade	$64,311,441	$64,311,441	$64,311,441
Retail trade	$74,957,846	$74,957,846	$74,957,846
Transportation and warehousing	$0	$0	$0
Information and cultural industries	$824,926,609	$824,926,609	$824,926,609
Finance, insurance, real estate, rental and leasing and holding compani	$27,477,609	$27,477,609	$27,477,609
Owner occupied dwellings	$0	$0	$0
Professional, scientific and technical services	$359,337,101	$359,337,101	$359,337,101
Administrative and support, waste management and remediation servi	$6,680,250	$6,680,250	$6,680,250
Educational services	$0	$0	$0
Health care and social assistance	$0	$0	$0
Arts, entertainment and recreation	$111,135,571	$111,135,571	$111,135,571
Accommodation and food services	$0	$0	$0
Other services (except public administration)	$46,223,649	$46,223,649	$46,223,649
Non-profit institutions serving households	$66,861,815	$66,861,815	$66,861,815
Government education services	$177,709,134	$177,709,134	$177,709,134
Government health services	$0	$0	$0
Other federal government services	$82,969,801	$82,969,801	$82,969,801
Other provincial and territorial government services	$73,220,793	$73,220,793	$73,220,793
Other municipal government services	$184,253,048	$184,253,048	$184,253,048
Other aboriginal government services	$0	$0	$0
Total	$2,145,695,730	$2,145,695,730	$2,145,695,730

Table A3 shows the direct (front-line) and indirect (supply chain) effects on GDP associated with Calgary's creative sector.

Table A3

GDP Impacts (Direct and Indirect Impact Phase)

GDP (Direct & Indirect)	Calgary	Alberta	Canada
Crop and animal production	$65,549	$1,210,280	$1,725,437
Forestry and logging	$34,617	$1,129,699	$1,320,474
Fishing, hunting and trapping	$16,232	$82,674	$88,377
Support activities for agriculture and forestry	$59,541	$490,568	$560,540
Mining, quarrying, and oil and gas extraction	$7,118,591	$19,658,137	$21,280,359
Utilities	$6,248,911	$14,772,985	$15,723,437
Residential construction	$66	$136	$170
Non-residential building construction	$374,689	$925,045	$1,125,859
Repair construction	$3,403,845	$8,403,537	$10,340,462
Other activities of the construction industry	$751,416	$1,855,124	$2,003,448
Manufacturing	$68,459,571	$102,077,151	$126,268,167
Wholesale trade	$76,604,276	$93,384,356	$103,138,628
Retail trade	$81,316,229	$91,621,533	$100,240,429
Transportation and warehousing	$14,498,230	$33,477,443	$38,267,892
Information and cultural industries	$845,069,961	$861,230,211	$951,912,666
Finance, insurance, real estate, rental and leasing and holding compani	$73,270,743	$122,212,426	$133,739,114
Owner occupied dwellings	$0	$0	$0
Professional, scientific and technical services	$411,284,968	$433,170,396	$481,367,867
Administrative and support, waste management and remediation servi	$34,700,727	$61,268,253	$65,433,493
Educational services	$1,854,159	$4,358,429	$4,698,556
Health care and social assistance	$13,381,827	$31,089,577	$31,927,763
Arts, entertainment and recreation	$112,163,166	$113,045,631	$126,882,093
Accommodation and food services	$7,073,932	$15,667,676	$18,125,865
Other services (except public administration)	$51,226,505	$58,672,737	$65,817,547
Non-profit institutions serving households	$68,243,485	$69,958,062	$77,681,197
Government education services	$177,975,730	$178,470,836	$186,278,409
Government health services	$1,516,272	$4,332,205	$4,589,161
Other federal government services	$83,940,925	$87,459,202	$92,375,991
Other provincial and territorial government services	$73,704,980	$75,834,214	$84,424,939
Other municipal government services	$186,476,305	$190,540,925	$200,392,769
Other aboriginal government services	$0	$0	$0
Total	$2,400,835,447	$2,676,399,449	$2,947,731,109

Table A4 shows the combined, direct (front-line), indirect (supply chain), and induced (re-spending) effects on GDP associated with Calgary's creative sector.

Table A4

GDP Impacts (Direct, Indirect, and Induced Impact Phase)

GDP (Direct, Indirect & Induced)	Calgary	Alberta	Canada
Crop and animal production	$358,039	$7,420,846	$12,845,968
Forestry and logging	$49,833	$1,700,739	$2,189,702
Fishing, hunting and trapping	$77,515	$441,615	$588,059
Support activities for agriculture and forestry	$93,208	$809,556	$985,930
Mining, quarrying, and oil and gas extraction	$13,694,696	$40,542,196	$50,619,399
Utilities	$12,089,514	$30,651,849	$37,837,526
Residential construction	$2,932	$8,084	$13,108
Non-residential building construction	$524,819	$1,425,418	$1,918,934
Repair construction	$5,047,102	$13,880,397	$19,116,724
Other activities of the construction industry	$898,966	$2,346,896	$2,695,070
Manufacturing	$100,915,813	$194,366,670	$278,164,416
Wholesale trade	$87,531,276	$123,103,434	$145,625,647
Retail trade	$106,189,934	$162,689,261	$200,287,278
Transportation and warehousing	$23,025,109	$56,119,988	$71,147,190
Information and cultural industries	$851,442,954	$874,438,887	$973,200,801
Finance, insurance, real estate, rental and leasing and holding compani	$119,974,583	$233,324,098	$293,199,870
Owner occupied dwellings	$83,262,403	$83,262,403	$109,902,516
Professional, scientific and technical services	$421,320,108	$452,425,317	$508,492,986
Administrative and support, waste management and remediation servi	$40,111,309	$75,498,073	$85,358,569
Educational services	$2,451,554	$6,254,164	$7,359,968
Health care and social assistance	$18,982,441	$48,655,412	$56,237,596
Arts, entertainment and recreation	$117,161,528	$125,588,203	$145,646,137
Accommodation and food services	$18,165,221	$48,831,110	$69,666,042
Other services (except public administration)	$56,864,234	$77,611,758	$92,206,009
Non-profit institutions serving households	$70,551,332	$76,939,935	$87,663,583
Government education services	$179,638,163	$188,789,864	$200,179,460
Government health services	$2,158,438	$8,318,250	$10,038,257
Other federal government services	$84,204,838	$88,862,251	$94,310,167
Other provincial and territorial government services	$73,935,512	$77,265,170	$86,506,499
Other municipal government services	$188,724,480	$197,853,032	$210,420,560
Other aboriginal government services	$1,371	$94,119	$135,432
Total	$2,679,449,224	$3,299,518,995	$3,854,559,406

Table A5 shows the direct (front-line) effect on labour income associated with Calgary's creative sector.

Table A5

Labour Income Impacts (Direct Impact Phase)

Labour Income (Direct)	Calgary	Alberta	Canada
Crop and animal production	$0	$0	$0
Forestry and logging	$0	$0	$0
Fishing, hunting and trapping	$0	$0	$0
Support activities for agriculture and forestry	$0	$0	$0
Mining, quarrying, and oil and gas extraction	$0	$0	$0
Utilities	$0	$0	$0
Residential construction	$0	$0	$0
Non-residential building construction	$0	$0	$0
Repair construction	$0	$0	$0
Other activities of the construction industry	$0	$0	$0
Manufacturing	$30,244,528	$30,244,528	$30,244,528
Wholesale trade	$49,692,834	$49,692,834	$49,692,834
Retail trade	$56,696,095	$56,696,095	$56,696,095
Transportation and warehousing	$0	$0	$0
Information and cultural industries	$524,529,426	$524,529,426	$524,529,426
Finance, insurance, real estate, rental and leasing and holding compani	$16,560,482	$16,560,482	$16,560,482
Owner occupied dwellings	$0	$0	$0
Professional, scientific and technical services	$280,612,537	$280,612,537	$280,612,537
Administrative and support, waste management and remediation servi	$2,371,591	$2,371,591	$2,371,591
Educational services	$0	$0	$0
Health care and social assistance	$0	$0	$0
Arts, entertainment and recreation	$100,537,648	$100,537,648	$100,537,648
Accommodation and food services	$0	$0	$0
Other services (except public administration)	$57,471,188	$57,471,188	$57,471,188
Non-profit institutions serving households	$56,852,483	$56,852,483	$56,852,483
Government education services	$150,878,380	$150,878,380	$150,878,380
Government health services	$0	$0	$0
Other federal government services	$72,170,011	$72,170,011	$72,170,011
Other provincial and territorial government services	$48,455,576	$48,455,576	$48,455,576
Other municipal government services	$104,547,844	$104,547,844	$104,547,844
Other aboriginal government services	$0	$0	$0
Total	$1,551,620,622	$1,551,620,622	$1,551,620,622

Table A6 shows the direct (front-line) and indirect (supply chain) effect on labour income associated with Calgary's creative sector.

Table A6

Labour Income Impacts (Direct and Indirect Impact Phase)

Labour Income (Direct & Indirect)	Calgary	Alberta	Canada
Crop and animal production	$27,323	$504,489	$767,509
Forestry and logging	$25,366	$827,794	$948,477
Fishing, hunting and trapping	$6,554	$33,381	$36,932
Support activities for agriculture and forestry	$37,233	$306,768	$349,525
Mining, quarrying, and oil and gas extraction	$1,723,560	$4,759,646	$5,748,285
Utilities	$3,121,037	$7,378,410	$7,809,319
Residential construction	$43	$89	$112
Non-residential building construction	$253,739	$626,439	$759,468
Repair construction	$2,553,514	$6,304,209	$7,566,833
Other activities of the construction industry	$234,970	$580,102	$652,845
Manufacturing	$44,462,905	$65,401,085	$80,158,407
Wholesale trade	$57,549,311	$68,273,633	$74,415,281
Retail trade	$61,492,941	$69,267,396	$74,857,976
Transportation and warehousing	$10,759,603	$24,844,688	$27,824,199
Information and cultural industries	$537,719,527	$548,301,447	$613,033,766
Finance, insurance, real estate, rental and leasing and holding compani	$51,537,225	$88,918,826	$96,443,414
Owner occupied dwellings	$0	$0	$0
Professional, scientific and technical services	$308,601,615	$338,515,108	$370,843,366
Administrative and support, waste management and remediation servi	$22,095,716	$40,797,081	$43,476,098
Educational services	$1,515,072	$3,561,362	$3,774,564
Health care and social assistance	$7,905,292	$18,366,116	$18,890,804
Arts, entertainment and recreation	$101,329,194	$102,008,949	$111,245,475
Accommodation and food services	$4,870,607	$10,787,650	$12,241,605
Other services (except public administration)	$61,769,701	$68,167,593	$72,948,860
Non-profit institutions serving households	$58,276,587	$60,043,822	$64,673,481
Government education services	$151,544,180	$152,780,667	$157,860,412
Government health services	$1,392,646	$3,978,988	$4,136,835
Other federal government services	$73,071,314	$76,336,638	$79,581,217
Other provincial and territorial government services	$48,815,364	$50,397,550	$56,198,908
Other municipal government services	$106,148,639	$109,075,257	$115,250,251
Other aboriginal government services	$0	$0	$0
Total	$1,718,840,778	$1,921,145,183	$2,102,494,224

Table A7 shows the combined, direct (front-line), indirect (supply chain), and induced (re-spending) effects on labour income associated with Calgary's creative sector.

Table A7

Labour Income Impacts (Direct, Indirect, and Induced Impact Phase)

Labour Income (Direct, Indirect & Induced)	Calgary	Alberta	Canada
Crop and animal production	$109,045	$2,239,720	$4,339,745
Forestry and logging	$32,523	$1,096,416	$1,387,558
Fishing, hunting and trapping	$22,439	$126,419	$183,781
Support activities for agriculture and forestry	$50,429	$431,802	$541,324
Mining, quarrying, and oil and gas extraction	$2,712,322	$7,899,708	$11,152,779
Utilities	$5,027,774	$12,562,262	$15,658,777
Residential construction	$1,247	$3,426	$6,104
Non-residential building construction	$319,006	$843,972	$1,135,698
Repair construction	$3,344,899	$8,941,842	$12,083,284
Other activities of the construction industry	$264,590	$678,823	$811,340
Manufacturing	$57,476,821	$102,406,233	$145,771,264
Wholesale trade	$61,794,031	$79,818,353	$92,546,366
Retail trade	$72,703,004	$101,296,147	$123,808,968
Transportation and warehousing	$14,826,731	$35,644,670	$44,726,205
Information and cultural industries	$540,390,141	$553,836,564	$622,689,379
Finance, insurance, real estate, rental and leasing and holding compani	$74,738,660	$144,116,649	$181,991,848
Owner occupied dwellings	$28,079,652	$28,079,652	$40,608,702
Professional, scientific and technical services	$313,430,096	$347,779,753	$384,993,025
Administrative and support, waste management and remediation servi	$24,588,990	$47,354,389	$53,456,730
Educational services	$1,828,445	$4,555,800	$5,278,149
Health care and social assistance	$10,490,751	$26,475,183	$31,094,831
Arts, entertainment and recreation	$103,771,592	$108,137,744	$121,092,444
Accommodation and food services	$10,269,529	$26,930,658	$38,734,029
Other services (except public administration)	$64,446,611	$77,160,231	$86,535,319
Non-profit institutions serving households	$59,600,380	$64,048,661	$70,755,993
Government education services	$152,257,428	$157,207,931	$164,376,524
Government health services	$1,773,549	$6,343,326	$7,621,643
Other federal government services	$73,217,543	$77,114,040	$80,739,275
Other provincial and territorial government services	$48,913,302	$51,005,475	$57,168,892
Other municipal government services	$106,967,565	$111,738,785	$119,268,738
Other aboriginal government services	$744	$51,095	$78,885
Total	$1,833,449,841	$2,185,925,727	$2,520,637,600

Table A8 shows the direct (front-line) effect on employment associated with Calgary's creative sector. Employment is measured in full-year jobs.

Table A8

Employment Impacts by Industry (Direct Impact Phase)

Employment (Direct)	Calgary	Alberta	Canada
Crop and animal production	-	-	-
Forestry and logging	-	-	-
Fishing, hunting and trapping	-	-	-
Support activities for agriculture and forestry	-	-	-
Mining, quarrying, and oil and gas extraction	-	-	-
Utilities	-	-	-
Residential construction	-	-	-
Non-residential building construction	-	-	-
Repair construction	-	-	-
Other activities of the construction industry	-	-	-
Manufacturing	401.5	401.5	401.5
Wholesale trade	613.8	613.8	613.8
Retail trade	1,688.2	1,688.2	1,688.2
Transportation and warehousing	-	-	-
Information and cultural industries	6,909.6	6,909.6	6,909.6
Finance, insurance, real estate, rental and leasing and holding compani	191.7	191.7	191.7
Owner occupied dwellings	-	-	-
Professional, scientific and technical services	4,654.4	4,654.4	4,654.4
Administrative and support, waste management and remediation servi	41.2	41.2	41.2
Educational services	-	-	-
Health care and social assistance	-	-	-
Arts, entertainment and recreation	2,599.2	2,599.2	2,599.2
Accommodation and food services	-	-	-
Other services (except public administration)	1,014.7	1,014.7	1,014.7
Non-profit institutions serving households	1,608.7	1,608.7	1,608.7
Government education services	1,713.7	1,713.7	1,713.7
Government health services	-	-	-
Other federal government services	644.6	644.6	644.6
Other provincial and territorial government services	491.5	491.5	491.5
Other municipal government services	1,138.2	1,138.2	1,138.2
Other aboriginal government services	-	-	-
Total	23,711.0	23,711.0	23,711.0

Table A9 shows the direct (front-line) and indirect (supply chain) effects on employment associated with Calgary's creative sector. Employment is measured in full-year jobs.

Table A9

Employment Impacts by Industry (Direct and Indirect Impact Phase)

Employment (Direct & Indirect)	Calgary	Alberta	Canada
Crop and animal production	0.9	17.5	27.8
Forestry and logging	0.2	7.2	12.6
Fishing, hunting and trapping	0.1	0.5	0.9
Support activities for agriculture and forestry	0.5	4.1	7.2
Mining, quarrying, and oil and gas extraction	9.8	29.2	43.7
Utilities	20.2	51.3	76.8
Residential construction	0.0	0.0	0.0
Non-residential building construction	2.3	6.0	11.1
Repair construction	30.5	81.0	140.1
Other activities of the construction industry	2.8	7.3	12.0
Manufacturing	561.5	827.3	1,106.0
Wholesale trade	703.3	841.6	951.6
Retail trade	1,795.8	1,991.9	2,148.9
Transportation and warehousing	166.6	414.1	617.3
Information and cultural industries	7,161.6	7,398.4	7,769.7
Finance, insurance, real estate, rental and leasing and holding compani	572.4	1,039.6	1,468.1
Owner occupied dwellings	-	-	-
Professional, scientific and technical services	5,115.9	5,360.5	5,766.7
Administrative and support, waste management and remediation servi	377.7	746.7	1,153.6
Educational services	58.0	146.7	207.1
Health care and social assistance	113.9	284.7	372.0
Arts, entertainment and recreation	2,623.5	2,647.8	2,793.9
Accommodation and food services	139.1	331.7	492.7
Other services (except public administration)	1,085.6	1,204.7	1,304.1
Non-profit institutions serving households	1,641.5	1,687.8	1,720.3
Government education services	1,725.3	1,749.4	1,767.1
Government health services	13.2	40.5	55.1
Other federal government services	652.6	684.3	701.7
Other provincial and territorial government services	495.2	512.9	523.8
Other municipal government services	1,156.3	1,193.5	1,225.9
Other aboriginal government services	-	-	-
Total	26,226.0	29,308.3	32,477.8

Table A10 shows the combined, direct (front-line), indirect (supply chain), and induced (re-spending) effects on employment associated with Calgary's creative sector. Employment is measured in full-year jobs.

Table A10

Employment Impacts by Industry (Direct, Indirect, and Induced Impact Phase)

Employment (Direct, Indirect & Induced)	Calgary	Alberta	Canada
Crop and animal production	3.6	78.8	237.0
Forestry and logging	0.3	9.5	16.7
Fishing, hunting and trapping	0.3	2.0	7.2
Support activities for agriculture and forestry	0.7	6.3	16.1
Mining, quarrying, and oil and gas extraction	15.0	46.7	86.3
Utilities	31.8	85.4	160.0
Residential construction	0.0	0.0	0.1
Non-residential building construction	2.8	8.1	18.6
Repair construction	39.9	114.9	253.9
Other activities of the construction industry	3.1	8.6	12.7
Manufacturing	762.9	1,443.9	2,631.7
Wholesale trade	751.7	983.4	1,269.0
Retail trade	2,050.5	2,775.1	4,380.9
Transportation and warehousing	220.4	568.0	907.9
Information and cultural industries	7,273.9	7,649.2	8,083.1
Finance, insurance, real estate, rental and leasing and holding compani	825.9	1,688.8	3,068.3
Owner occupied dwellings	433.2	466.3	1,215.0
Professional, scientific and technical services	5,171.0	5,474.2	5,803.0
Administrative and support, waste management and remediation servi	425.8	883.0	1,273.9
Educational services	70.0	187.6	262.8
Health care and social assistance	160.1	440.7	810.9
Arts, entertainment and recreation	2,692.2	2,833.3	3,089.7
Accommodation and food services	307.3	873.1	1,839.5
Other services (except public administration)	1,152.0	1,444.7	1,918.0
Non-profit institutions serving households	1,671.0	1,783.9	1,949.8
Government education services	1,734.5	1,810.7	1,939.9
Government health services	16.9	65.5	117.4
Other federal government services	653.9	691.8	707.7
Other provincial and territorial government services	496.1	519.3	536.2
Other municipal government services	1,165.0	1,223.7	1,300.1
Other aboriginal government services	0.0	1.0	3.3
Total	28,131.7	34,167.7	43,916.6

Table A11 shows the direct (front-line) impact on government revenues associated with Calgary's creative sector. The column headings relate to the level of economic activity that occur within the various geographic boundaries (at each of the impact phases) and not the level of government that receives the tax contribution. The tax contributions to each level of government, along with a total, are shown in the bottom three rows of tables A11, A12, and A13.

Table A11 shows that front-line creative businesses (direct impact phase) in Calgary contribute over $513 million to various levels of government. This includes $338 million to the federal government, $142 million to the provincial government (in this case, Alberta), and $33.1 million to the municipal government (in this case, municipal governments within the Calgary CMA).

Table A11

Tax Contributions (Direct Impact Phase)

Taxes - Direct	Calgary	Alberta	Canada
Income Tax	$183,157,033	$183,157,033	$183,157,033
Corporate Tax	$47,905,624	$47,905,624	$47,905,624
Social Security Contributions	$97,441,588	$97,441,588	$97,441,588
Federal & Provincial Sales, Gasoline, Excise Tax & Import Duties	$152,097,325	$152,097,325	$152,097,325
Municipal Tax	$33,088,426	$33,088,426	$33,088,426
Total	$513,689,996	$513,689,996	$513,689,996
Federal	$338,081,458	$338,081,458	$338,081,458
Provincial	$142,520,112	$142,520,112	$142,520,112
Municipal	$33,088,426	$33,088,426	$33,088,426
Total	$513,689,996	$513,689,996	$513,689,996

Table A12 shows the direct (front-line) and indirect (supply-chain) effect on government revenues associated with Calgary's creative sector. Table A12 shows that front-line creative businesses (direct impact phase) in Calgary together with businesses in the supply-chain through Canada contribute over $724 million to various levels of government. This includes $453 million to the federal government, nearly $217 million to provincial governments (of that $193 million goes to the Alberta provincial government), and $54.3 million to municipal governments across Canada (with $40.6 million to municipal governments within the Calgary CMA).

Table A12

Tax Contributions (Direct & Indirect Impact Phase)

Taxes - Direct & Indirect	Calgary	Alberta	Canada
Income Tax	$209,483,212	$241,332,853	$265,347,298
Corporate Tax	$56,379,979	$65,532,719	$78,338,910
Social Security Contributions	$112,373,739	$130,438,786	$145,596,643
Federal & Provincial Sales, Gasoline, Excise Tax & Import Duties	$161,361,633	$172,569,672	$180,751,912
Municipal Tax	$40,611,244	$48,736,273	$54,304,337
Total	$580,209,807	$658,610,304	$724,339,101
Federal	$364,866,281	$416,409,346	$453,167,721
Provincial	$174,732,282	$193,464,684	$216,867,043
Municipal	$40,611,244	$48,736,273	$54,304,337
Total	$580,209,807	$658,610,304	$724,339,101

Table A13 shows the direct (front-line), indirect (supply-chain), and induced (re-spending) effects on government revenues associated with Calgary's creative sector. Table A13 shows that the combined impact of front-line creative businesses (direct impact phase) along with businesses in the supply-chain throughout Canada (indirect effect) and businesses that benefit from the re-spending of labour income earned directly or indirectly contribute nearly $931 million to various levels of government. This includes $566 million to the federal government, $283 million to provincial governments (of that, $238 million to Alberta) and $81.1 million to municipal governments (specifically, $48.8 million to municipal governments within the Calgary CMA).

Table A13

Tax Contributions (Direct, Indirect & Induced Impact Phase)

Taxes - Direct, Indirect & Induced	Calgary	Alberta	Canada
Income Tax	$223,387,357	$273,455,506	$316,344,913
Corporate Tax	$62,570,570	$79,377,970	$100,048,450
Social Security Contributions	$125,644,642	$161,098,463	$190,745,895
Federal & Provincial Sales, Gasoline, Excise Tax & Import Duties	$183,886,076	$223,697,155	$242,562,484
Municipal Tax	$48,803,207	$67,057,594	$81,074,494
Total	$644,291,851	$804,686,688	$930,776,236
Federal	$393,379,361	$499,525,612	$566,365,709
Provincial	$202,109,284	$238,103,481	$283,336,032
Municipal	$48,803,207	$67,057,594	$81,074,494
Total	$644,291,851	$804,686,688	$930,776,236

Appendix B: Economic Impact Methodology

To produce economic impact results that are as robust and reliable as possible, we used economic impact models at the national, provincial, and metropolitan levels that make use of the most current and most detailed input-output tables and multipliers available from Statistics Canada. The economic impact models also leverage the credibility and robustness of sector-specific tax data available from Statistics Canada.

Broadly speaking, input-output economic models are used to identify and quantify the extent of linkages that exist between different segments (households, businesses, and government) and sectors of the economy. At their core, input-output models rely on input-output tables that illustrate not only how goods and services are produced in an economy but also who consumes the goods and services. In this respect, an input-output analysis reveals how the output of one industry serves as an input to another industry, thereby linking industries as both producers and consumers of goods and services. Input-output models use various forms of "impact" matrices to perform scenario analysis pertaining to the effects of changes on industry, consumers, government, and even foreign suppliers.

Taxes and employment are two key impact measures that require data sources beyond those available in the input-output model.

Taxes

Even though many of the sales tax ratios are available from tables produced by Statistics Canada showing the supply of products and taxes on them, additional work was required to adjust these rates based on how tax rates had changed between 2010 (the year of the input-output tables) and 2016 (the base-year of the analysis). Additional work was also required to extend the analysis to include taxes on incomes (i.e., on employment earnings, corporate profits, net income of unincorporated business and government business enterprises) and contributions to social insurance plans (i.e., premiums for Canada Pension Plan, Employment Insurance, and workers' compensation).

The source used to assemble specific income tax rates, by income range, was the Canadian Tax Foundation's most current *Finances of the Nation* report. This report provides insights on taxes on incomes (i.e., on employment earnings, corporate profits, net income of unincorporated business and government business enterprises) and contributions to social insurance plans (i.e., premiums for Canada/Quebec Pension Plan, Employment Insurance, and workers compensation).

Employment

Employment is a measure that is available, in aggregate form, from the multiplier tables produced by Statistics Canada. However, the employment multipliers relate to the year of the tables (2010) and not the year of the analysis (2016). To adjust for this, average wage growth was incorporated to reflect the seven-year gap.

Construction of the Metropolitan Economic Contribution Model

Unfortunately, Statistics Canada does not produce input-output tables or multipliers at a sub-provincial basis. However, the Conference Board has been developing sub-provincial and metropolitan-based regional models for over 20 years. The methodology we use to produce local area impacts leverages existing input-output models and accounting frameworks that are based on provincial economic impact models.

The general method used to develop metropolitan-based regional models involves simulating intraprovincial commodity flows. By simulating intraprovincial commodity flows, it is possible to estimate the degree to which provincial requirements for goods and services can be met by production activity that occurs in a specific region (or metropolitan area) of the province. Capturing intraprovincial linkages permits the assessment of the local economic contribution associated with the project or sector under analysis.

The principle used to simulate sub-provincial commodity flows to develop the municipal economic impact models involves the use of a modified "gravity model." Basically, the gravity model states that the required commodity (and service) inputs from within a province will be recruited in a manner that takes into consideration economies of scale (i.e., production costs), transportation costs, and the availability of specific industries. Economies of scale (i.e., lower production costs) are positively correlated with input demand, while greater transportation costs are negatively correlated with input demand. Fulfilling that demand from specific sub-provincial regions of a province is also contingent on the fact that the specific industry does exist in that region. An advantage of using the gravity model to simulate intraprovincial commodity flows is that as the industrial composition of the labour force changes, or as new industries appear for the first time in specific regions, the share of production between the various sub-provincial regions of a province can also change.

One variation on the gravity model principle involves estimating relative trade distances by incorporating different weights for different modes of transport. Once these coefficients are generated for all regions and over all industries, a measure of sensitivity (mostly relative to price, but in the case of services industries also to a local preference criteria) is then applied to all commodities.

Another variation we employed, relative to the strict gravity model approach discussed in regional economic principles, is that the measure of sensitivity was adjusted by varying the distance exponent. In the basic gravity model, this is assumed to be 2. In our application, the exponent varied depending on the specific commodity or service required. The variation in distance exponent revolved principally around two research hypotheses: (1) the greater the proportion of total shipments from the largest producer (or shipper), the lower the exponent, and (2) the greater the proportion of total flow which is local (intraregional), the higher the exponent.

Ultimately, the simulation of intraprovincial commodity flows was used to determine the degree to which provincial production requirements can be met at the metropolitan level. As is the case with modelling economic impacts at the national and provincial level, additional efforts were required to report on taxes and employment at the metropolitan (or sub-provincial) level.

Specifically, the economic contribution model developed at the metropolitan level further refined the tax rates used in the corresponding province based on any differences that may exist within the local area. For instance, many local jurisdictions have specific room-taxes that are not implemented across all jurisdictions of the province.

Similarly, employment estimates were also adjusted to account for the fact that average wages in most metropolitan areas tend to exceed those for the province as a whole. As a result, employment estimates produced at a local level would be lower, if everything else was held constant.

Appendix C: Value of Volunteering Methodology

Estimating the value of volunteer hours in Calgary and in Alberta

As non-monetary transactions are not recorded in Statistics Canada's system of national accounts, the contribution of volunteer time is not captured in estimates of economic activity such as GDP. Because volunteering provides tangible benefits and services to many Canadians, it is appropriate to estimate the value of these services. We can estimate this value by multiplying the total number of volunteer hours in any given year by the value of work, which is typically measured as the average hourly wage.

Statistics Canada conducts the General Social Survey—Giving, Volunteering and Participating on an occasional basis. The latest survey provides data for 2013 on the number of volunteers by age and gender, the volunteer participation rate, and the total number of volunteer hours. The survey also contains data on the province of residence, the number of organizations or groups that individuals volunteer with, and the primary area of activity of these organizations or groups (classified according to the United Nations' International Classification of Non-Profit Organizations).

To estimate the dollar value of volunteer hours in arts and culture, we used the average hourly wage in the core non-profit sector of Alberta, which we believe gives a reasonable estimate of the value of services provided in that sector. (The core non-profit sector, also defined as the non-profit sector serving households, excludes health and education sectors and other non-profits receiving any substantial amounts of government funding.) Some estimates rely on the provincial average or median wage, which tends to be more elevated than the average wage in the core non-profit sector—as a result, our estimates are conservative in comparison but, we feel, better reflect the market value of the services provided. Average hourly wages in the core non-profit sector were obtained from Statistics Canada's Labour Productivity and Related Measures table (36-10-0480-01). We used the same hourly wage for Alberta and Calgary.

The value of volunteer hours for 2013 is the product of the total number of hours volunteered in arts and culture and the average hourly wage in the core non-profit sector. The total number of hours volunteered in arts and culture in Calgary was estimated by assuming that the propensity to volunteer (as measured by the average hours volunteered) by age cohort in Alberta applies to Calgary. The number of volunteers in Calgary was estimated by applying Calgary's share of the provincial population by age cohort to the number of volunteers in Alberta by age cohort.

We extended the analysis to produce estimates of the value of volunteer hours for 2017. In this case, we needed to extend the estimate of volunteer numbers and hours in arts and culture from 2013 to 2017.

The number of volunteer hours was extended based on the assumption that the average volunteer rate and average number of hours volunteered in arts and culture by age cohort (for six cohorts) remained flat at their 2013 values. These rates were then applied to the demographic composition in 2017 (Statistics Canada's Estimates of Population, by Age Group and Sex for July 1, table 17-10-0005-01). We know volunteer rates in Canada by age cohort have been declining over the last number of surveys, but there is no solid evidence that this continued between 2013 and 2017. The average number of volunteer hours by age cohort in Canada also declined from 2004 to 2010 but remained more stable between 2010 and 2013. Moreover, it is important to note that Statistics Canada has changed the methodology in the survey and advises against strict comparison between the 2013 survey and earlier surveys.

The value of volunteer hours for 2017 is the product of our estimates of the total number of hours and the average hourly wage in the core non-profit sector.

Estimating employment equivalency of volunteer hours

We relied on Statistics Canada’s Labour Force Survey estimates of average hours worked in Alberta (table 14-10-0043-01). These data are available annually through to 2017. Full-time Albertan workers averaged 38.9 hours per week in 2013 and 38 hours per week in 2017.

Appendix D: Glossary of Terms Used

Creative sector revenues: This figure corresponds with the estimated level of revenues that are required to satisfy the employment of industries within the sector. In the output tables, this figure is shown at a local, provincial and national geographical level. The figure reported for all three geographic areas are the same because we are focusing on Calgary's creative sector.

Direct impact: Relates only to the impact on "front-line" businesses. These are creative businesses that initially produce or sell creative products. From a business revenue perspective, this impact is limited only to this group of businesses involved.

Indirect impact: Refers to the impact of all intermediate rounds of production in the supply of goods and services to industry sectors identified in the direct impact phase.

Induced impact: These impacts are generated as a result of spending by employees (in the form of consumer spending) that benefited either directly or indirectly from the initial expenditures under analysis. An example of induced consumer spending would be the impacts generated by creative workers on typical consumer items such as groceries, shoes, cameras, etc.

Gross domestic product (GDP): This figure represents the total value of production of goods and services in the economy resulting from the initial expenditure under analysis (valued at market prices).

Labour income: This represents the level of wages and salaries supported by the initial expenditure. This information is broken down into the direct, indirect, and induced impacts.

Employment: These figures represent the employment generated by the initial expenditure. The figures distinguish between the direct, indirect, and induced impact. "Equivalent full-year jobs" include both part-time and full-time work in consistent ratios within specific industries.

Taxes: These figures represent the taxes contributed to municipal, provincial, and federal governments associated with the project under analysis. This information is broken down into the direct and total (direct, indirect, and induced) impact phase. The categories of tax include personal income taxes, corporate income taxes, social security contributions (which include Canada Pension Plan, Workers' Compensation, and Employment Insurance), federal and provincial sales taxes, and municipal property taxes (paid by businesses). Another category included comprises other federal and provincial taxes, which include gasoline taxes, excise taxes, and import duties.

Appendix E: Defining Calgary's Creative Sector

Prior to identifying and quantifying the specific industries and activities associated with Calgary's creative sector, it is important to consider how the determination of the creative sector for this project was derived. The extensive work undertaken by Statistics Canada to define and measure Canada's cultural sector suggests that specific terminology needs to be incorporated to distinguish between "core" activities and "related" activities. In the case of the cultural sector, the "core" activities are associated with the production of goods and services that stem from creative artistic activity and whose main purpose is the transmission of an intellectual or cultural concept.

Table A14

Defining the Creative Sector—Core Industry Domains and Subdomains

Core creative sector domains	Subdomains
Heritage and libraries	Archives
	Libraries
	Cultural heritage
	Natural heritage
Live Performance	Performing arts
	Festivals and celebrations
Visual and applied arts	Original visual art
	Art reproductions
	Photography
	Crafts
	Advertising
	Architecture
	Design
Written and published works	Books
	Periodicals
	Newspapers
	Other published works
	Collected information
	Multi-subdomain
Audio-visual and interactive media	Film and video
	Broadcasting
	Interactive media
Sound recording	Sound recording
	Music publishing

Sources: The Conference Board of Canada; Statistics Canada's Culture Satellite Account.

Aside from classifying "core" industries (or domains) that make up the cultural sector, Statistics Canada also introduced the terminology of "transversal" domains to identify industry activities that support or enable the "core" cultural industries to function. Within the context of the cultural sector, the industries, products, and occupations that exist in the transversal domains are not fundamentally cultural but exist because of the cultural sector. In this report, the terminology of creative industries and the creative sector is used interchangeably to reflect both cultural industries and the cultural sector—all creative industries combine to form the creative sector.

Table A14 identifies the various domains and their corresponding subdomains that make up the "core" creative sector. Table A15 identifies the various domains in the "transversal" creative sector. The category called "multidomain" includes culture industries that affect more than one culture domain and cannot easily be allocated to a single domain, such as the culture portion of convention and trade show organizers and of internet publishing and broadcasting and web search portal industries.

Table A15

Defining the Creative Sector—Transversal Industry Domains

Transversal cultural sector domains
Education and training
Governance, funding, and professional support
Multidomain

Sources: The Conference Board of Canada; Statistics Canada's Culture Satellite Account.

For more information regarding the specific industry (NAICS) composition of each "core" and "transversal" industry domain, please refer to Statistics Canada's Culture Satellite Account.

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