



Exploring Calgary's Creative Economy

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Discussion Paper

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THE GOAL

Even prior to the current pandemic, Calgary was facing serious economic and social headwinds.¹ Fundamental structural changes in the oil and gas sector contributed to Calgary having the highest unemployment rate of Canada's six largest cities over the past half decade.² Moreover, the City forecasts³ this unemployment to continue well into the 2020s, and Calgary Economic Development forecasts that half of the jobs performed by Calgarians today could be at risk of automation over the next 20 years.⁴

Further, there are early warning signs suggesting that the socio-economic disruption facing our city is negatively impacting the retention of young talent. For example, over the past decade, when the regional population grew by 250,000, those aged 20-24 declined by 5.5 per cent.⁵ Similarly, Calgary has a disproportionate share of migration of people aged 20-40 compared to other cities in Canada.⁶

The structural disruptions facing our economy, combined with COVID-19, are causing community leaders to think differently about the future of our city. In this discussion paper, we explore Calgary's creative economy and the opportunity and need to define a shared vision to maximize its impact on Calgary's future prosperity.

DEFINING THE CREATIVE ECONOMY

For decades, researchers explored the impact of knowledge, creativity and innovation as drivers of an enterprise's competitive advantage and growth.⁷ In the last twenty years researchers and policymakers identified that creativity should also be considered at a community-level.⁸ Creativity is the output of intentional, sustained, collaborative and social processes with it beginning in childhood and reinforced through social and cultural norms. The result is that people who are divergent and creative thinkers seek to collaborate with others who share this mindset. This contributed to reframing from a traditional industry sector lens (e.g. arts), to developing a mindset lens. As a result, a concept called *the creative economy* was coined,

incorporating diverse fields including science and engineering, architecture, design, education, arts, music and entertainment.

The creative economy lens has been influential as it does not view fields such as education, arts, culture and innovation as isolated. Rather, by adopting an ecosystem view, the creative economy can be used to map the interdependence of these fields as unique drivers of direct and indirect economic outputs. Adopting this lens leads to a fundamental reassessment of the role creativity plays in fields ranging from education to organizational theory⁹. One example of where this is operationalized is in the United Kingdom's (UK) *Department of Culture, Media and Sport* (DCMS) which defines the creative economy as "those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property".¹⁰

As one can well imagine, defining the exact parameters of each field within the sector can be challenging, and the boundaries of the creative economy have been highly debated.

"Creativity is the output of intentional, sustained, collaborative and social processes with it beginning in childhood and reinforced through social and cultural norms."

Cultural Satellite Account View

In the Canadian context, Statistics Canada established the cultural satellite account (CSA). The CSA defines *culture as a creative artistic activity and the goods and services produced by this creative activity and the preservation of heritage.*¹¹ (See Table-1)

The CSA incorporates six core domains and 27 sub-domains.¹² The CSA framework was adopted by the Conference Board of Canada to define the creative industries. Their analysis identified that the creative industries included in the CSA employ 24,000 people, accounting for over \$1.55 billion in household income for Calgarians.¹³

Table-1. Creative industries (Conference Board of Canada)¹⁴

Core domains	Sub-domains
Heritage and libraries	Archives Libraries Cultural heritage Natural heritage Libraries Cultural 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

The Conference Board concluded that creative industries directly contributed \$2.1 billion to Calgary’s GDP in 2016. Also considering creative industries’ supply chain impact and wages that are reinvested into the economy, its total economic footprint reached \$3.85 billion in Calgary.¹⁵ This impact also resulted in \$48.8 million in municipal tax contributions and \$238.1 million in provincial tax contributions in 2016.

This economic impact is reflected in Calgarians’ participation in the arts. In a 2019 survey, 41 per cent of Calgarians reported regularly attending live music performances, and 51 per cent regularly attended community festivals.¹⁶ Despite Calgarians’ commitment to the arts, artists face significant challenges. They typically see low wages for their work: the average annual salary for musicians, for example, is just \$23,000.¹⁷ They also lack the government resources and professional development services to support their success in the industry, all of which has been made worse in the current crisis.

Nesta View

Others, such as the DCMS, the UK’s National Endowment for Science, Technology and the Arts (Nesta), and the European Union adopted variations on this sectoral approach, while also capturing sectors that are impacted by creative occupations.¹⁸ See Figure-1 for a four cluster creative economy model.

Nesta further refined the sectoral model by evaluating the creative intensities within the creative sub-sectors. In their research the occupation intensity ranges from 90 per cent in artistic creation to 11 per cent in computer programming. Overall, Nesta identifies that the creative industries employ 25 times more creative occupations than non-creative industries.¹⁹

To provide a sense of the scope of the creative economy, we adopted the UK’s DCMS model and mapped it to the North American Industry Classification system (NAICs). This mapping identified a total of 1280 sector categories, clustered under 59 level-5 NAIC classes. Table-2 provides a sample of mapping Nesta to NAICs. Refer to Appendix-1 for the full list.

Table-2-Mapping DCMS to NAICs

Nesta Class	Creative Intensity	NAIC Class
Artistic creation	90%	Independent visual artists and artisans
Performing Arts	80%	Dance companies
Radio broadcasting	79%	Radio broadcasting
Manufacture imitation jewelry and related articles	79%	Jewelry and silverware manufacturing
Photographic activities	73%	Photographic services
Specialized design	65%	Industrial design services
TV programming & broadcast activities	55%	Television broadcasting
Publishing of journals and periodicals	50%	Periodical publishers
Sound recording and music publishing activities	40%	Music publishers
Publishing of computer games	38%	Video game publishers
Museum activities	21%	Historic and heritage sites
Cultural education	20%	Fine arts schools
Computer programming activities	11%	Computer systems design and related services

Leveraging the Nesta creative economy model is important to identifying both the current

state of Calgary’s creative economy and emerging opportunities.

THE SCOPE OF CALGARY’S CREATIVE ECONOMY

Like many jurisdictions, Calgary has never fully adopted a holistic creative economy view. Rather, the creative economy remains highly fragmented. This fragmentation includes multiple levels of governments, civic bodies, political jurisdictions, and competing sectors.

By utilizing the Nesta four-cluster model and associated intensity methodology, we evaluated the current scope of Calgary’s creative economy. This analysis identifies a total of almost 12,000 creative economy enterprises. As per Figure-2, 67 per cent of these enterprises do not have employees. As per Figure-3, though these enterprises employ over 32,000 people, this is reduced to 12,000 once the creative intensity is overlaid into the

model. The outlier in this current model is the transversal industries, the? category of computer systems design and related services. This single category accounts for 6000 enterprises. Prior to the intensity allocation, it represents 52 per cent of the 32,000 people in the creative economy. Following the intensity allocation of 11 per cent, this reduces to 19 per cent.²⁰

Today, competition for scarce private and public investments occurs between enterprises across the ecosystem. In this sense, individual creative economy enterprises are competing with each other, often in a zero-sum investment model, regardless of what would provide maximum systematic value to the community.

Moreover, the lack of a shared civic vision constrains the capacity building of the sector. Research identifies that the clustering of individuals and enterprises facilitate capacity

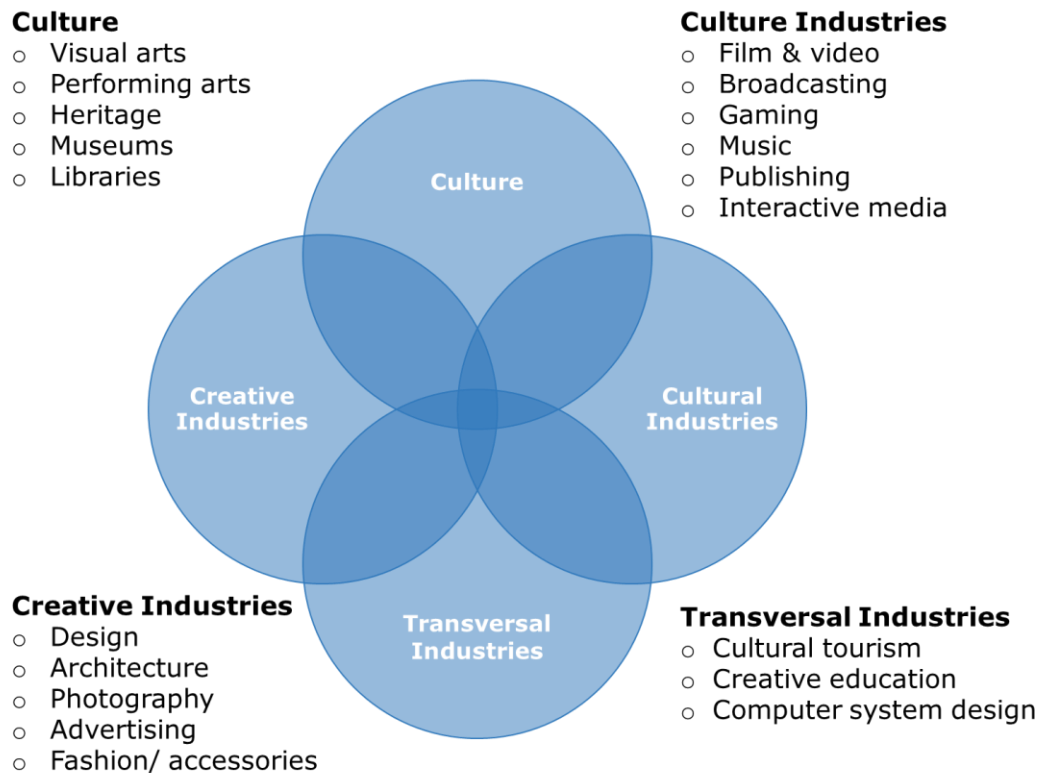


Figure-1. The Four-Cluster Nesta Model

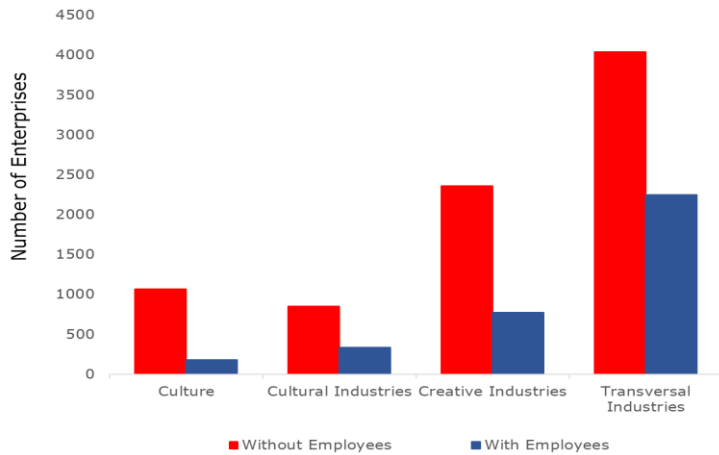


Figure-2. Creative Economy Enterprises

building through information diffusion and a concentration of labour and efficiencies. This also contributes to focused investment in training and professional development to support the continued growth of a cluster.

THE VALUE OF THE CREATIVE ECONOMY

Anchored to Community Prosperity

The creative economy is not a means unto itself. Rather, the value of the creative economy is related to how it contributes to the prosperity of the community and everyone who lives in it. Community prosperity incorporates four interdependent dimensions:

Economic prosperity: This includes measures of economic activity at both an individual and community level.

Human prosperity: This includes an individual's real and perceived skills, knowledge, mental and physical health²¹ such as life expectancy, health, and wellness.

Social prosperity: This is a multi-dimensional concept that examines the value of the collective community to an individual. Examples of measures include both behavioral (e.g. voting, volunteering) and perceptual (e.g. perceived trust, safety).²²

Environmental prosperity: This includes measures associated with the health and sustainability of a community's natural

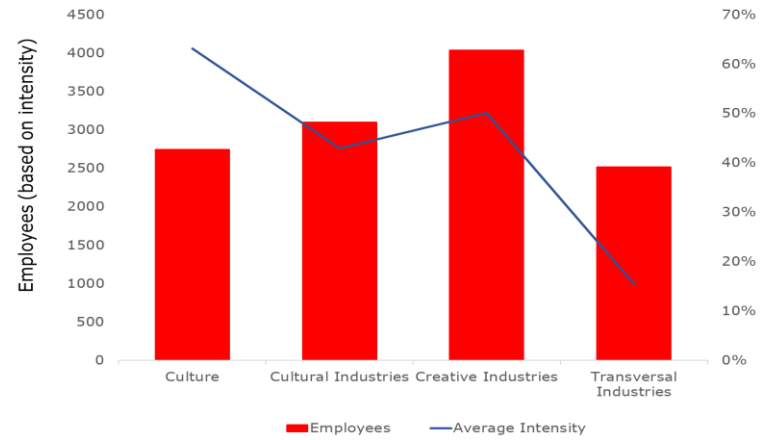


Figure-3. Creative Economy Employees

resources with examples including air quality and waste management.

Value as a System

One of the challenges of adopting a sectoral view of the creative economy is that it simplifies the complex interdependence between the respective sectors and subsectors. For this reason, it is essential to adopt a system's level view of the creative economy as a value chain (Figure-4). This value chain recognizes that value generated not only by individual enterprises but also by the way in which these enterprises interact to create incremental value. To understand the interdependency of the value chain, it was essential to break it into discrete, but interdependent building blocks. These building blocks form the community value chain incorporating community input resources, activities and outputs. This value chain is anchored to measures of community prosperity.

Community input resources: This incorporates the diverse tangible and intangible resources that contribute to developing activities and outputs. These community resources can be categorized into six categories.

Built: Facilities developed to facilitate the delivery of creative economy outcomes.

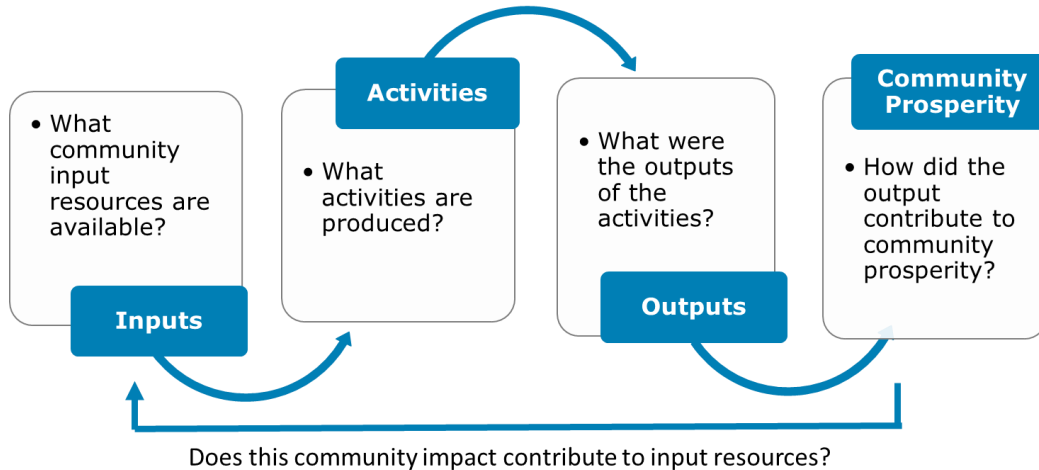


Figure-4. Value as a system

Natural: Natural resources that can be leveraged to support creative economy outcomes.

Economic: Public and private financial resources available for investment in the production of creative economy outcomes.

Human: Intrinsic or learned knowledge, skills and experiences at both an individual and collective level.

Social & Structural: The intrinsic value of social relationships that contribute to community building, inclusive of the processes that facilitate community and collaboration

develop and operate a program that offers free improv classes for youth at risk.

Outputs: Outputs are the tangible and intangible products, services or experiences generated by the creative economy activities. For example, outputs generated by the above-mentioned improv program may include relationships and increased self-esteem.

EMERGING TRENDS AND THE CREATIVE ECONOMY

Predicting the future with precision is an impossible task; however, for any movement macro-level trends and the resulting implications must be considered. Being aware of the context, the global environment, and with thoughtful planning, it is necessary to indicate what is reasonably possible. During the creative economy planning process we will be exploring best of class benchmarks and how other jurisdictions are adapting to anticipated trends. At this stage, we provide an early overview of seven macro-level trends to be considered in the future of the creative economy.

Trend 1: Social Justice and Change

Many of the other trends resulting from COVID-19, such as technology, demographics, and media consumptions, are redefining the relationship between people and between

"This value chain recognizes that value generated not only by individual enterprises but also by the way in which these enterprises interact to create incremental value."

Activities: Activities incorporate the enterprises and production processes that utilize a combination of two or more community input resources. For example, it may take human resources (e.g. skills and experience), economic resources (e.g. funding) and built resources (e.g. a theatre) to

people and institutions. Over the past decade, there has been a significant decline in trust of institutions such as from government, media, corporations, and social enterprises. Amplified through mediums like social media, people's values are framed by the echo-chamber of others who share similar values and views. This creates an increased animosity or fear of others that may not look or think like you. Brexit, the 2016 and 2020 American presidential elections and Black Lives Matter are partial reflections of this fundamental breakdown in institutional trust. Edelman, a global public relations firm, conducts an annual world-wide study on trust. In Canada, the following 2020 data reflects the social discontent society is facing:²³

- 15 per cent believe the current system in Canada is working for them
- 53 per cent believe the current system in Canada is failing them
- 74 per cent believe there is a broad societal injustice in Canada
- 69 per cent have a desire to see social change in Canada
- 65 per cent want to be involved in shaping the future of Canadian society

This data demonstrates the deep discontent in Canadian society and the demand for change. As a result, there are enormous movements occurring which aim towards confronting some of the core injustices in society, ranging from systemic inequality to the growing wealth gap. As a city and region, Calgary is not immune from this increasing demand for social justice:²⁴

- 89 per cent of Calgarians are concerned about poverty.
- 96 per cent believe reducing poverty is important to the wellbeing of the city.

In the past 20 years Calgary has emerged as the third-most ethnically diverse city in the country, yet much of the city's leadership does not yet reflect this. For example, of 218 leadership positions surveyed in a study of Calgary boards, councils, elected bodies, and media, 34 per cent are held by women, 12.4

per cent by visible minorities, and 1.4 per cent by Indigenous people. All are significantly below their proportion of the population.²⁵

Over the next decade, there will be increasing focus on redressing the country's relationships with our Indigenous partners through the recommendations in the Truth and Reconciliation Report. This redress is not only at a legal and institutional level, but also must be from education, fulfilling careers, cultural vitality, entrepreneurship and strong family and community ties.

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Trend 2: The Covid-19 Longtail

COVID-19 triggered one of the worst economic crashes in history, with Alberta's unemployment rate reaching 15.5 per cent in May.²⁶ Moreover, 46 per cent of Albertans have seen a reduction in their incomes, whether due to reduced hours, pay cuts, cancelled gigs, or layoffs.²⁷ The general climate is also less optimistic: even those that have not seen an income reduction are avoiding spending. This is likely to go unchanged even as the economy continues to open, as the economic realities of the crisis will still be setting in and consumers will be forced to prioritize their spending habits.

The live experience economy (inclusive of the creative economy) was one of the worst affected by COVID-19, as most of their revenues stem from large gatherings and in-person interaction. They are, therefore, also expected to be one of the last to recover. Although live experience producers account for 15,000 businesses in Calgary, two thirds have five or fewer employees.²⁸ These small enterprises typically do not have the resources to weather this crisis in the long term.

Arts and culture are particularly vulnerable, as they will take even longer to recover than

other live experience options. According to *The Future of the Live Experience Economy*, a study completed by Calgary Arts Development, Mount Royal University and the ActiveCITY Collective, and consulting firm Stone-Olafson, arts and culture customers are less comfortable and more hesitant to re-engage compared to other customers such as sports and recreation.²⁹

Some in the live experience sector were able to adapt, offering virtual live experiences such as online exhibition tours or concerts. However, hopes that these virtual offerings will become 'the new normal' are not likely to be met. In *The Future of the Live Experience Economy*, 72 per cent of survey respondents agreed with the statement: "I'm getting tired of the substitutes for all the things I used to do," and once the pandemic is over, only 12 per cent of Albertans will consider continuing to watch live events or performances digitally, and only 4 per cent will consider continuing with virtual exhibits or tours.³⁰

"The long-term fallout for COVID-19 remains unknown and will largely depend on the real and perceived threat of the pandemic to Calgarians and creative economy consumers."

Albertans are now placing a higher value on social connections, engaging in virtual experiences that allow them to stay connected with their social groups. Respondents also show less concern about transmission when they are interacting within their known social groups.³¹ With a high demand for safe live experiences that allow for social interaction, there is an opportunity to offer Calgarians a different kind of live experience that can give them a feeling of connection without fear of virus transmission.

Some creative economy enterprises were able to pivot their business models fully or partially, while most suspended operations, hoping to reopen when there was a return to 'normalcy'. Those who adapted their programming varied from altering their distribution to reassessing

the sustainability of their entire business model.

The long-term fallout from COVID-19 remains unknown and will largely depend on the real and perceived threat of the pandemic to Calgarians and creative economy consumers. We have identified two near-term implications for the creative economy: operational and facility design implications.

Operational implications include the increased demand for sanitation and hygiene, and financial impact through reduced access to private or public funding. This also considers the organizational implications tied to risk management systems and insurance. In some cases, the market dynamics may lead some of these enterprises to fully exit a business model that requires physical interactions. In other cases, enterprises may see a path forward that blends both touch and no touch offerings into a unique and compelling value proposition. Finally, the path forward for some creative economy sectors may be identical to the path that got them here. What is needed is patience, financial prudence, planning, and a focus on short and long-term sustainability.

The second near-term implication will be on the design of facility infrastructure. This will include smaller spaces for smaller group activities and designing egress to provide great physical distancing. An outstanding question remains regarding the large arts venues and the impact of COVID-19 on longer-term demand.

Trend 3: The War for Talent

Over the next decade, cities will be increasingly defined by their ability to attract and mobilize human capital. Human capital views competencies as capital, similar to other forms of capital (e.g., financial capital, social capital). Human capital can be viewed at the level of an individual, institution (e.g., enterprise or ecosystem) or city.³²

How will talent be defined in the future? The exponential pace of change in many sectors of the economy has transitioned the war on talent

from one of domain-specific competencies to one focusing on enabling competencies. Domain-specific competencies incorporate the knowledge, skills, attitudes, values, and behaviours required to complete specific tasks associated with a role (e.g., coding, welding, engineering) and/or a sector (e.g., energy, creative). However, today, employers are searching for people who can adapt and pivot in a constantly dynamic environment.³³ For example, it is estimated that between 2018 and 2022, 50 per cent of employees globally will need to be reskilled or upskilled (Refer to Table 7.1).³⁴ In Calgary, Calgary Economic Development forecasts that half of the jobs performed by Calgarians today could be at risk of automation over the next 20 years.³⁵ Not surprisingly then, 91 per cent of human resource decision-makers view an employee's ability to adapt as a critical competency.³⁶

"Calgary Economic Development forecasts that half of the jobs performed by Calgarians today could be at risk of automation over the next 20 years."

Adaptive capacity is the ability for an individual to anticipate systematic changes and proactively develop new or refine existing competencies that are valued as demand changes. Adaptive capacity is rooted in possessing enabling competencies. Enabling competencies (also referred to as meta-skills, human-skills, soft-skills, and transferable-skills) is the ability to incorporate the knowledge, skills, attitudes, values, and behaviours required to deliver analytical thinking, interpersonal communication, foundational literacies, and professional competencies across a range of contexts. Mapping the links between the creative economy and enabling competency development will be critical to understanding the systemic economic value of the creative economy.

Related to this has been the increase of what is referred to as the "gig economy". Today in Canada, 21 per cent of the workforce (and almost 40 per cent in the U.S.) is made up of freelancers who work for themselves.³⁷ That is more than 4 million people and growing by ten per cent each year.³⁸ This freelance economy has become mainstream as companies and talent alike recognize the benefits of employment on-demand.³⁹ It is too early to tell how COVID-19 may impact the gig economy, but it is a trend that will continue to evolve over the next decade as both enterprises and individuals look for more flexible work options.

This war on talent has two direct implications on the creative economy. Firstly, there is a demand to evolve the current labour force to meet emerging needs. The development of high-valued talent incorporates both enabling competencies and domain specific competencies.

The development of these competencies has traditionally been developed through two mediums: (1) Formal education, encompassing accredited and non-accredited training that contribute to the development of an individual's cognitive and personality resources; and (2) through lived experience, including, professional (e.g., paid), volunteer (e.g., not compensated work) and contextual (e.g., personal experiences, such as travel). The development and refinement of these competencies is also an iterative and nonlinear process, incorporating feedback loops through education and experience. This then provides Calgary an opportunity to leverage its creative economy as a strategic asset to develop demanded competencies that contribute to the city's economic growth and prosperity.

Related to the creative economy is that evidence shows that engagement in creative disciplines contribute directly to the development of valued competencies such as divergent thinking skills. However, the relationship between developing high-demand competencies and an individual's participation in the creative economy is largely informal. This then provides Calgary an opportunity to

leverage its creative economy as a strategic asset to develop demanded competencies that contribute to the city's economic growth and prosperity.

The second implication is the ability to leverage the creative economy for talent acquisition. Many Calgarians were attracted to (or remained in) Calgary due to its growing creative economy. Unlike cities such as Vancouver or Austin, however, the creative economy for Calgary, at best, has been used as an ad hoc asset for talent acquisition. This remains an untapped opportunity to develop and leverage the creative economy as a foundational asset for the acquisition of talent that is essential for economic diversification and growth.

Trend 4: Accelerating Technological Disruption

In the past two decades, technological innovation has disrupted society. The internet, social media, mobile devices, and big data analytics are only the tip of the digital iceberg. In the future, wireless connections will be built specifically to keep up with the "Internet of Things." The internet and other innovations from social media to mobile devices to big data have redefined the way society produces and consumes media. Currently, there are close to 30 million smartphone users in Canada, increasing to 33 million by 2024.⁴⁰ A study of US children and teenagers aged 8 to 18 years, found tweens spend five hours a day on screens and teenagers 7.5 hours per day.⁴¹

In 2025, with the rapid advancement of the "internet of things," it is estimated more than 50 billion devices—from your car to your refrigerator—will be connected. Ericsson is predicting 90 per cent of all devices will have mobile broadband capability by 2022.⁴²

Advancements related to artificial intelligence, machine learning and cognitive computing are also going to change lives and careers. But how? Over a decade ago when the first Nintendo Wii was introduced, the world had a glimpse of the potential of immersive computing. Computing is no longer a passive

activity, rather it is evolving with the potential to be active. The next decade may see explosive growth in immersive visual computing, such as virtual and augmented reality (AR/VR), which may be a technological game changer for the creative economy. Today, 70 per cent of the top VR apps use video.

Over the next decade, audiences' expectations of content will continue to be redefined. For example, new 360-degree cameras enable the production of three-dimensional virtual reality video with surround sound to allow a viewer to move within a video wearing a headset.⁴³ There will also be significant technological advancements in neuro-coaching and machine medicine. This could include non-invasive brain stimulation to accelerate muscle memory and precision, brain scanning technology to manage cognition and emotion, supplements to accelerate reaction time, immersive visual computing training, RFID tags to track performance, and implantable sensors to monitor blood and technology to help people sleep better.

"The next decade may see explosive growth in immersive visual computing, such as virtual and augmented reality (AR/VR), which may be a technological game changer for the creative economy."

Driven by these technological advancements in addition to increased social networking and video streaming, the global gaming market exceeds two billion participants or 30 per cent of the world's total population.⁴⁴ In competitive e-sports, there were an estimated 110 million competitors in 2018.⁴⁵ For perspective, a video game released in 2019, Red Dead Redemption 2, generated \$725 million in sales in its first three days. If Red Dead Redemption 2 were a movie, it would rank as the third largest box office opening in history; larger than any Star Wars or Harry Potter movie.⁴⁶ In fact, three of the top five "opening weekends" in history are

held by games, not movies. The growth of e-sports is also represented by the size of the prize pools, which now rival prize pools from the largest professional sports in the world from Wimbledon to The Masters.

Another technological disruption is the advances in battery technology. This contributes to continued advancement in e-transportation, including electric bikes and vehicles. Similarly, most analysts believe autonomous transportation contributes to the redefining of transportation.⁴⁷ The positive from this is increased efficiency and reduction of traffic accidents; the negative is the loss of millions of jobs for trucking, taxi and public transportation sectors.⁴⁸ Autonomous vehicles, combined with active transportation, could then redefine transportation networks and patterns of movement which could then have a significant impact on broader city level planning.

“Open innovation encourages the development of partnerships and the leveraging of complementary knowledge for innovation from individuals and enterprises across.”

The variety of technological advancements discussed here creates both opportunities and threats to the creative economy. For example, the explosion of smartphones and other devices has led to the exponential increase in “screen time”. Today, studies suggest that over 80 per cent of parents believe that screens are negatively impacting their children from engaging in other activities.⁴⁹

Each ‘device’ and how consumers use them including social media and e-commerce transactions generates data, and this data is used to predict behaviour and reveal preferences. In other words, every credit card transaction, click on Google, Instagram post and GPS ping from your smart phone generates data that is collected and used by enterprises to increase efficiencies, lower

costs, accelerate decision-making, and increase customer satisfaction. The use of this ‘big data’ will continue to grow over the next decade as the volume, velocity and variety of data grows in influencing critical decision-making in the creative economy. However, one implication on society as a whole, and the creative economy specifically, is increased risk to privacy and its implications. In the creative economy, this may range from financial transactions to personal information and health records that are shared and at risk for being used by others. The ability for enterprises in the creative economy to protect and secure this data is therefore of increasing importance.

Trend 5: From Consumer to Co-Creator

Traditional innovation processes focus on controlling innovation which allows a company to retain ownership of, and control over, knowledge and intellectual property. In other words, this is the exploration of new knowledge and exploitation of existing knowledge in a closed loop and limited to employees within an enterprise. Traditional innovation, however, has limited access to knowledge from external sources and therefore an enterprise is challenged to effectively tackle the most complex problems. In contrast, open innovation encourages the development of partnerships and the leveraging of complementary knowledge for innovation from individuals and enterprises across ecosystems. This model, adopted by companies such as Apple, Google and LEGO, recognizes that when you empower people, you accelerate innovation. In this model, an enterprise transitions from being a linear controller of knowledge to becoming a dynamic broker across the entire ecosystem, supporting interconnected processes. Over the next decade, the role of the creative economy for consumers and other stakeholders will expand dramatically as the system transitions to the open innovation model just described.

Other changes that will impact the creative economy include the democratization of participation. Linked to the shift below, anyone

can be an athlete (e-sport) as anyone can be a 'reporter' using their iPhone and camera. Today you can capture reality with high-speed cameras; there is no blur and increased resolution and granularity. Simulations and reality are now difficult to distinguish. Social media and the changing world of communication, connectivity, and collaboration allows one to connect with anyone on the planet anywhere, at any time.

Enterprises and ecosystems that have successfully developed open innovation systems have done so systematically. This includes the tangible and intangible processes and structures that facilitate effective collaboration and alignment of individuals and institutions. At this stage, with no shared vision or purpose, the creative economy lacks the core structural capital that underpins the capacity to aggregate individuals and enterprises into one system. Instead, most mechanisms remain limited internally to enterprises, with only limited examples of aggregation at the ecosystem level. The result is risk of system-level duplication and inefficiencies. The foundation of a shared vision for a creative economy, instead should be the commitment to develop the required structural capital for Calgary's creative economy to work as a system. The anchor should include establishing mechanisms for system-wide knowledge mobilization, coordinated experiments and shared open resources.

Trend 6: Changing Media Consumption

Between 2009 and 2019, media advertising revenues almost doubled in size globally from \$1.2 to \$2.1 trillion. Ironically, the fragmentation of media has led to a concentration of advertising revenues, as both Google and Facebook control one-fifth of all advertising revenue globally.⁵⁰

Concurrent with this financial disruption, technology has transformed how society consumes media, forms opinions, and makes decisions. For example, consumers are no longer at the mercy of broadcast schedules.

They can increasingly watch and listen to the programming they want when they want. The result is that people digest bite-sized stories in Tik Tok or YouTube, and often, consuming multiple screens simultaneously.⁵¹ Today, the average Canadian is online for 40 hours each week.⁵²

Studies suggest that how society processes information is changing as society adapts from text to video or other forms of content. Some consumers want to dig deeper than those few seconds; but many may not. For example, some may simply read a headline, whereas others watch embedded video and follow links to related stories. Today, more so than ever, the medium really is the message.

"User-generated content such as social media posts or online reviews becomes increasingly valuable as trust in brands and large institutions (including governments) is displaced by trust in people."

Moreover, user-generated content such as social media posts or online reviews becomes increasingly valuable as trust in brands and large institutions (including governments) is displaced by trust in people. This dynamic has massive implications on how people are influenced and behave. Our reliance on recommendations from trusted friends and family is growing, with a study by the Pew Research Centre showing that 40 per cent of American adults define Facebook as a primary news source. In Canada, 60 per cent of the population use Facebook daily and 21 per cent define it as their first source of information. Interestingly, this transcends age groups with 49 per cent of those 60 years and older reporting using Facebook daily.⁵³

Twitch has also emerged as a potentially game changing media platform that may provide a guide to the future of media. Twitch, owned by Amazon, is a platform that allows you to watch others play video games.⁵⁴ The scope of Twitch is difficult to comprehend. Twitch averages 2.2

million daily broadcasters or streamers and 15 million daily viewers; 41,000 concurrent broadcasters /streamers and 1.1 million concurrent viewers (CCV).⁵⁵ At peak hours its CCV numbers outpace some of the top-rated US cable channels, such as CNN and MSNBC.⁵⁶ In Alexa's ranking of global websites, Twitch is just behind Netflix and LinkedIn at number 26.

As a platform, Twitch streamers have launched their own channels, and with a webcam and headset microphone, livestream themselves playing games and offering commentary for audiences. Twitch then uses algorithms to make content suggestions to users, facilitating navigation. Twitch is also interactive, allowing viewers to comment or ask questions in a chat sidebar, and streamers in turn can react to the posts. Furthermore, Twitch has built features into the program to monetize viewer interests. This includes traditional advertising and sponsorship, but also opportunities for viewers to make donations to the streamers they follow. As part of the interaction that occurs, streamers offer to complete certain tasks or play certain games in exchange for contributions. Streamers can also draw revenue through a base subscription to their channel for a fee that then allows subscribers to comment in the channel's chat.

The changing media landscape is having a similarly significant impact on the creative economy than television did in the 1950s. Short-form and user-generated media, such as Twitch or Tik Tok, does not spell the end of long-form storytelling, but it will continue to redefine it over the next decade. Advancements in technology have also triggered a hyper-social generation with unique values and demands. Therefore, story forms, promotional or otherwise, will continue to adapt and evolve from single form to transmedia storytelling where the consumer is able to seamlessly shift from text to other media.

Trend 7: Sustainability at The Centre

The environment and the sustainability of it are not new trends. However, driven by the effects

of climate change, ranging from increasing forest fires to flooding, sustainability is a priority at the federal, provincial, and municipal levels.

Broadly speaking, sustainability is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. This definition recognizes that development is essential to satisfying human needs and improving quality of life, but that it must be based on the efficient and responsible use of natural, human, and economic resources.⁵⁷

ESTABLISHING A CREATIVE ECONOMY PLAYBOOK

The goal of this discussion paper is to provide a foundation for developing a shared vision for Calgary's creative economy and an integrated strategic framework to deliver on this vision. To do so, the creative economy playbook must consider the following questions:

1. What is the scope of the creative economy Calgary wishes to adopt for the Playbook?
2. What additional macro-level trends and their implication on Calgary's creative economy?
3. What is our vision for Calgary's creative economy?
4. What are strategic priorities to deliver on this vision?
5. What implications do these strategic priorities have on civic organizations?

APPENDIX-1: NESTA CREATIVE ECONOMY MODEL MAPPED TO NAICS

Nesta Title	Creative Intensity	NAICs Code	NAICs Title
Artistic creation	90%	711511	Independent visual artists and artisans
Artistic creation	90%	711512	Independent actors, comedians and performers
Artistic creation	90%	711513	Independent writers and authors
Artistic creation	90%	712111	Non-commercial art museums and galleries
Motion picture, video and TV program post-production activities	83%	512190	Post-production and other motion picture and video industries
Performing Arts	80%	711111	Theatre (except musical) companies
Performing Arts	80%	711112	Musical theatre and opera companies
Performing Arts	80%	711120	Dance companies
Performing Arts	80%	711130	Musical groups and artists
Performing Arts	80%	711190	Other performing arts companies
Performing Arts	80%	711311	Live theatres and other performing arts presenters with facilities
Performing Arts	80%	711321	Performing arts promoters (presenters) without facilities
Performing Arts	80%	711322	Festivals without facilities
Radio broadcasting	79%	515110	Radio broadcasting
Manufacture imitation jewelry and related articles	79%	515110	Jewelry and silverware manufacturing
Translation and interpretation services	74%	541930	Translation and interpretation services
Photographic activities	73%	541920	Photographic services
Graphic designers	70%	541430	Graphic design services
Motion picture, video and TV program production activities	66%	512110	Motion picture and video production
Architectural activities	65%	541310	Architectural services
Architectural activities	65%	541410	Interior design services
Specialized design	65%	541420	Industrial design services
TV programming & broadcast activities	55%	515120	Television broadcasting
TV programming & broadcast activities	55%	515210	Pay and specialty television
TV programming & broadcast activities	55%	541490	Other specialized design services
Publishing of journals and periodicals	50%	511120	Periodical publishers
Other software publishing	43%	511211	Software publishers (except video game publishers)
Media representation	41%	541830	Media buying agencies
Media representation	41%	541850	Display advertising
Media representation	41%	541860	Direct mail advertising
Media representation	41%	541870	Advertising material distribution services
Media representation	41%	541891	Specialty advertising distributors
Media representation	41%	541899	All other services related to advertising
Sound recording and music publishing activities	40%	512230	Music publishers

Sound recording and music publishing activities	40%	512240	Sound recording studios
Sound recording and music publishing activities	40%	512250	Record production and distribution
Sound recording and music publishing activities	40%	512290	Other sound recording industries
Publishing of computer games	38%	511212	Video game publishers
Other publishing activities	38%	519110	News syndicates
Publishing of computer games	38%	541515	Video game design and development services
Book publishing	36%	511130	Book publishers
Motion picture, video and TV program distribution activities	35%	512120	Motion picture and video distribution
Motion picture projection activities	35%	512130	Motion picture and video exhibition
Publishing of Newspapers	33%	511110	Newspaper publishers
Library & archive activities	27%	519121	Libraries
Library & archive activities	27%	519122	Archives
Other information services	25%	519190	All other information services
Advertising agencies	25%	541810	Advertising agencies
PR and communication activities	25%	541820	Agents and managers for artists, entertainers and other public figures
PR and communication activities	25%	541820	Public relations services
Other publishing activities	21%	511190	Other publishers
Museum activities	21%	712115	History and science museums
Museum activities	21%	712119	Other museums
Museum activities	21%	712120	Historic and heritage sites
Cultural education	20%	611610	Fine arts schools
Web portals	19%	519130	Internet publishing and broadcasting and web search portals
Public opinion & market research	19%	541910	Marketing research and public opinion polling
Computer programming activities	11%	541514	Computer systems design and related services (except video game design and development)
Computer consultancy activities	11%	541514	Computer systems design and related services (except video game design and development)
Other IT and computer service activities	11%	541514	Computer systems design and related services (except video game design and development)

APPENDIX-2: NUMBER OF ENTERPRISES BY SUBSECTOR

CULTURE	#
519121 - LIBRARIES	7
519122 - ARCHIVES	6
711111 - THEATRE (EXCEPT MUSICAL) COMPANIES	34
711112 - MUSICAL THEATRE AND OPERA COMPANIES	13
711120 - DANCE COMPANIES	60
711130 - MUSICAL GROUPS AND ARTISTS	262
711190 - OTHER PERFORMING ARTS COMPANIES	36
711311 - LIVE THEATRES AND OTHER PERFORMING ARTS PRESENTERS WITH FACILITIES	21
711321 - PERFORMING ARTS PROMOTERS (PRESENTERS) WITHOUT FACILITIES	44
711322 - FESTIVALS WITHOUT FACILITIES	34
711411 - AGENTS AND MANAGERS FOR ARTISTS, ENTERTAINERS AND OTHER PUBLIC FIGURES	44
711511 - INDEPENDENT VISUAL ARTISTS AND ARTISANS	242
711512 - INDEPENDENT ACTORS, COMEDIANS AND PERFORMERS	223
711513 - INDEPENDENT WRITERS AND AUTHORS	187
712111 - NON-COMMERCIAL ART MUSEUMS AND GALLERIES	16
712115 - HISTORY AND SCIENCE MUSEUMS	4
712119 - OTHER MUSEUMS	10
712120 - HISTORIC AND HERITAGE SITES	6
CULTURE TOTAL	1,249
CULTURAL INDUSTRIES	
511110 - NEWSPAPER PUBLISHERS	48
511120 - PERIODICAL PUBLISHERS	46
511130 - BOOK PUBLISHERS	53
511190 - OTHER PUBLISHERS	21
511211 - SOFTWARE PUBLISHERS (EXCEPT VIDEO GAME PUBLISHERS)	195
511212 - VIDEO GAME PUBLISHERS	4
512110 - MOTION PICTURE AND VIDEO PRODUCTION	392
512120 - MOTION PICTURE AND VIDEO DISTRIBUTION	13
512130 - MOTION PICTURE AND VIDEO EXHIBITION	22
512190 - POST-PRODUCTION AND OTHER MOTION PICTURE AND VIDEO INDUSTRIES	39
512230 - MUSIC PUBLISHERS	9
512240 - SOUND RECORDING STUDIOS	21
512250 - RECORD PRODUCTION AND DISTRIBUTION	7
512290 - OTHER SOUND RECORDING INDUSTRIES	13
515110 - RADIO BROADCASTING	35
515120 - TELEVISION BROADCASTING	27
515210 - PAY AND SPECIALTY TELEVISION	9
519110 - NEWS SYNDICATES	10
519130 - INTERNET BROADCASTING AND WEB SEARCH PORTALS	109

519190 - ALL OTHER INFORMATION SERVICES	74
541515 - VIDEO GAME DESIGN AND DEVELOPMENT SERVICES	41
CULTURAL INDUSTRY TOTAL	1,188
CREATIVE INDUSTRIES	
339910 - JEWELRY AND SILVERWARE MANUFACTURING	50
541310 - ARCHITECTURAL SERVICES	437
541410 - INTERIOR DESIGN SERVICES	476
541420 - INDUSTRIAL DESIGN SERVICES	189
541430 - GRAPHIC DESIGN SERVICES	416
541490 - OTHER SPECIALIZED DESIGN SERVICES	148
541810 - ADVERTISING AGENCIES	282
541820 - PR SERVICES	
541830 - MEDIA BUYING AGENCIES	11
541840 - MEDIA REPRESENTATIVES	49
541850 - DISPLAY ADVERTISING	73
541860 - DIRECT MAIL ADVERTISING	3
541870 - ADVERTISING MATERIAL DISTRIBUTION SERVICES	36
541910 - MARKET RESEARCH	
541891 - SPECIALTY ADVERTISING DISTRIBUTORS	67
541899 - ALL OTHER SERVICES RELATED TO ADVERTISING	218
541920 - PHOTOGRAPHIC SERVICES	534
541930 - TRANSLATION SERVICES	
CREATIVE INDUSTRIES TOTAL	2,989
TRANSVERSAL INDUSTRIES	
611610 - FINE ARTS SCHOOLS	251
541514 - COMPUTER SYSTEMS DESIGN AND RELATED SERVICES (EXCEPT VIDEO GAME DESIGN AND DEVELOPMENT)	6,042
TRANSVERSAL INDUSTRY TOTAL	6,293

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1. The product must have copyright protection potential.
 2. The product must support the creation, production, dissemination or preservation of culture.
 3. It adds to the content of a culture product.
 4. It preserves exhibits or interprets human or natural heritage.
 5. It provides culture training or educational services.
 6. It governs, finances, or directly supports culture.
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