

Montréal's Capacity for Creative Connectivity: Outlook & Opportunities

January 2005

This document is a summary of the academic article currently being written for submission to American scientific journals.

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Abstract:

Regional economic growth is powered by creative people, who prefer places that are diverse, tolerant and open to new ideas. Diversity increases the odds that a place will attract different types of creative people with different skill sets and ideas. Places with diverse mixes of creative people are more likely to generate new combinations. Furthermore, diversity and concentration work together to speed the flow of knowledge. Greater and more diverse concentrations of creative capital in turn lead to higher rates of innovation, high-technology business formation, job generation and economic growth.

The Montréal region is ideally suited to exploit those opportunities. Among the 25 most populous metropolitan areas in the U.S. and Canada, the Montréal region ranks third in average population density (behind the Boston CMSA and New York CMSA). Among that same group of regions, the Montréal region has the second greatest percentage of its workforce in the "super creative core" (Florida, 2002, p. 328). These two offer the combination of density and diversity likely to result in significant opportunities for the region.

This study was conducted through a series of focus groups and interviews with individuals from the business, education, arts and government sectors of the Canadian Montréal region. (Further detail on the methodology is available in the academic paper.) The Montréal region is defined by Statistics Canada as the Montréal CMA (Census Metropolitan Area) and includes the entire Montréal metropolitan area. The study also included a comparison of the Montréal region with the 24 other largest metropolitan areas in the U.S. (MSAs and CMSAs) and Canada (CMAs).

Interactions among the creative, technical, business, and design communities have a positive impact on the innovative and total business activity across the region. With its bilingual and multicultural nature, the Montréal region occupies a unique position, which can help the region continue its growth trajectory and build prosperity.

Rather than a mosaic composed of isolated pieces, Montréal offers a rich and original set of interconnections. The region's strength is not a single dominate asset, but the balance of diverse technological capability and innovation, available skilled and creative talent, and an open tolerant society.

Introduction: Montréal Is on the Move

The Montréal region has been experiencing a shift in its economic base since the early 1990's from classic industrial to a creativity-focused business mix more dependent on ideas and innovation than on natural resources or transportation cost. Core creative sector clusters have aggregated around information and entertainment technology, aerospace, biosciences, telecommunications, multilingual call centers, advanced manufacturing, and a variety of emerging interdisciplinary niches.

Metropolitan Montréal has been enjoying a boom since 1997. It ranks in the top five North American regions in terms of employment growth over the past five years; in 2002, it ranked first. Since 1997, the Montréal region has turned in the best performance in job growth among cities in the Northeast, according to recent data from Montréal International.

Metropolitan Montréal's performance is even more remarkable in light of the fact that its population growth, which influences both job creation and GDP growth, was among the lowest of the 25 metropolitan areas. However, between 1990 and 2003 the share of jobs held by university graduates compared to total employment grew from 15.9% to 25.1%. One in four workers in the Montréal region is a university graduate.

The Montréal region has grown even while maintaining relatively low per capita income growth, meaning its expansion has thus far taken place without significantly driving up wages and the general cost of living. Among the 25 largest metropolitan regions in the U.S. and Canada, Montréal has maintained the lowest average total housing cost to average income ratio for both renting and home ownership.

This transition didn't just happen on its own. Infrastructure development decisions and seeds for change were planted several decades ago. In the last 40 years especially, Montréal has built on its 400-year multicultural history to become one of the emerging "rising star" creative sector economies in the world, according to Catalytix and Dr. Richard Florida.

Since the world's attention was last focused on Montréal for the World's Fair in 1967 and the Olympics in 1976, the connectivity and transformation across the region has been astounding – yet few outside the region know about it. Montréal is truly one of the best-kept secrets in North America.

PART I | THE CREATIVE SECTOR

What Constitutes the Creative Sector Economy?

In his groundbreaking book *The Rise of the Creative Class*, Dr. Richard Florida defined creative sector economy workers as those paid to think for living. This is in contrast to working sector employees (for example, low value-added jobs in manufacturing and construction), who are paid for their labor, and service sector employees, who are paid for their provision of services.

The creative capital theory stresses that regional economic growth strategies have to go beyond traditional **industry** cluster analysis to include **occupational** clusters. These clusters stress what workers do on the job and where they live. This combination (of the traditional vertical industry view along with the novel horizontal occupation cluster analysis) produces a more accurate assessment of creative sector assets and emphasizes why policy makers and business leaders need to learn more about this misunderstood and largely unnoticed sector of the economy.

What's more, the creative sector economy is adding jobs and expected to grow faster than the working sector in the Montréal region. Over the next ten years, the creative sector is expected to grow by at least 21%, while the service sector will grow by 34% and the working sector by only 14%. (Estimates are based on the average growth by sector from 1997 to 2003 for the Montréal region.) The highest growth is expected for finance and insurance professionals and science-related technicians. Significant growth is also expected in art and cultural occupations.

Who Works in the Creative Sector?

The creative sector in the Montréal region is broad and diverse. This characteristic helps give it relatively more sustainability in economic down cycles. Although Catalytix has not completed a detailed regional occupational cluster analysis as part of this project, globally the creative sector is comprised of four macro-occupational clusters that can be remembered using the acronym TAPE. The Montréal region's creative sector is a mirror image of the global picture.

Creative Sector Economy : TAPE

- T** = Technology and Innovation
- A** = Arts and Culture
- P** = Professional and Managerial
- E** = Educating and Training

Each of these creative clusters should be thought of in the broadest sense and from a “*what do creative workers DO?*” perspective versus “*where do they work?*” Innovation and technology are found in almost every organization today. Hence, creative sector jobs and employees are found in almost every organization. On the other hand, even the most technologically intensive enterprises are not staffed with 100% creative sector employees. Organizations usually employ people from all three of the major workforce sectors: working, service, and creative.

Consider, for example, an information technology company with 100 employees. Thirty are service sector employees in clerical, maintenance, or call center positions. Forty are involved in stuffing circuit boards and manufacturing, while 30 are in creative sector occupations like product design, logistics, strategic planning, marketing and sales, operations management, etc.

One of the biggest misconceptions about the creative sector workforce is that it only includes artists and culture-based occupations. This couldn't be further from reality. The arts and culture sector is crucial to attracting and retaining creative sector talent, but it's only one of the four segments (the "A" of TAPE), and it's hardly ever the largest. That distinction often goes to the professionals – the architects, lawyers, doctors, and sales and marketing managers.

Educators and trainers comprise the fourth segment of the creative sector economy macro model. In many regions, the education sector (elementary, secondary, college, university, training, and professional development) comprises one of the largest employment groups. This segment includes institutions of higher learning, which creates an opportunity to start-up or attract related organizations, such as, consulting firms, think tanks, library-science-based businesses, market research firms and other colleges and institutions of higher learning. This is one of the key industries of the future and offers higher wages and a powerful regional base on which to build.

Florida defines the "Super Creative Core" as those with occupations in computer-related fields, mathematics, architecture, engineering, life sciences, physical sciences, social sciences, education, training, library, arts, design entertainment, and media. These are the core creative types who generate a new product as an output of their work. They produce new forms or designs that are readily transferable and widely useful – such as designing a product that can be widely made, sold and used; coming up with a theorem or strategy that can be applied in numerous cases; or composing music that can be performed again and again. People at the core of the creative class engage in this kind of work regularly; it's what they are paid to do. Along with problem solving, their work may entail problem finding: not just building a better mousetrap, but noticing first that a better mousetrap would be a handy thing to have.

PART 2 | QUANTITATIVE FACTS

What is the Power of Montréal's Creative Sector Assets?

Recent studies have been published that position Montréal as a “Knowledge City” and stress the role of the region’s university and research network, which facilitate knowledge creation, dissemination, and overall regional prosperity. Using the creative capital theory, this strategy can be extended even further to help policy makers, business leaders, and the media better understand and position the Montréal region to continue its climb as one of the top creative sector economies in the world.

What’s the power of Montréal’s creative sector assets? In short, quality and quantity. The Montréal region’s creative sector economy accounts for about one in three jobs (29% of the workforce) in the region, encompassing more than 450,000 workers. The asset value of these creative sector wages and salaries, as measured by percentage of the region’s total payroll, is about 41%. This 29-to-41 ratio is worth remembering. While not as pronounced as the 30-to-50 ratio of the U.S. (where 30% of the workforce, the creative sector, earns 50% of total wages), the Montréal creative sector earns a greater than proportionate share of the region’s wages.

The Montréal region has a slightly larger percentage of creative and service class workers with fewer working class workers than the province or either country. In general, the wage differential between the creative and service classes is not as pronounced in Canada as in the U.S.

Table I (next page) shows the comparison of the workforce among the creative, service, and working sectors as defined by Florida for the Montréal region, the province of Québec, Canada, and the United States. In addition to workforce breakdown, the percentage of total wages earned by each class is also presented. While the working class is just over 20% of the total workforce and roughly the same percentage of total wages, in all cases, the Service class is the largest group of the total workforce but earns a lower percentage of total wages. While a smaller percentage of the total workforce, in all cases, the creative class earns a much higher percentage of total wages.

Montréal Insights

- Second Greatest Percentage of Workforce in the “Super Creative Core” in North America
- Fourth in North America for Job Density in High-Tech Sectors
- Over 450,000 Creative Sector Workers
- Montréal’s Concentration of Artists is Nearly 1.5 Times the Canadian Average
- Montréal has the Lowest Housing-to-Income Ratio among Top 25 North American Metro Areas
- Most Square Footage of Set and Sound Stages in North America
- 53% of the Population Speaks French & English; 18.5% Speak a Third Language
- Montréal’s Concentration of Gay and Lesbian Couples is over 1.7 Times the Canadian Average
- Montréal Ranks Third in Average Population Density (Behind the Boston & New York CMSAs)
- Most all components to build an aircraft can be found within a 30 km (19 m) radius.
- Montréal Is Closer to Europe than Any Other Major North American City
- Montréal Is Closer to the US Border than Toronto

	Creative	Service	Working
Montréal	450,200	771,900	377,900
% of Workforce	28.8	49.4	21.6
% of Wages	40.6	36.9	22.3
Québec	1,008,198	1,686,223	863,430
% of Workforce	27.7	46.3	23.7
% of Wages	41.2	35.3	21.8
Canada	4,361,905	7,161,625	3,518,560
% of Workforce	28.0	46.0	22.6
% of Wages	42.1	34.1	21.4
US	32,313,140	47,334,940	24,344,420
% of Workforce	31.0	45.4	23.4
% of Wages	49.6	30.3	20.0

Table 1 - Montréal, Québec, Canada - Workforce Breakdown

While the previous table presented comparisons with the Montréal region and provincial and country level information, Table 2 shows Montréal's comparison among the 25 most populous cities in the U.S. and Canada for the percentage of the total workforce in the super creative core and the more broadly defined creative class. (The complete list is in the appendix of the academic paper and the measures are also documented in that appendix.)

When compared against the other major metro areas, while the Montréal region has not been outperforming the other regions in overall growth measures (Figure 1, below), it does stack up reasonably well in terms of technology, talent, and tolerance/diversity measures and does extremely well for selected territory assets/quality of place/regional amenity measures. The stronger performance for the technology, talent, and tolerance scores suggest that while past growth has not been outstanding, the potential for future growth is much stronger. And, in fact, the more recent population and job growth numbers support this expectation.

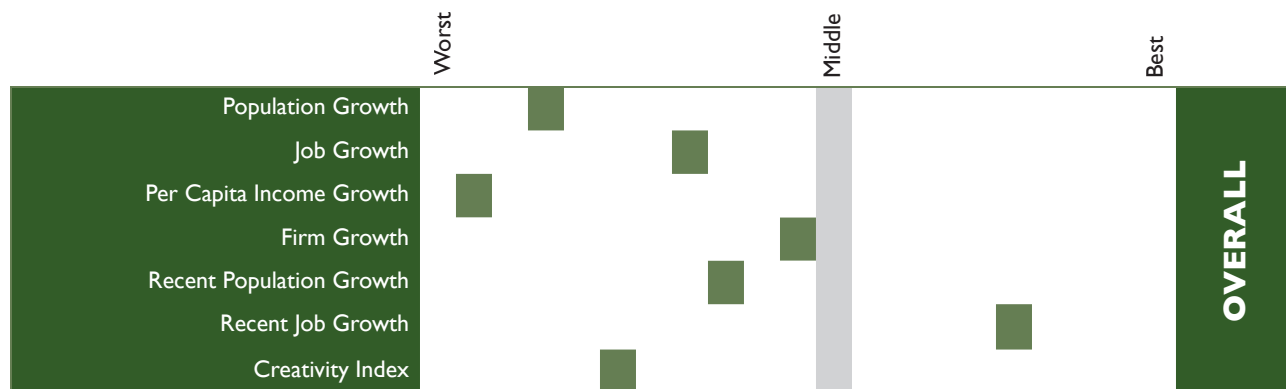


Figure 1 - Montréal Region's Overall Benchmarks (Comparison against 25 Top US/Canada)

City	Super Creative Rank	Creative Rank Class
Toronto	1	7
Montréal	2	18
Vancouver	3	12
Washington DC	4	1
Seattle	5	5
San Francisco	6	3
Boston	7	2
Denver	8	6
Portland	9	17
Houston	10	9
San Diego	11	16
New York	12	8
Detroit	13	15
Minneapolis	14	4
Dallas	15	13
Los Angeles	16	21
Atlanta	17	11
Philadelphia	18	14
Chicago	19	10
St. Louis	20	19
Phoenix	21	22
Pittsburg	22	20
Cleveland	23	23
Tampa	24	24
Miami	25	25

Table 2 – North American Creative Class

Where Is Montréal Building Creative Capacity / Creative Capital?

Many regions successfully attract college students but then suffer a brain drain, losing those students to other regions after they graduate. While the standard measure of human capital, a college-educated workforce, has been associated with regional growth, we've found that Creative Capital, the concentration of people in the creative sector, has a stronger relationship with economic growth. Creative capital is even more important to regional growth than human capital or high-tech industries, since both of these things are shaped by it. The Figure 2 (below) shows a mixed performance. Montréal have a poor position in terms of university graduates and a Creative Class relatively modest, but it have an imposing Super Creative Class.

Montréal Insights -- Talent Base

- 160,000 college/university students, including 17,000 foreign
- Network of 201 R&D centers in the region
- Canada's leading academic R&D center; 851 million invested in 2003 (\$ CDN)
- 20 new campus buildings under construction or recently completed (1 billion \$ CDN)
- No. 2 in North America in terms of number of university students per capita, after Boston

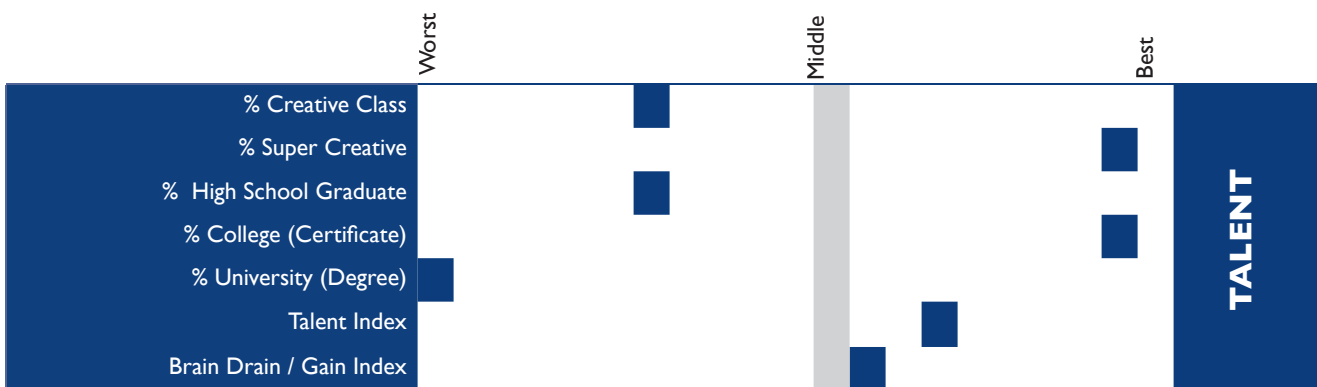


Figure 2 - Montréal Region's Talent Benchmarks (Comparison against 25 Top US/Canada)

Manifestations of creativity in all forms can entice creative people to move from one place to another (remember that the arts are a pure product of human creativity). A city providing an extensive and original cultural life can therefore attract talented people. The Montréal region is extremely well endowed in this respect, housing as it does a great number of artists, high-quality cultural infrastructure, and diverse cultural organizations.

Montréal is a dynamic cultural metropolis that holds creation, invention, and emerging talent in high esteem. The fact that a majority of Montréal's population speaks French and English, and that the local market for culture is relatively small, compels the cultural community to continuously create, renew itself, and export its products. The components of the Montréal region's creative sectors are well known (universities, research institutes, artists, organizations, infrastructures, etc.), and the number of cultural events per square kilometers in the city is exceptional. Seeing 200,000 people in the streets for a special event is common.

Montréal Technology

Regional technology includes not only what is in production but also new innovations and ideas under development – innovations that are coming from colleges and universities in the region, industry R&D departments, government research labs, and garages. In understanding the current state of technology for the region, all need to be evaluated. Increasingly, a high technology base is both a necessary condition for, and a result of, a region having a strong creative economy. Being known as a high-tech region helps to attract more of the creative workforce, who, in turn, generate new technologies that make the region even more high-tech. Additionally, high-tech firms concentrate in places that have a reputation for being high-tech.

Generally, Montréal shows solid performance in technology measures (see [Figure 3](#), below). The region has significant strengths and a substantial reputation in previously mentioned industries such as information technology, entertainment technology, aerospace, biosciences, and telecommunications. The region has a high concentration of total employment in high technology industries. While total patent performance has been lower than in most of the other benchmark regions, more recent patent performance reflects the impact of higher than average patent growth with the Montréal region exhibiting higher numbers of patents per capita.

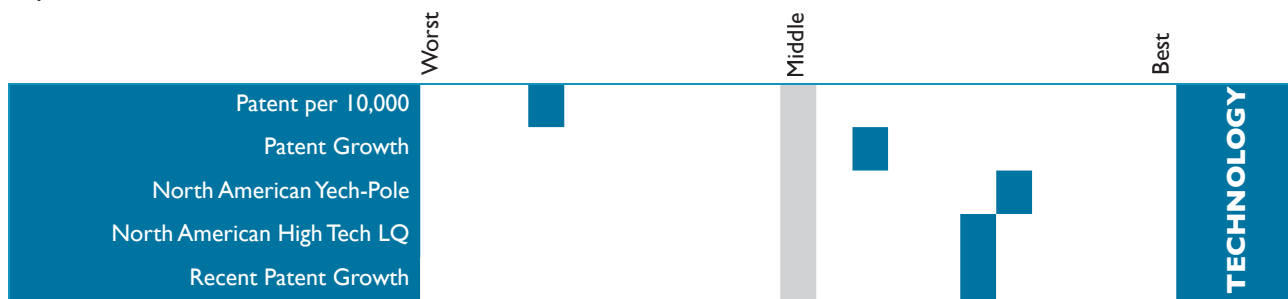


Figure 3 - Montréal Region's Technology Benchmarks (Comparison against 25 Top US/Canada)

What Makes Montréal Authentic and Unique?

Montréal's rich history has helped it build an exceptionally tolerant society. The role of diversity in attracting and retaining creative talent is well established. Creative people prefer places that are tolerant, open to new ideas, and where anyone can fit in and can get ahead. Diversity increases the odds that a place will attract different types of creative people with different skill sets and ideas. As a result, places with diverse mixes of creative people are more likely to generate new combinations.

Diversity is favored first of all out of self-interest, since it's a signal of meritocratic norms at work; people are recognized and rewarded for their creativity and contributions. Secondly, diversity of backgrounds and opinions strengthens the creative process. Talented people defy classification based on race, ethnicity, gender, sexual orientation, or appearance. Creative sector people are highly mobile, valuing a broad range of life and work experiences in different parts of the country; they may not be "natives" of the place in which they live, even if they are native-born. When they're sizing up a new company or community, acceptance of diversity – and of gays and lesbians in particular – is a sign that "nonstandard people are welcome here."

While Montréal does very well on most of the tolerance measures ([Figure 4](#), next page), its ranking on "visible minorities" is not as strong. The Canadian Employment Equity Act defines visible minorities as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in color". The same definition was applied to both U.S. and Canadian cities with U.S. cities ranking higher because of their higher African-American/Black and Hispanic populations.



Figure 4 - Montréal Region's Tolerance Benchmarks (Comparison against 25 Top US/Canada)

It's becoming increasingly clear that the creativity of human beings, like the creativity of organizations and cities, may be nurtured, supported, stimulated, and kindled by sustained interaction with a vibrant cultural life. Again and again, we've observed the contribution of arts and culture to the development of creativity in people and cities. Creativity is our most crucial natural asset. (Montréal has many examples of this: Cirque du Soleil is one, but there are others that attract less attention.)

Territory Assets, sometimes called Quality of Place, include the amenities and other resources of a region that can affect the attraction and retention of both individuals and organizations. The emerging geography of the creative sector is dramatically affecting the competitive advantage of regions around the world. Regional economic growth is driven by the location choices of creative people – the holders of creative capital. Our previous work with focus groups has revealed that creative workers desire natural, recreational, and lifestyle amenities. These workers want a balance of economic opportunity and lifestyle when selecting a place to live and work. Access to water and water-based recreation seems to be of particular importance to these workers – and is a strength of the Montréal region (see Figure 5, below).

Creative workers prefer regions where amenities and activities are easily accessible and available “just in time.” A wide range of experiences is preferable to a smaller number of “big ticket” events such as “high” arts and culture or professional sports. But members of the creative sector are not drawn only to cities with bike paths, climbing walls, and alternate Saturday recycling programs (though those things can help). Such workers come in all shapes, sizes, colors, and lifestyles; to be truly successful, a region must find a way to offer something to each and every one of them.

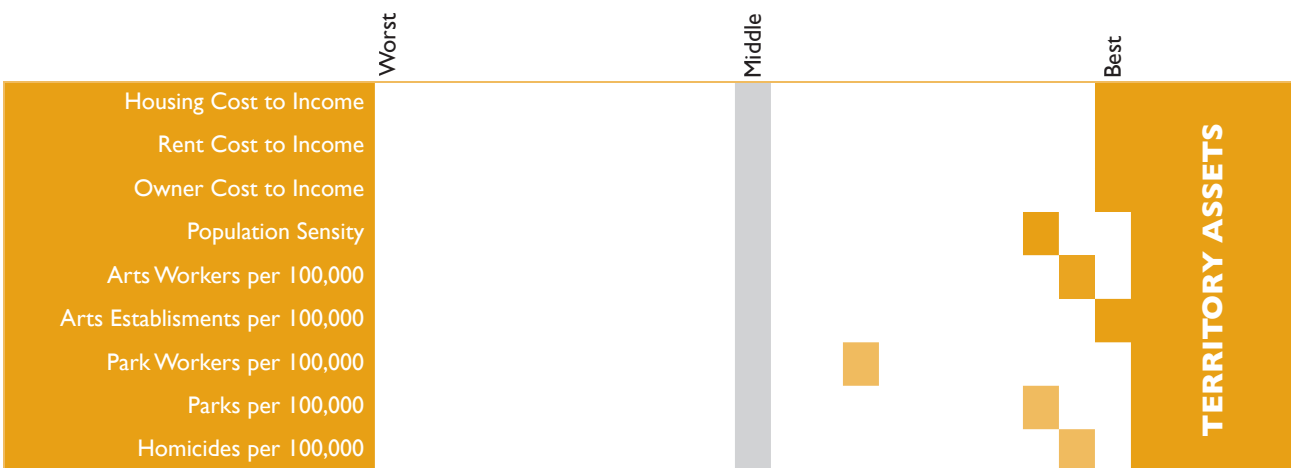


Figure 5 - Montréal Region's Territory Asset Benchmarks (Comparison against 25 Top US/Canada)

International Comparisons

Table 3 shows how Montréal compares to 12 other metropolitan areas from around the world on percentage of the workforce in the creative class. (These international comparison cities were selected based on similarity to Montréal among a variety of factors including reputation, total population and relative standing within their respective countries. Employment definitions vary from country to country but generally include those working in the Finance, Education, Health, Cultural and Recreational, and Personal Service industries.) Montréal's fifth place ranking puts it above such world creative capitals as Barcelona, Lyon, and Sydney. Global competition in the creative economy is a wide-open game. The key element of global competition is no longer the trade of goods and services or flows of capital, but the competition for people. The economic leaders of the future will be those that can best mobilize the creative capacities of their people and attract creative talent from around the world.

City	Creative Class Rank
Stockholm	1
Auckland	2
Sapporo	3
Amsterdam	4
Montréal	5
Brussels	6
Copenhagen	7
Sydney	8
Barcelona	9
Milan	10
Lyon	11
Lisbon	12
Athens	13

Table 3 – International Creative Class

While the value of industrial diversity in generating innovation for a regional economy has been well documented, we have found that the result must be extended to include a more broadly defined creative diversity. Connections at all levels in a rich, creativity-based economy can generate innovation and value across a region. These connections among the broadly defined artistic, design, technology, and business sectors generate the anticipated more closely related spillovers as well as the less expected and more far reaching “spill-acrosses”. High levels of density and creative class employment create conditions under which positive interactions between individuals are more likely to spontaneously occur. These connections can have a positive impact on the innovative and total business activity across the region. With its bilingual and multicultural nature, the Montréal region occupies a unique position within the North American context. While many of the connections presented may be applicable to any city, the cultural connections are unique to the Montréal region. Montréal offers a rich and original set of interconnections. The region's strength is not a single dominate theme but a balance of diverse technological capability and innovation, available skilled and creative talent, and an open tolerant society.

PART 3 | MONTREAL'S CONNECTIONS

Why Are They So Important To Employers and Creative Sector Employees?

The Montréal region presents an outstanding opportunity to look for and examine not only the connections between the creative arts and technology but also those unique bilingual and multicultural connections that can lead to innovation and regional growth and prosperity. The region is also the most diverse in Canada in terms of number of industries which creates greater opportunities for interesting connections to arise (Beckstead and Brown, 2003).

One of the key drivers helping to catalyze the Montréal region's recent growth is the convergence of art- and technology-based entrepreneurs. Interactions between these fields trigger the formation of new businesses in interdisciplinary niches such as entertainment technology, voice recognition, genomics, advanced manufacturing (aeronautics), novel materials and nanotechnology. Innovation and growth tend to be driven more and more by the interfaces among multiple disciplines.

A diversity of industries has been found to be an important factor in generating innovation. That finding should be expanded to a more broadly diverse mix of firms and organizations. We investigated the creative, geographic, linguistic and cultural milieu that Montréal presents in order to find value in these previously unexplored connections.

Specifically, earlier research, our own work, and the findings from the focus groups resulted in three new areas where connections that create spillovers leading to innovation could be found. The first, previously discussed, is the connection between technology (traditional or high tech business) and the artistic, creative community. The second area to look for connections is the direct result of the bilingual nature of Montréal. The prevalence of the French and English languages and the ability of a significant portion of the population to speak both create a unique opportunity for linguistically related innovation. The third and final area where novel connections could be found relates to Montréal's geographic and cultural position. Montréal is among the closest (by air) major North American cities to Europe and affords ready access to the major U.S. population centers in the northeast. This physical proximity enables multinational connections across which ideas and innovations can flow. Each of these connections is more fully explained below.

The Art-culture <---> Technology Connections

For many, the potential impact of technology on the arts is seen every day. One need go no further than the nearest movie theater to see how computer generated imagery (CGI), pioneered by SoftImage and Pixar, has changed movie-making. By pushing the limits of technology, artists use new materials and new media in ways unforeseen by their predecessors – and even the inventors of such technology. Some artists use the microchip and the soldering iron in the same way that Van Gogh used paint and brush. Technology changes the arts. However, art also impacts technology and helps to drive innovation.

In Montréal, artists like Michel Lemieux work directly with manufacturers to develop new materials and techniques for completing their artistic projects. Although “the performer is always the primary focus,” Cirque du Soleil pushes the technology envelope as much as any traditional “high-tech” company with its own major R&D division. More subtly, art impacts business indirectly through the design community. The juxtaposition of colors seen in at a gallery opening the night before can make its way into a graphics designer's product packaging. A new rhythm or sound from the “Techno” band can become part of a video game. In many instances, the artist having the new opening is the graphic designer of product packaging and the band member is doing sound design for the video game. This is the “creative milieu”. These are the kinds of connections that create the “spill-acrosses” that generate innovation across a region.

Ex-Centris is developing technology for digital film delivery. Their DigiScreen product is designed to provide a high definition, digital movie theater experience at an affordable price. Traditionally, this conversion has been very expensive, and even digital movies need to be distributed via actual film prints. Digital projection supports nearly instantaneous distribution on demand, reduces distribution costs, and dramatically changes the access that independent filmmakers have to movie theaters. In a similar vein, D-Box, is now working on a high-speed, robotic chair for a home theaters research project with L.A.-based music composer Gary Mace to advance the concept and richness of the surround sound experience in theaters.

M2CI is a design firm involved in a wide range of international projects, including many large-scale public and museum exhibits. Their design strategy is quite different from Cirque's in that they function essentially as a general contractor and outsource nearly all of their work. As a result, they interact with a wide cross section of Montréal's design, industrial, and technology communities. For example, they used a Montréal technology company to assist in designing the ticketing system for a Singapore museum. Tickets were designed as "keys" to access specific portions of the museum, depending on what the customer purchased. Through its outsourcing, M2CI often functions as a bridge between the design and technology sectors in Montréal and connects these sectors to international contacts.

Montréal, often called the *ville des festivals*, provides a tremendous showcase for lots of experimental work for all kinds of artists. These various festivals also create tremendous opportunities of interactions via temporary density and concentrations of people from across all sectors. The artists are not the only ones who win; organizations and the municipality itself benefit from their presence. In developing the recently completed International Quarter in Montréal, much of which was defined by its use of open space and its "urban furniture," one interviewee noted: "we hired the best talent – designers who are artists."

More traditional creative industries thrive in Montréal, too. Employing over 100 industrial designers, Megabloks has one of the highest concentrations of industrial designers anywhere in the world. It designs and builds toys for Canadian, U.S. and European markets.

Cirque du Soleil, perhaps one of the best examples of this technology-art interface, defines itself not as a circus company, but as a creative content provider. In fact, they employ more engineers than performers in the Montréal region. Cirque has one of the largest R&D operations in the region. A recent *Business 2.0* (Jan/Feb, 2004) article reported that 40% of Cirque's profits are reinvested in its "creative think tank." Consider the millions spent to develop the technology used for "O" at the Bellagio, or the millions being spent for their new show, "Ka", at the MGM Grand in Las Vegas.

Cirque's basic R&D is conducted in three areas: biomechanical, rigging, and general. Ideas can come from anyone, anywhere. All development is done in-house; the only production element that Cirque outsources is set construction. The R&D division within Cirque completes about 35% of the development of any new technology and then makes all possible new ideas available to a new show's Creative Director. When the Creative Director decides he or she wants to use a particular item, setup, or technology in a show, it's developed fully. The technology must serve the artist/performer, who is always foremost in any Cirque show.

Montréal's Society for Arts and Technology (SAT) provides a forum for companies from the two fields to come together. It provides a "play space" for artists from tech companies to try new ideas. This space is also used for a variety of commercial purposes, including the production of fashion and television shows. SAT creates connections among artists and technologists not only from Montréal, but also from around the world.

Language: French <---> English Connections

The French fact is a common expression used in the province to describe what distinguishes Québec from other bilingual parts of North America. Over 98% of the Montréal CMA population speaks either French or English, and over 53% speaks both. Over 44% of "mother tongue" French speakers use English "most often" or "regularly" at work, while over 66% of "mother tongue" English speakers use French "most often" or "regularly" at work. Although the majority of the region is bilingual, there are a significant number of French-only (38.0%) and English-only (7.5%) speakers. Over 18% of the population with a "mother tongue" other than French or English also speak one or both of those two languages. (All numbers from 2001 Census, Statistics Canada). While some sections of the Montréal region are unilingual, most are bi- or even trilingual. This rich mélange of languages creates opportunities for linguistic connections that can generate or translate into innovation.

Geography: Montréal <---> U.S. and Europe Connections

The Montréal region is served by a major international airport (Trudeau) that puts it within 6_ hours of London, 7 hours of Paris, 9 hours of Berlin, and 10 hours of Rome – just under the flight times from New York City to those same European destinations. Montréal is closer to Europe than any other major North American city. This relative proximity creates opportunities for diverse connections with those in a wide variety of European cities. While the potential connections identified earlier focused within the Montréal region, these connections, and the ones that follow, extend beyond the region. While the primary focus of this study is the value generated by internal connections, information collected on the potential value of these external connections can be used for comparative purposes.

Montréal is within 700 miles (1,200 km) of 112 of the 321 major metropolitan areas in the U.S. and Canada. Although this represents only 35% of the metro areas, these 112 regions account for almost 45% of the total metro population in both countries. Over 42% of the total U.S. metro population – 100 million people in 81 metro areas – fall within this 700 mile radius. Montréal itself is closer by road to the U.S. than Toronto – only 70 miles (120 km) from the border. As with connections to Europe, the Montréal region has an opportunity for external connections with the U.S. that could be a source of innovation.

Montréal's location places it equidistant between Europe and the North American west coast, with easy access to all the major population centers in both the U.S. and Canada. As one interviewee put it, "In the morning I can talk to London and after lunch, L.A. ... In the same six hours, I can fly to either Paris or Los Angeles." As the only major metropolitan area in the U.S. and Canada that is predominately bilingual but somewhat multilingual, the Montréal region offers a unique opportunity to benefit from the innovative impact of both language and cultural connections. As Montréal International puts it, "Montréal has developed a lively, resolutely contemporary culture that is open to the world, a culture situated at the crossroads of European and American trends."

The results of the interviews also revealed that the geographic and language connections, although crucial, don't completely capture the international nature of the Montréal region. The broader cultural connections with both Europe and the U.S. are even more important. One interviewee noted that, "Montréal has a culture that is both European and American. We have the laid-back attitude of the French and the Italians along with the organization of the English and Germans that works so well with the U.S." As a software development executive put it, "We develop products that we can sell in both the U.S. and Europe because we understand them both." Montréal is not simply bilingual – it is bicultural, even multicultural. While the same may be true of the entire province of Québec, Montréal is the only major city within the province. And, while the Montréal region accounts for 47.4% of the total population of Québec, it also contains 73.8% of the province's native English-speaking population (Statistics Canada, 2001). The Montréal region is uniquely positioned to benefit from these cultural connections.

The Role of Montréal's Underground in the Creative Process

A pervasive creative milieu generates the kind of connections that make Montréal a must-be place to do business, in part by enabling the "spill-acrosses" that create innovation within and across businesses in a region. The Montréal underground helps catalyze these connections and is major talent magnet. The challenge is that most employers, especially those from outside the region, don't fully understand what the underground is or how it actually adds value to their business.

Discreet, an entertainment technology software developer, recognizes that value. It cultivates a bottom-up engineering development environment through academic internships and uses the "soft" cultural aspects of the Montréal region's clubs and art scene to get potential employees "stuck" in the region. In this way, the underground scene helps attract and retain these highly sought after employees.

Diesel, a local marketing company goes so far as to give its own employees grants of up to \$50,000 to develop and pursue their own creative/artistic opportunities after hours. The company produces the events and items, but the individuals profit from them.

A new rhythm or sound from a local "techno" band can become part of a video game. In many instances, an artist having an opening at a local gallery is the graphic designer of product packaging, and the DJ is doing sound design for the video game.

The underground also serves as a viral, word-of-mouth, and very low cost communications and distribution channel for emerging artists and designers. Its barriers to entry are low – almost non-existent – which provides the “techie-by-day; artist-by-night” with a channel to perform and exhibit. The general climate of the underground is edgy and experimental. The underground creates connections and provides stickiness and magnetism for Montréal.

Of the 33 interviews completed during this project, 22 were with individuals from firms. The firm size ranged from 3 to over 6,000, with an average of 555 and a median firm size of 83. Among all 22 firms, respondents estimated that 49% of their employees – a remarkably high number – had an “[outside] part-time job, hobby or passion related to arts, design, or culture.” Although creative and design firms were included in the sample, so were the major aerospace technology manufacturing companies in the Montréal region (Bombardier and Pratt & Whitney), along with consulting, IT development, architecture, design, and other company types.

Reaching outside the firm to establish connections is an important option for employees to have. Equally important are the ability of a firm to tap into its own employees’ creative energies and having a region with the creative milieu to allow employees such pursuits. Occasionally, a firm will lose an employee when her outside job becomes successful enough that the day job is no longer needed. Rather than being perceived as a negative by the firm, several firms mentioned that they use success stories like these as a recruiting tool to help attract new talent to the firm.

Summary: The Bottom Line

Key Message Themes:

- The Power of Montréal’s Super Creative Sector Assets
- The Montréal Connections
- Building Creative Capacity
- Authenticity and Uniqueness

Human creativity has become the main driver of economic and social growth. Montréal has as a strong creative economy, and its creative workers are highly interconnected, in part because of the city’s concentrated population density and the diversity of its people and industries.

Montréal has a well diversified economy for a city its size, and wealth distribution is less unequal than in most North American cities. In this respect, we see a relatively robust economy that, though it doesn’t have the same level of economic performance as other regional economic poles in North America, still harbors real sustainable growth possibilities and an impressive pool of talented workers.

While boasting a diverse mosaic of people and cultures offers some advantage, Montréal derives still greater advantage from the interconnected nature of that mosaic. Rather than a whole composed of isolated pieces, Montréal offers a rich multicultural tapestry whose individual threads, when woven together, create something greater than the sum of its parts. The region’s strength is not a single dominate asset, but the harmonious balance of diverse technological capability and innovation, available skilled and creative talent, and an open tolerant society.

References

Much of the content of this summary is based on the data and findings from “Creativity and Connectivity: Understanding the Positive Effects of Connections” by Dr Kevin Stolarick and Dr Richard Florida (currently a working paper – to be submitted to several scientific publications).

Additional information has been provided by Montréal International (www.montrealinternational.com).

Thanks

This study was made possible thanks to the direct involvement of nine partners:

Culture Montréal and
the ministère des Affaires municipales, du Sport et du Loisir du Québec
the ministère de la Culture et des Communications du Québec
Canada Economic Development
the Department of Canadian Heritage
the Ville de Montréal
the Communauté métropolitaine de Montréal
Montréal International
and Tourisme Montréal.

This project has also received the support of the
Board of Trade of Metropolitan Montreal.

Special thanks to the many and diverse participants from throughout the Montreal region who participated in the focus groups or provided insight during the interviews.

Additional thanks will be included in the final version of the academic article.