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The Place of Design: Exploring Ontario's Design Economy

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Executive Summary

Design has become a celebrated and central aspect of today's economy. Academics, policymakers and business leaders increasingly recognize that design – an inherently creative activity that sits at the intersection of art, business and technology – is a critical input into the production of goods and services in both emerging and traditional sectors.

This report provides a comprehensive review of international best practices in the development and promotion of the design economy, as well providing an overview and analysis of Ontario's design workforce. Specifically, it addresses the following five questions:

1. What are the international best practices in terms of the policies that promote and support design-led economic activity?
2. What are the spatial and sectoral characteristics of Ontario's design activities?
3. What are the prospects for and implications of the design economy for Ontario's mid-sized and smaller cities?
4. Can local design institutions be catalysts for growth and prosperity in the creative economy?
5. How can Ontario better advance and capitalize on its local design expertise?

The report draws upon both quantitative and qualitative data and evidence to explore these questions. The analysis is based on in-depth policy analysis, statistical analysis of data collected by Statistics Canada, and case study research in the Toronto and the Kitchener-Waterloo-Cambridge regions, including interviews with key informants who are intimately familiar with the dynamics of the design economy. The analysis focuses on six design occupations: architects, landscape architects, industrial designers, graphic designers, interior designers, and theatre, fashion, exhibit, and other creative designers.

Given our review of international policy best practice, we argue that Ontario can capitalize on a **design dividend** since designers contribute to and enhance local and regional economy directly and indirectly in five distinct ways:

1. **generating revenue** from their own design practices which serve both local and global clients, require inputs and services from local suppliers, and **create employment opportunities** for other designers through the project-based nature of design.
2. applying design skills and thinking to **add value and enhance the quality and sustainability** of products and services in other sectors;
3. acting as a **source of new knowledge and innovation**, often crossing disciplinary and sectoral boundaries;
4. participating in activities that **enhance community engagement and identity**, and
5. contributing to the **construction of quality of place** and improving the aesthetic appeal and quality of the built environment;

The most striking findings emerging from our and our quantitative and qualitative analysis of Ontario's design economy are outlined below:

1. *National and regional design policies:* Local, regional and national governments in advanced, open economies – especially those outside of North America – have systematically developed strong design policies intended to promote and support design activity and the use of design across a wide range of sectors. Policy instruments have included local design referral programs, tax credits, public and business education and awareness campaigns, investments in design-related higher education, public procurement strategies, and national and regional branding initiatives. With few exceptions, such policies and strategies have not been enacted in Ontario or the rest of Canada.
2. *Ontario's design workforce:* Despite the lack of explicit and coordinated design policies, Ontario has a large, urban-based design workforce. There are 45,150 designers in Ontario. Over 90% of Ontario's designers work in one of Ontario's major urban centres and 61.9% of Ontario's designers can be found in Toronto.
 - a. *Ontario has a fast growing design workforce.* Over the past fifteen years, the design workforce grew at a rate of 3.9% per year, almost four times the rate of the overall workforce.
 - b. *Growth is cyclic and volatile.* Between 1987 and 2007, growth of Ontario's design workforce significantly outpaced the growth of the overall workforce. However, Ontario's design workforce is especially sensitive to economic downturns and designers are often laid off during recessionary periods.
 - c. *Toronto has a vibrant 'design ecology'* – Toronto has the largest design workforce both in terms of absolute and relative employment size in Ontario and Canada. This critical mass of designers is at the core of Toronto's complex 'design ecology' made up of design-related educational programs, industry and professional associations, design agencies and studios, and other related actors. These institutions have generated a robust architecture of partnerships, relationships, and talent that reinforce a commitment to highly innovative design. Toronto's neighbourhoods provide fertile grounds for inspiration and the city's diverse economy provides opportunities for learning and innovation across sectoral boundaries and bringing different ideas together.
3. *Prospects for Ontario's mid-sized and smaller urban centres:* Outside of Toronto, some of Ontario's mid-sized and smaller cities have a specialization in one or several areas of design expertise that reflect the industrial structure and history of the region, as well as the presence of key local institutions. For example, Guelph has a high concentration of landscape architects, supported by the University of Guelph's internationally recognized landscape architecture program. Places like Kitchener, Windsor and Hamilton, which have historically had a strong manufacturing base, all have high concentrations of industrial designers. There are also some signs that design expertise is beginning to become more evenly distributed across Canadian cities; or, in other words, designers may be dispersing from Canada's largest urban centres to a second tier of Canadian cities. Ontario cities that are close to major metropolitan regions such as Hamilton and Guelph have improved their position in the past five years.
4. *The role of local design institutions:* Local design-related institutions can be catalysts for development and prosperity. In Ontario, the School of Architecture at the University of Waterloo is an iconic example of how a design school can be a catalyst for design-related growth, urban revitalization and upgrading, community

engagement, and investment in the local economy. This is an important lesson for Ontario's largest cities, as well as smaller and mid-sized centres to realize that such institutions can act as 'anchors of creativity' in today's economy.

Overall, it is clear that Ontario has several strengths related to design. However, Ontario has not adopted and implemented design-related policies and strategies to the same extent as other regions and nations. This suggests that for Ontario to effectively advance and capitalize on its local design expertise will require a multi-level and multidisciplinary policy involving local, regional and provincial policymakers, as well as business and community leaders.

Recommendations for achieving these outcomes are as follows:

- 1. Promote and encourage Ontario firms to adopt a value-added strategy that incorporates design and design practices.** Ontario has a large and growing design workforce, yet it is not clear that firms, communities and regions in the province have fully taken advantage of this important asset. Providing incentives for implementing design into business practices – such as design tax credits and industry competitions – can be a critical part of a broader strategy for value creation, industrial upgrading, innovation and job retention in traditional and emerging sectors.
- 2. Invest in design education, training and workforce development.** Design work has been shown to be extremely susceptible to shifts in the business cycle; design work is risky, contingent and precarious. Providing supports and programs that allow Ontario's designers to remain on the leading edge of practice and facilitating access to job search and employment networks will maximize the quality and quantity of Ontario's design workforce. Such learning, education and workforce development strategies are critical in today's economy.
- 3. Develop and support the strong design infrastructure in Toronto.** It is important to acknowledge the unique and central role that Toronto plays in Ontario's design economy, which supports globally-recognized innovation and contributes to the strong quality of place characteristics of Toronto and the surrounding region. Nurturing these territorial assets – which includes the preservation of diverse, stable, mixed use, mixed income neighbourhoods and affordable living and working spaces – will be critical in maintaining Toronto's thriving design ecology.
- 4. Implement supportive, design-related arts and culture policies.** In Ontario's urban centres, both large and small, design contributes to improving the aesthetic appeal and quality of the built environment. Supportive policies, as well as initiatives such as awards competitions and investments in the public realm, will have extraordinary value in constructing quality of place and engaging local citizens in their communities.
- 5. Support and encourage the development of local design institutions.** Strong local design institutions can act as anchors of the creative economy, both in Ontario's largest cities and its small and mid-sized centres. Such institutions can facilitate the development of networks and associations that support investment and stimulate local design culture, as well as animate communities and regions to engage in community-building and development.

Addressing these issues requires coordinated actions across different levels of decision making (local, regional, provincial) and across traditionally separate policy making arenas (e.g. art and culture, education, industry and trade, innovation and economic development). By working to

educate business leaders, policymakers and the public about the importance of design as a key source of innovation and value added for both firms and communities and learning from the international best policy practices outlined in this document, Ontario can remain an innovative and prosperous region in the global economy. Ontario clearly has a large design workforce. However, this remains a relatively under utilized and under appreciated asset and there is a significant opportunity for Ontario to more fully reap the benefits of a design dividend.

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1 The place of design in the contemporary economy

Design has become a celebrated and central aspect of today's economy. Academics, policymakers and business leaders increasingly recognize that design – an inherently creative activity that sits at the intersection of art, business and technology – is a critical input into the production of goods and services in both emerging and traditional sectors.

Design is central to innovation and must be understood broadly to encompass “not just the aesthetic aspects of a product but also their overall technological performance and character. The act of design involves not just shaping a product's appearance but also involves a range of inputs into the creation of the form and function of a product and its production, marketing and appeal to the consumer” (Power 2004). For example, design can be incorporated throughout the research and product development phase, applied to manufacturing processes to reduce costs, as well as used in the creation of office and retail environments and spaces and in the branding and marketing of products and services enabling firms to differentiate themselves in local and global markets. Firms can take advantage of design capabilities through a variety of means, including 1) having their own in-house design department or employing designers as part of multidisciplinary teams in various facets of their business (e.g. product development, marketing); 2) hiring freelance designers on a contract basis to work on specific projects; 3) purchasing the services of an outside design consultancy; or 4) using some combination of the above three options (see also Vinodrai and Gertler 2007; Vinodrai et al. 2007).

This policy research paper draws upon the interdisciplinary literature on the dynamics of the creative and cultural economy to unpack and understand the organizational, institutional and spatial characteristics of design activity (c.f. Scott 2001; Caves 2002; Florida 2002b; Power and Scott 2004; Currid 2007). This literature points to the potential of creative and cultural activity as a strong force for local and regional economic development that requires a more balanced and holistic policy approach than is traditionally enacted. Moreover, this body of research highlights some of the unique characteristics and dynamics associated with creative and cultural activity – such as the urban, highly individualized, risky, and project-based nature of creative work (Christopherson 2002; Grabher 2002a, 2002b; Ekinsmyth 2002; Vinodrai 2006). The urban nature of creative work raises issues about the extent to which design-led innovation and other design-related activities can be expected to be found in mid-sized or smaller centres. It should also be noted that, in the fields of business and industrial ecology, there is an emerging interest in the business use of design, design for the environment and design for sustainability.

Combining the insights and perspectives asserted by leading edge theorists in these fields, an emerging hypothesis that the very nature of design practice itself means that design holds the promise as an arena for both creativity and sustainability-led economic development thereby making it attractive to business leaders, policymakers and communities.

By some estimates, Ontario has one of the largest cadres of designers in Canada and in North America (Gertler and Vinodrai 2004). However, despite this critical mass and early attempts to develop design culture, Ontario has arrived late to the design stage (Vinodrai 2005). Yet, there is some evidence of success, despite conditions which may have stood in the way of design-led innovation. This research assesses Ontario's current position in the design economy and examines some of the barriers to the widespread use of design in Ontario's traditional and emerging sectors.

Given this background, this paper addresses the following questions:

1. What are the international best practices in terms of the policies that promote and support design-led economic activity?
2. What are the spatial and sectoral characteristics of Ontario's design activities?
3. What are the prospects for and implications of the design economy for Ontario's mid-sized and smaller cities?
4. Can local design institutions be catalysts for growth and prosperity in the creative economy?
5. How can Ontario better advance and capitalize on its local design expertise?

The remainder of this paper is structured as follows. Section 2 describes the methods used in this analysis. Section 3 provides an overview of international practices and mechanisms in the policy arena that have been adopted in other advanced and emerging economies. Section 4 analyzes the spatial and sectoral characteristics of Ontario's design economy in quantitative terms. It also provides a more qualitative account of the nature of design work and identifies two specific case studies of how design institutions, designers and design firms have been successful in Ontario. The case study vignettes delineate how Toronto's critical mass of designers provides opportunities for innovation, creativity and the exchange of ideas across local industries and describes in concrete terms how local design institutions can make a difference and act as catalysts for growth and prosperity in Ontario's mid-sized and smaller urban centres. Finally, Section 5 draws together the key findings of the research and provides some commentary on the implications of the finding for public policymakers, as well as community and business leaders.

Overall, we argue that a **design dividend** will accrue to those firms, communities, cities and regions that are successful in investing in design and incorporating design expertise into their policies and practices.

2 Data and methods

The research presented herein includes the collection of both primary and secondary data. To assemble evidence about the nature of international best practices that highlight how design has successfully been used to bolster competitiveness and prosperity, we have conducted a broad scan of the academic, policy and business literature. We have paid particularly close attention to examples emerging from open, advanced economies, such as Denmark, Norway and Finland, where design has been instrumental to firm, regional and national economic success and performance.

In order to provide a detailed overview of the nature and character of Ontario's design economy, we draw upon both quantitative and qualitative evidence. Statistical data has been extracted from the Canadian *Census of Population, 2001-2006*, as well as from custom tabulations from the *Labour Force Survey, 1987-2007*. We measure design in both occupation- and industry-based terms. The distinction between studying industries and occupations is important (see Feser 2003; Markusen 2004); an occupational approach is useful for uncovering the talents that exist within the labour market and places the emphasis on the skills and capacities of Ontario's workforce.¹

¹ It should be noted that on-going work on the 'creative class' and economic development defines the 'creative class' in occupational terms, and according to this definition, designers are part of this broad and heterogeneous group (Florida 2002; Martin Prosperity Institute 2008). A focus on designers provides insight into the specific labour market dynamics and practices associated with this particular group of occupations.

In this research, our emphasis rests on the design workforce defined in occupational terms. When we refer to the design workforce, we refer to the six design occupations listed below:

- Architects
- Landscape architects
- Industrial designers
- Graphic designers
- Interior designers
- Theatre, fashion, exhibit, and other creative designers

These occupations are defined using the National Occupational Classification – Statistics (NOC-S). Appendix A provides a detailed description of these design occupations in Canada. When we refer to the design industry, we are referring to the ‘specialized design services industry’ as defined using the North American Industrial Classification System (NAICS). Appendix B provides a detailed description of the industries included under this classification.

In addition to the statistical data described above, further insights have been drawn from in-depth interviews and consultation with experts in field, including representatives from Ontario’s design schools and educational institutions, professional associations, policymakers and other government officials. The research and case studies explicitly draws upon previous research on Toronto’s design ecology that included 60 in-depth interviews with practicing industrial and graphic designers, educators, and other experts (see Vinodrai 2005, 2006, 2009), as well as expertise developed through a longstanding relationship with the Design Industry Advisory Committee (DIAC) (see Gertler and Vinodrai 2004) and interview-based, case study research being conducted under the auspices of the Innovation Systems Research Network (ISRN) (Vinodrai 2008b).²

3 Understanding the design economy

3.1 Towards a ‘design dividend’

A growing body of literature points to the important role that art and design activities play in the urban economy. Here, we take a cue from Markusen and King’s (2003) influential work on the role of artists in the regional economy (see also Florida 2002a; Lloyd 2006; Currid 2007). They argue that artists play a key role in raising the overall productivity and earnings of urban economies in several ways, including exporting their work thereby bringing new revenue to the region; engaging the services of local suppliers; using their creativity to enhance the success of other products and services in other sectors of the local economy; contributing to the broader artistic and creative scene of a region thereby making it easier to attract other skilled workers; and enhancing the level of entrepreneurialism in the region. In this way, urban and regional economies with a high proportion of artists accrue an *artistic dividend* (see also Markusen and Schrock 2006).

² The Innovation Systems Research Network (ISRN) is a network of researchers examining innovation in various cities and regions across Canada. This research draws upon interview instruments and tools developed under the auspices of the ISRN’s project, *The Social Dynamics of Economic Performance*, directed by Meric Gertler and David Wolfe of the University of Toronto and funded by the Social Science Research Council of Canada (SSHRC) through a Multi-Year Collaborative Research Initiative (MCRI).

However, Markusen and Schrock (2006) also acknowledge that designers play a vital role in urban and regional economies. Yet, they exclude designers from their analysis on the basis that design work – while sharing some similar qualities to artistic work – is unique and different in several ways. For example, designers are quite unlike artists in terms of their wage levels (often higher than artists), their geographic and sectoral distribution, their work practices, and their levels of professionalization.

Nonetheless, design and designers should not be overlooked. Recent work on designers in Toronto, Ontario and Canada points to the critical role of design in adding value to the economy and quality of place both directly and indirectly (see Gertler and Vinodrai 2004; Vinodrai 2005, 2006, 2009; Gertler et al. 2007; Gertler and Geddie 2008; Leslie and Brail 2008).

Building on Markusen and King's (2003) concept of an artistic dividend, this research suggests that firms, communities, cities and regions can accrue a **design dividend**.³ Designers contribute to and enhance the local economy by:

1. **generating revenue** from their own design practices which serve both local and global clients, require inputs and services from local suppliers, and **create employment opportunities** for other designers through the project-based nature of design.
2. applying design skills and thinking to **add value and enhance the quality and sustainability** of products and services in other sectors;
3. acting as a **source of new knowledge and innovation**, often crossing disciplinary and sectoral boundaries;
4. participating in activities that **enhance community engagement and identity**, and
5. contributing to the **construction of quality of place** and improving the aesthetic appeal and quality of the built environment;

Through the remainder of this paper and the accompanying in-depth case studies, we explore some of the ways in which this **design dividend** accrues to firms and places and how design is supported through a variety of policy mechanisms.

3.2 The economic value of design

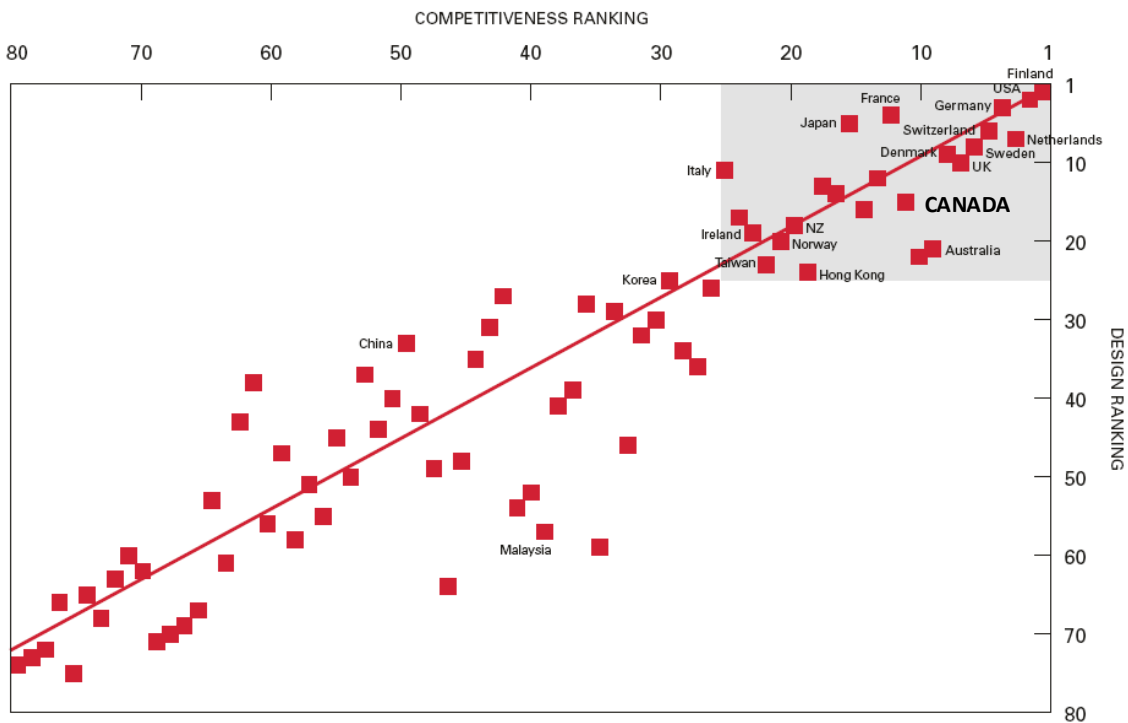
The economic value of design has not been lost upon observers of the contemporary economy. Design-led innovations and strategies are being pursued by companies around the globe, not only in North America and Europe, but also in Japan, Korea, and in emerging economies such as India and China. The widely acclaimed market success of products such as Apple's iPod and other electronics made by companies such as Sony, Nokia, LG and Samsung is attributed – in part – to their ability to use design effectively (Nussbaum 2005). This recent literature on the 'business of design' claims that design can be used as a strategic management tool giving firms an edge in the global marketplace and that the use of design is imperative for the economic

³ It should be noted that, similar to Markusen and Schrock (2006), the word 'dividend' is invoked in a manner that implies far more than just direct financial or economic benefits that accrue to firms or regions. Such benefits are often intangible, hard to capture, and difficult to measure (Vinodrai et al. 2007). Therefore, in this work, the design dividend implies both the direct and indirect contributions to innovation and to improvements in the economic, social and cultural well-being that accrue to particular locations due to the presence of an active design community.

competitiveness of firms, regions and nations (Kotler and Rath 1984; Nussbaum 2004a, 2004b; Merritt and Lavelle 2005; Martin 2006). Certainly these design successes are most visible and obvious in the consumer electronics industry, but the successful use of design to gain competitive advantage in the global marketplace goes well beyond a single sector in the economy. Firms in more traditional industries such as furniture, textiles and apparel have also been able to re-invent themselves through the effective use of design (Lorenzen 1998; Rantisi 2002; Leslie and Reimer 2006).

However, is there systematic evidence to support the view that design is a key driver of economic competitiveness and prosperity? Recent evidence from Europe and elsewhere has shown that design is an effective tool for fueling innovation and ultimately securing value-added for the firm, region and nation-state (New Zealand Institute of Economic Research 2003; New Zealand Design Taskforce 2003; Danish Design Centre 2003; British Design Council 2004; Power 2004; Solum and Hubak 2004). Overall, these studies show that design is a critically important source of economic value, raising levels of firm level profitability and productivity, and contributing to national economic competitiveness and performance. For example, at the national level, a study by the New Zealand Institute of Economic Research (2003) used data from the World Economic Forum's *Global Competitiveness Report* to construct rankings both national competitiveness and design. They demonstrated that there is a strong, positive relationship between overall national competitiveness and the use of design (Figure 1).

Figure 1: The relationship between national competitiveness and design



Source: New Zealand Design Taskforce, 2003.

At the firm level, Solum and Hubak's (2004) study of the Norwegian design sector found that companies that invest in design tend to be more internationally-oriented than non-design users, thereby connecting design-intensive Norwegian firms to wider, global markets. Elsewhere, the Danish Design Centre (2003) conducted a comprehensive survey of Danish companies to make

a statistical link between the adoption and use of design and firm level performance indicators. They note that

there is marked correlation between the use of design and the economic performance of companies and subsequent macroeconomic growth. Furthermore, it is apparent that companies where design is a core issue and which purchase design services both internally and externally perform better.

Similarly, the British Design Council (2004) documents how British firms that adopt and use design through their organization outperform firms that do not use design. The researchers tracked the share prices of a group of 63 UK companies that were identified as effective users of design based on their consistent record of design-related awards. These firms represented a cross-section of industries, including both traditional and emerging manufacturing and service activities. The study showed British design-intensive companies outperformed the FTSE 100 over the period between 1994 and 2003 (Figure 2). When the researchers extended their study to include an additional 103 UK companies whose success in winning design awards approached that of the original 63 design-led companies, they observed similar patterns of superior stock market performance. These findings provide clear and compelling evidence that firms that are effective users of design outperform their peers on the stock market. Supporting this view, research on the use of design amongst US firms found that firms that employ designers in-house *and* hire design consultancies are more likely to be successful (Core77 2002).

Figure 2: Stock market performance of design-led companies in the United Kingdom, 1994-2003



Source: British Design Council, 2004.

3.3 National and regional design policies: Learning from international policy best practices

Given that the accumulated evidence suggests that design is a critically important source of added value and can reduce production costs, simplify and enhance the sustainability of the

production process, and can be effectively used to differentiate and brand products in the market, it is therefore not surprising that national and sub-national governments around the world have paid increasing attention to the role that design plays in enhancing the innovative capabilities of firms and regions.

Table 1 delineates the policy approach to design across 13 countries and identifies the key actors, the scale of policymaking, and the focus of the policies. There is some variety amongst advanced and emerging countries, both in terms of the types of design policies and programs that exist and the scale at which they are governed. For example Denmark, Sweden, Norway, Finland, Ireland, and Korea all have nationally oriented design policies. On the other hand, Australia and Italy have taken a regionalized approach to design policy which highlights the unique economic and cultural assets that exist within each region of the country. Overall, the design policies and programs described in Table 1 involve policymakers and decision makers in several major policy areas, including arts and culture, trade, industry, and education. Furthermore, these national and regional design policies and programs have a number of shared goals and generally involve one or more of the following broad objectives:

- increasing the adoption of design and design practices amongst businesses
- improving the quantity and quality of the design workforce, especially through improving design education
- improving the public's appreciation and awareness of design
- improving the quality of life and the built environment
- improving the sustainability of firms, communities and the economy
- creating a strong cultural identity and/or national image/brand

While the objectives of these design programs may seem broad and far-reaching, they are often operationalized in ways that have clear and tangible outcomes. We discuss several specific programs and initiatives below.

The Nordic countries are recognized as global leaders in the development of design and design thinking and it is well recognized that design infuses every aspect of everyday life. While this design success rests on a longstanding history of institutional support, more recently, design has been promoted and supported through several initiatives. In Norway, the Design Council runs an awards program, seminars and educational programs for designers and businesses, as well as operating a referrals program to match Norwegian businesses with local design expertise. Norway has also mounted several branding and promotional initiatives such as the 'Design Year' program and the campaign 'Design on its way' which encouraged local firms to adopt design thinking and design practices. Finally, Norway has operated a 'Design without frontiers' program which leverages Norwegian design thinking, expertise and problem solving to address social, environmental and economic issues in developing countries (Solum and Hubak 2004).

Similarly, Sweden has introduced several policy measures to promote design and has actively invested in design research and education, especially encouraging the link between design and sustainability. In 2005, Sweden hosted a Year of Design. It has also encouraged various national institutions and agencies to support design-led initiatives, thereby using public procurement strategies and other public programs to showcase the possibilities for using design to develop new products, enhance existing products and to educate the public on a variety of issues. For example, the Swedish Energy Agency (STEM) financed the project "Static!" at the Interactive Institute, which was "about creating energy awareness using design. ... [including a lot of prototype] products that reward you for good behavior, like the Flower Lamp, which "blooms" when you reduce your electricity consumption" (Swedish Institute 2008: 6).

Finally, Finland has a long history of promoting design education and design practice dating back to before the 1900s. While this was originally an arts and crafts-based movement, it has since evolved. In the contemporary period, programs and policies are primarily intended to engage the public and put the idea of design and its importance in the public realm. The goal of these programs is to convince consumers of the importance of Finnish design and to 'buy local'. Other programs have included the active internationalization of design management programs that promote design thinking/use throughout the firm (now also offered in Korea), investment in design research as a recognized field of study at higher education levels (including the granting of PhDs in this field); and mechanisms that encourage dialogue between designers, educators, public sector and industry leaders to ensure the transfer of ideas and knowledge; and a full slate of promotional activities (Korvenmaa 2001). Finally, the newly created design school in Helsinki was located in order to reinvigorate a declining, traditional ceramics manufacturing district. In this way, the adaptive reuse of buildings to create leading edge design research labs has created an 'anchor of creativity' (see Gertler and Vinodrai 2005; Vinodrai 2008b) within this particular neighbourhood and the area has experienced significant urban renewal and revitalization (Korvenmaa 2001). In this sense, design institutions act as a catalyst for economic development with both short- and long-term benefits.

As noted, in the Nordic countries, many of the first design-related policies, programs and investments existed prior to WWII, whereas places such as Korea are newer to this policy field. Korea's first design policies were introduced in the early 1990s with the government's first five year plan for industrial design promotion. The global success of companies such as Samsung and LG, both Korean electronics companies, can be partly attributed to these investments.

Based on the success of these national and regional design policies – especially amongst the Nordic countries – several smaller, advanced and emerging economies are beginning to examine the role of design in the national economy. For example, both New Zealand and Estonia have recognized the importance of design and are creating national strategies that target design education, sector/business development, design adoption amongst other firms, and international branding and promotion.

While it is often difficult to evaluate the efficacy of these national and regional efforts, several measurable outcomes and indicators have been used to evaluate the successes (and failures) of these programs and policies (see Hytönen 2003). These include:

- increase in the number of firms that invest in their design capabilities and/or integrate design into their decision making (Sweden, Norway, Finland, Korea)
- increase employment of designers in design consultancies (Ireland)
- increase employment of in-house designers (Ireland, Korea)
- increase the global presence of designers and design firms (Finland)
- increase the number of firms that hire designers and/or design consultancies (Denmark)
- increase the market value of the design industry (Korea)

While limited in scope, these indicators provide tangible measures that can be used to evaluate the extent to which various policy goals reach their intended outcomes. It is also clear that, while the programs have been primarily delivered at the national level in other parts of the world, similar policy program and supports could be implemented at the sub-national (i.e. provincial or regional) level.

Table 1: Comparing international policy approaches to the promotion and adoption of design

Country	Scale of governance / organization / emphasis	Policy objectives	Key actors
Australia	regional design promotion	design promotion, improve design education and research	national design organisations, design education, regional governments
Denmark	national design policy	competitiveness of companies and new products, welfare of the society	design centre, design businesses
Estonia	national design policy (proposed)	improve the design sector to strengthen the competitiveness of business and industry and improve the quality of life	design centre, design businesses, government
Finland	national design policy	improve competitiveness by raising the standard of design education and research	design educators, government, industry
Germany	institutional-led promotion	transfer of design-related information and know-how in the fields of business, politics, culture and public life	design professionals, government, industry
Ireland	national design policy	growth of the design sector	design professionals
Italy	official regional design policy and promotion programme	support regional businesses and design businesses in order to create regional production and brands	design educators, businesses
Korea	national design policy and promotion	enhance the competitiveness of national products	government
New Zealand	national design policy	market and commercial successes, improved operational efficiency and increased return on investments for companies	national design organisations, design businesses, industry
Norway	national design policy	increase share in global markets	government, design educators, tourism businesses
Sweden	national design policy	world leader in design processes and innovative caring society	national design organisations
United Kingdom	national led promotion	increase the export of design skills, innovation and products	design council, design and export businesses, government
United States	promotion by national level professional organizations	improve the effectiveness of organizations through design	design businesses

Source: Adapted from Hytönen 2003.

3.4 Canada and the design economy

Despite the clear evidence that design is critical to the competitiveness, innovativeness and prosperity of firms, communities, cities and nations and that a wide range of regions and countries have adopted and embraced design-oriented strategies, design has not been particularly prominent within Canadian economic or cultural policy. This can – in part – be attributed to the nature of design itself, which requires policy support that cuts across several traditionally separate policy areas, including: art and culture, industry and trade, and education.

At the federal level, the National Design Council, created in 1961, was dismantled in the 1980s. In 1991, the Design Exchange (DX) was established, symbolically located at the old site of the Toronto Stock Exchange, strongly suggestive that symbolic and artistic capital could be as important as financial capital in the contemporary economy. As an institution, the DX was intended to be Canada's first national design museum, as well as a national institution for design research and education. At present, the DX runs a prominent awards program, several workshops and seminar series, exhibitions, and other educational programs. However, while playing an important promotional role, the DX has faced several difficulties and challenges and remains disconnected from the broader community of practicing designers (Vinodrai 2005, 2006).

Due to the lack of strong national support for design-related activity, the few design-related policies and programs that do exist have been the result of provincial and local policy supports. This has been most apparent in the Province of Quebec where several policy mechanisms have been put in place over the past decade or so (Leslie and Rantisi 2006). At the provincial level, a design tax credit program, introduced in 1994, encourages firms to develop distinctive, higher value-added products. The program provides an incentive for firms to develop unique, original and innovative products, rather than imitation and copy-cat products. At the local level, Montreal has been very active and successful in promoting design and has established institutions such as the Institute of Design Montreal (IDM), which promotes the economic value of design. The city holds an annual competition, Commerce Design Montreal, which encourages local businesses to invest in design and the local built environment. This awards program recognizes local businesses for the innovative use of design in their office and retail space. Furthermore, a 'People's Choice Award' engages local citizens and promotes design awareness amongst the public (Leslie and Rantisi 2006). More recently, the secretariat offices of both the International Council of Graphic Design Associations (ICOGRADA) and the International Council of Societies of Industrial Design (ICSID) were relocated to Montreal. Both organizations are key actors on the global design stage, are mandated to encourage a collective voice for design, and are the founding partners of the International Design Alliance (IDA).⁴

While Montreal and the Province of Quebec have recorded significant success in promoting design, both as an economic and cultural activity, the same can not be said of the Province of Ontario. Ontario has not had a coordinated or active response to the growing recognition that design can be a vital source of innovation and value-added production. In 1995, *Design for a Strong Ontario* called upon the Ontario government to recognize the important economic contribution that designers and design firms can make. The study outlined a strategy for Ontario's design sector that included stimulating demand for design amongst local firms, the

⁴ Founded in 2003, the IDA has created several programs and initiatives, include the World Design Capital project which is a biennial international designation created to identify and recognize cities that have successfully used design to revitalize the city and improve its quality of life.

government, and the public; increasing international demand for Ontario designers and design firms; creating permanent institutional support for Ontario's design sector; and educating other professional disciplines about the use and value of design. Yet, with changing government priorities, few of these recommendations have been pursued (Design Industry Advisory Committee 2004; City of Toronto 2006).

At the local level, Toronto is beginning to recognize the importance of design. Toronto's recently released *Agenda for Prosperity* outlines an economic development strategy framework that rests on four key pillars (business climate, internationalization, productivity and growth, economic opportunity and inclusion) and recommends 40 actions related to these pillars (Mayor's Economic Competitiveness Advisory Committee 2008). Design is prominently featured throughout the *Agenda for Prosperity* and, in fact, design is used as one of the key measures of innovation success under 'Pillar 3: Creative Toronto - productivity and growth'. Under this pillar, design is identified as one of Toronto's key economic clusters requiring support, expansion and development. Furthermore, one of the actions related to this third pillar makes explicit the importance of design to both Toronto and Ontario's future economic prosperity, making the recommendation to

Increase productivity through design: Enhance the productivity of Ontario firms by connecting them with the quality work and expertise of Toronto's sizeable design sector. Pay particular attention to introducing Ontario's manufacturing sector to this opportunity (Mayor's Economic Competitiveness Advisory Committee 2008: 42)

However, design-related strategies exist throughout the document. Under 'Pillar 1: Proactive Toronto – Business Climate', high quality architecture and design are viewed as critical to improving quality of place and recommendations include the use of design review panels for public space and infrastructure projects. Actions that are part of 'Pillar 2: Global Toronto – Internationalization' include promoting events that reflect Toronto's economic clusters; in the case of design this includes various design awards programs.

Overall, it is evident that Toronto has placed design centrally within its economic development strategy. However, many of the recommended initiatives (e.g. design tax credits, design diagnostic programs, other incentives) require enabling policies and coordinated support delivered from other levels of government. Such provincial and federal policies would undoubtedly also benefit smaller and mid-sized centres across Ontario and the rest of Canada.

4 Exploring Ontario's design economy

Despite the limited and uneven policy support and attention at the national, provincial and local level, previous work on Ontario and Canada's design sector has pointed to the importance of this small but growing sector (Design Exchange 1995; Design Industry Advisory Council 2004; Gertler and Vinodrai 2004). In this section, we seek to **quantify and measure in statistical terms** the size, growth and spatial patterns associated with Ontario's design activity, **describe the nature of design work**, as well as to **provide detailed case studies** of Ontario's design success.

4.1 Design employment in Ontario

We begin by examining how design employment in Ontario has changed over time. By comparing the growth of the design activity to the overall growth of Ontario's labour force we can begin to develop an understanding of the dynamics of this important activity. To facilitate

comparisons, employment is indexed to 100 in the base year (1987). Figure 3 compares the change in the number of employed designers to the overall employed labour force in Ontario over the period between 1987 and 2007. It is clear that employment growth is cyclic and volatile; employment levels in these occupations are sensitive to changes in the business cycle. For example, there is a decline in the level of employment in design occupations in the early 1990s reflecting the broader recessionary period experienced across Ontario. However, growth of Ontario's design workforce has significantly outpaced that of Ontario's workforce as a whole since that time.

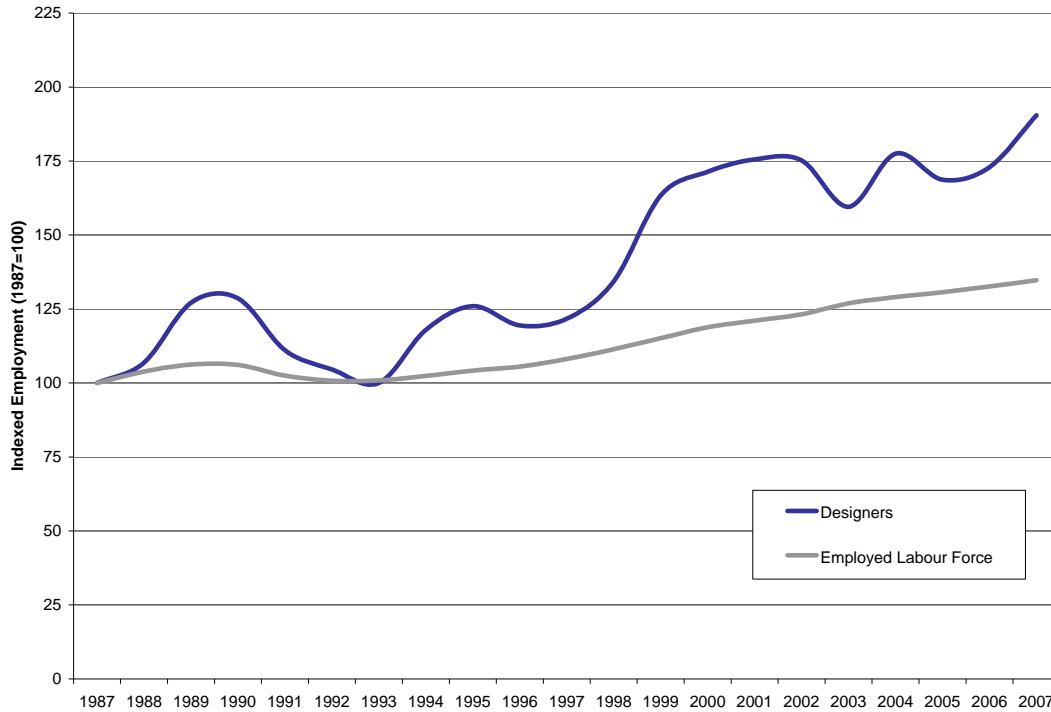
Similarly, Figure 4 compares employment in the design industry to the overall employed labour force in Ontario over the period between 1987 and 2007. Again, it is clear that employment growth is cyclic and volatile. As a business-to-business (B2B) service, the design industry is especially sensitive to economic downturns and designers working for design firms often report being laid off from their jobs during these recessionary periods (Vinodrai 2005, 2006). Furthermore, designers working outside of the design industry indicate that, during periods of economic hardship, employers often reduce their in-house design staff and view design as an expendable resource (Vinodrai 2005, 2006). In this way, the health and vitality of the design industry and the broader design workforce is a bellwether of the prosperity of the broader regional economy (see Section 4.2 for further elaboration).

This is perhaps made more explicit by comparing the levels of employment for the design industry and the design workforce (Figure 5). Certainly, it is not surprising that employment in design occupations is much higher than that for the design industry. Several studies have shown that designers are often found working in almost every corner of the economy, from traditional and high-technology manufacturing to retail and professional services. Gertler and Vinodrai (2004) show that designers work across a wide spectrum of industries; less than 50% of designers work in professional service industries (see also Power 2004; Vinodrai 2006, 2009). However, while there are differences in the levels of employment between the design industry and design workforce, there are many parallels in terms of their overall patterns of growth and decline; both are very sensitive to business cycles.

That said, it is important to note that the gap between the employment of designers and employment in the design industry widened greatly in the mid- to late-1990s. The most plausible explanation for this growth relates to the growing demand for Internet- and web-based applications and services. These services, by their very nature, require substantial design input. This is confirmed when we examine employment changes across the six design occupations in more detail (Table 2). The increase in the absolute size of Ontario's labour force from 25,550 in 1991 to 45,150 in 2006 can be largely accounted for by the increase in the number of graphic designers – and to a lesser extent – the number of people working as industrial designers, interior designers and architects.

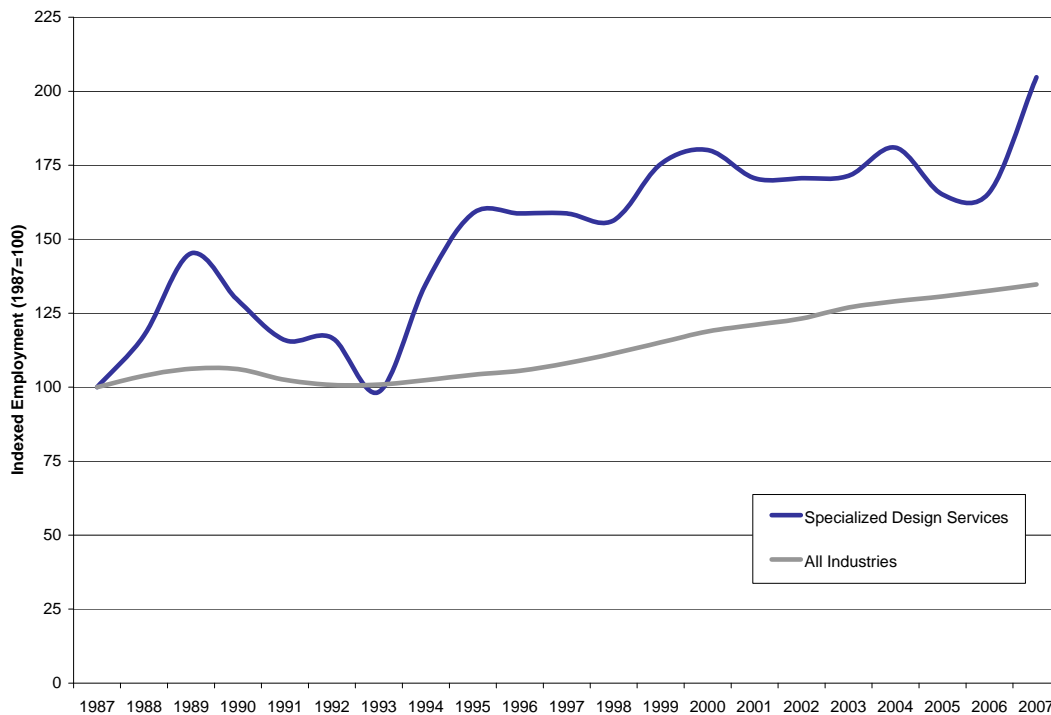
While Ontario's design workforce grew at an annual rate of 3.9% between 1991 and 2006 (compared to 1.2% for Ontario's overall labour force as a whole), this growth was not experienced evenly across design occupations (Table 2). The industrial design workforce grew at the highest rate (7.2% per year) followed by graphic designers (4.3%) and interior designers (3.6%). Growth was slower amongst architects (2.8%), landscape architects (1.9%), and theatre, fashion, exhibit, and other creative designers (1.6%) over the same period. However, it should be noted each of the six design occupations had a growth rate that was greater than the growth of Ontario's overall labour force over the fifteen year period between 1991 and 2006.

Figure 3: Growth of Ontario's Design Workforce, 1987-2007



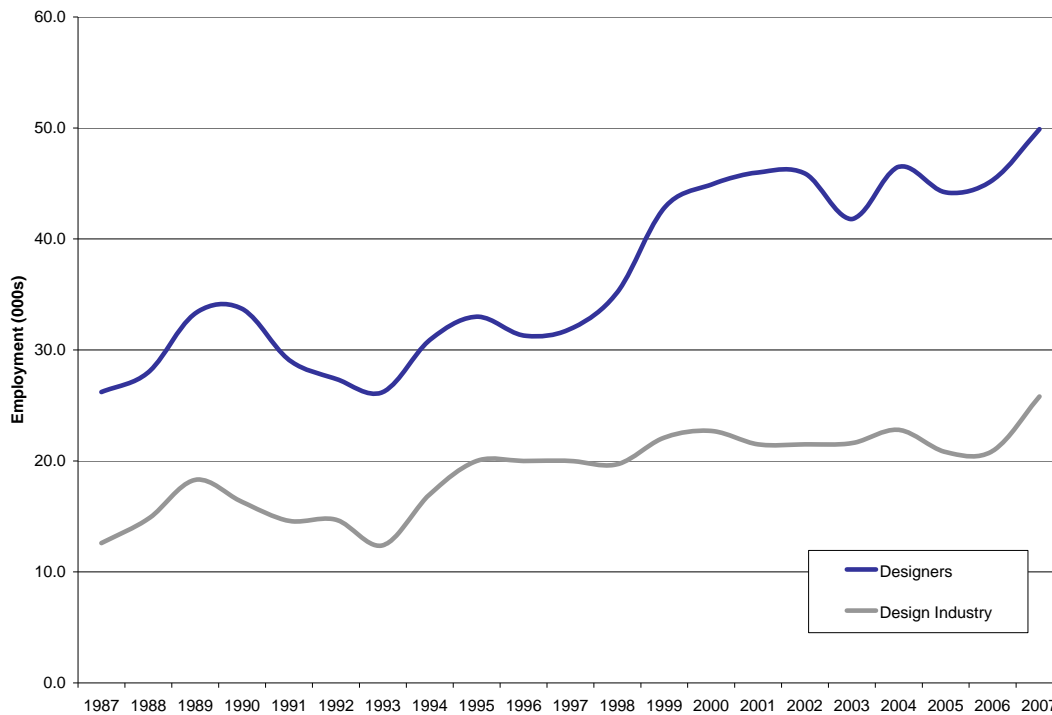
Source: Statistics Canada, *Labour Force Survey, 1987-2007*. [custom tabulations; author's calculations]

Figure 4: Growth of Ontario's Design Industry, 1987-2007



Source: Statistics Canada, *Labour Force Survey, 1987-2007*. [custom tabulations; author's calculations]

Figure 5: Design Employment in Ontario: Industry vs. Occupation, 1987-2007



Source: Statistics Canada, *Labour Force Survey, 1987-2007*. [custom tabulations; author's calculations]

Table 2: Employment growth by design occupation in Ontario, 1991-2006

	1991	1996	2001	2006	Average Annual Growth (%)
Architects	3,415	3,375	5,135	5,200	2.8
Landscape architects	580	560	1,095	765	1.9
Industrial designers	1,625	2,795	4,505	4,630	7.2
Graphic designers	12,880	15,880	20,230	24,290	4.3
Interior designers	3,700	3,510	5,515	5,990	3.3
Other designers ¹	3,350	3,535	3,570	4,275	1.6
All Design Occupations	25,550	29,655	40,050	45,150	3.9
All Occupations	5,435,845	5,401,395	5,992,765	6,473,730	1.2

¹ Includes theatre, fashion, exhibit and other creative designers. Note: Numbers may not add due to rounding; Growth is calculated as annual compound average growth rate.

Source: Statistics Canada, 2001 and 2006. *Census of Population*. [author's calculations]

4.2 The nature of design work

While the growth of design activity measured in a variety of ways is impressive, the volatility exhibited by this segment of the labour force during economic downturns raises some issues and concerns that demand further elaboration. A recent study documents the long-term shift in the composition of the Ontario economy towards a higher proportion of creative class (which includes designers) and service class jobs (Martin Prosperity Institute 2008). The findings of this study suggest that this long-term shift in the labour market may dampen the effects of recessions on job losses since these groups have tended to experience consistently lower unemployment rates even during recessionary periods (Martin Prosperity Institute 2008). While this may be true at an aggregate level and such aggregations can usefully demonstrate overall trends, it masks some of the differences that exist within this broad category. For example, the results shown in Section 4.1 (above) suggest that Ontario's designers have remained highly susceptible to market volatility and turbulence in the economy. To understand this departure from the overall trend requires an understanding of the *specific* labour market institutions and actors, practices, experiences and governance challenges that are unique to design-related occupations; these are discussed in greater detail below.

First, design work is often project-based (Batt et al. 2001; Christopherson 2002; Gertler and Geddie 2008; Vinodrai 2008a). However, there is significant variety in the organizational, temporal and spatial characteristics of project-based work. For example, a project could last a week or span several years. A project may involve the designer working on a contract for a client or as an employee of the firm (either in the design industry or in another sector).

Second, and related to the project-based nature of design work, designers may have careers that are marked by high levels of circulation within the labour market. Vinodrai (2006) found that designers cited a number of competing reasons that compelled them to change employers with some frequency. First, designers felt that staying too long with a single firm was a detriment to their career: shifting from workplace to workplace was often viewed as necessary to maintain "newness" and variety in their portfolios. Second, designers felt that switching firms was the only way they could advance their careers. Third, involuntary separation (i.e. lay-off, termination of contract) from the firm was another key reason for changing jobs. As noted in Section 4.1, involuntary separations are more common during economic downturns. Designers suggested that this was because design firms had less work to go around and firms in other sectors often cutback in areas that made use of design. This suggests that even design users in Ontario do not necessarily view design as central to their competitiveness and innovativeness nor do they view design as a source of added value or as a vehicle to become uniquely positioned in the market.

Third, this pattern of high levels of labour market circulation is magnified by the pervasiveness of flexible employment relations, including the widespread use of short-term contracts and freelancers (both notoriously risky and precarious forms of employment) and high levels of self-employment. For example, designers in Ontario are almost three times more likely to be self-employed and almost twice as likely to work from home compared to the overall labour force (Gertler and Vinodrai 2004; Vinodrai 2008a). Furthermore, Vinodrai (2005, 2006) found that slightly more than half of the designers included in her study had been laid off at least once during their career and more than two-thirds had engaged in non-standard, flexible employment relations during their career exposing them to high levels of personal and professional risk.

Due to high levels of labour market circulation and the risky, precariousness nature of design work often involving non-standard forms of work (including short-term contracts, self-employment, and freelancing), designers need to find ways of securing work. Vinodrai (2006) found that the ability of designers to secure work is often based on reputation built over time through working with 'star' designers and design firms and on noteworthy projects, as well as by building, long-term, trustful relationships with other local designers through repeated collaborations and shared worked experiences.

Undoubtedly, finding design work hinges on belonging to and participating in particular social and professional networks (see also Scott 1998; Grabher 2002a, 2002b). Vinodrai (2006) also found that it was incredibly difficult for designers to 'break in' to these formal and informal social and professional networks. While there are several institutions and organizations in Ontario (e.g. professional associations, educational institutions, Design Exchange) that have the potential to facilitate network building, job searching and matching, and provide additional labour market supports, this is not the primary mandate of these organizations. Moreover, the certification, accreditation and standards-based focus of these organizations – particularly the professional associations - means that these organizations are not necessarily well-equipped to offer these additional services or supports, nor do all designers view these organizations positively or as effective in this regard (Vinodrai 2005, 2006). Most of Ontario's design-related professional associations operate under a 'monopolistic practitioner model' which may not be appropriate for emerging, 'new economy' occupations. Elsewhere, professional associations representing these types of workers are often more decentralized and democratic, place less emphasis on certification, and place more emphasis on actively intervening in the labor market (see Batt et al. 2001; Benner 2002). For example, Batt et al. (2001) find evidence of new organizations emerging that resemble guilds, professional associations or unions, but that respond to the distinct interests and sensibilities of the new media workforce (which includes graphic and web designers).

However, Ontario's existing design-related professional associations and educational institutions play an important role in shaping and mediating design labor markets, if *indirectly* rather than directly. These organizations host a number of events and competitions that serve as networking venues and this, too, influences the shape and character of the social and professional networks that are so important to the functioning of the labor markets for designers. These intermediary organizations could play a potentially stronger role in mitigating risk by assisting designers gain access to networks and find design work, setting standards and rules, and providing other supports that collectivize risk and address issues that arise across a diverse set of workplaces (Batt et al. 2001; Benner 2002, 2003).

4.3 The geography of design work in Ontario

Given this snapshot of the growth and change in Ontario's design workforce (Section 4.1) and a caricature of the nature of design work itself (Section 4.2), we turn now to an exploration of the spatial distribution of design activity. The project-based nature of design work has implications for the spatial organization of design work and there is a very explicit underlying geography to this type of activity. Design activity is primarily found in urban locations; in 2006, 85.5% of designers live in one of Canada's 33 largest cities, compared to only 69.4% of the Canadian labour force. This is not surprising given the findings of a number of other studies of design and other creative activities that show that artistic, cultural and creative activities are primarily located in urban centres (Scott 2001; Florida 2002b; Gertler and Vinodrai 2004; Power 2004) and that this spatial concentration is critical in fostering project-based networks (Grabher 2002a; Vinodrai 2008a; Gertler and Geddie 2008).

Using data from the 2001 *Census of Population*, Gertler and Vinodrai (2004) showed that design activity in Ontario and Canada was primarily an urban-based activity and that Toronto has a critical mass of design activity measured in both absolute and relative terms. Our current analysis provides an update to this work. We use the 2006 *Census of Population* to examine the changes in the geographic pattern of design activity in Canadian cities that have taken place in the subsequent five year period.⁵

In 2006, over 90% of Ontario's designers lived in one of fifteen cities across the province. Therefore, we assess how Ontario's cities compare to other Canadian cities. First, we measure the absolute size of the design workforce in terms of employment across Canada's 33 largest cities (Figure 6). Not surprisingly, Toronto, Montréal and Vancouver have the largest number of designers, followed by Calgary, Ottawa, Edmonton and Québec City. Toronto has the largest critical mass of designers across Canadian cities. Several other Ontario cities rank amongst the top-half of the rankings of Canadian cities by size of the design workforce, including Hamilton, Kitchener, London, Oshawa, St. Catharines-Niagara and Windsor. However, other Ontario cities (Barrie, Guelph, Peterborough, Brantford, Kingston, Sudbury, and Thunder Bay) rank in the bottom-half of the rankings of Canadian cities by absolute size of the design workforce.

Second, we use the 'Design Index' devised by Gertler and Vinodrai (2004) to capture the relative size and geographic concentration of design activity in Ontario's (and Canada's) cities.⁶ Again, Toronto, Vancouver and Montréal have the highest proportions of workers in design-related occupations, followed by Québec City, Victoria, and Calgary (Figure 7). Ottawa-Hull, Hamilton, Kitchener, Oshawa, and London are in the top-half of the rankings of Canadian cities by proportion of workers in design-related occupations. Other Ontario cities such as St. Catharines-Niagara, Windsor, Kingston, Thunder Bay, and Sudbury have low proportions of designers in their workforces. Appendices C through H present the results for each of the six design occupations included in the analysis. It should be noted that there are some differences between these occupations which we discuss in greater detail below. For example, fashion designers are very highly concentrated in Toronto, Montreal and Vancouver, whereas graphic designers and industrial designers can be found in high concentrations outside of these three major urban centres.

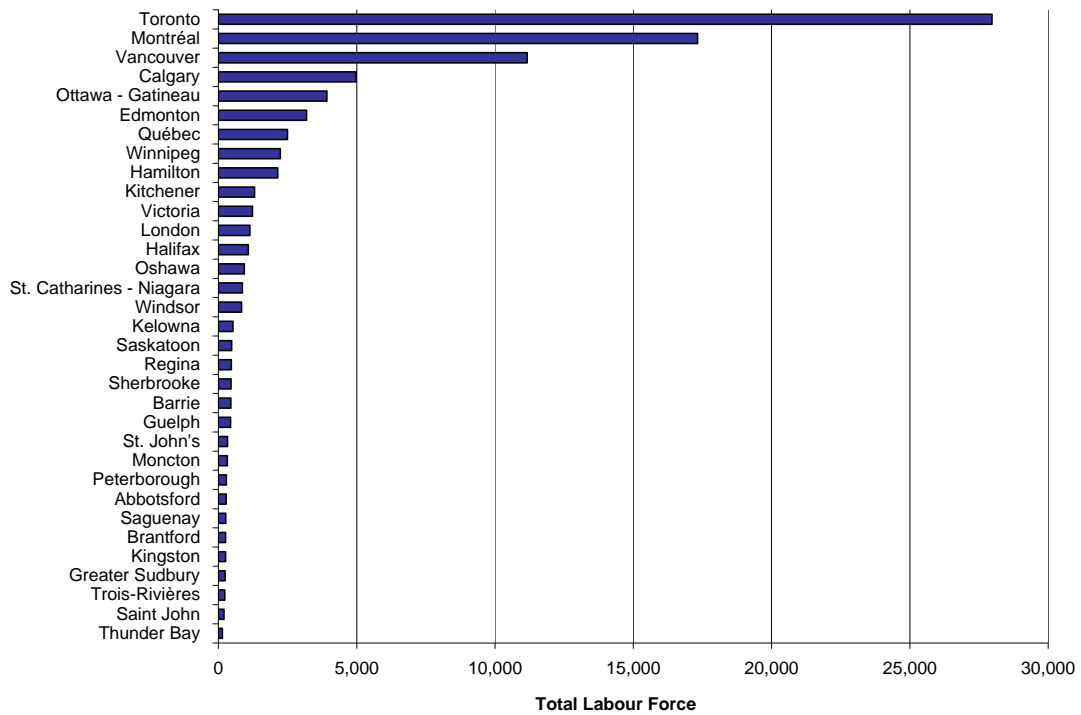
Table 3 and Table 4 provide additional detail on the distribution of the six design occupations across Ontario's fifteen largest urban centres in both absolute and percentage terms. Most notably, Toronto accounts for 27,970 (or 61.9%) of Ontario's 45,150 designers. Architects and theatre, fashion, exhibit and other designers are even more heavily concentrated in Toronto, accounting for 71.0% and 73.1% of Ontario designers in each of these categories respectively. Industrial designers and graphic designers, notably the groups of designers with the highest levels of growth (see above), are also the most geographically dispersed across the province, compared to the other design occupations.

As noted previously, between 1991 and 2006, Ontario's design workforce grew at a rate that was almost four times the rate of growth of Ontario's labour force as a whole. However, this growth is not evenly distributed across space. Table 5 shows how levels of design employment in Ontario's fifteen largest

⁵ Data describing the socio-economic and demographic characteristics associated with employment in specific industries and occupations were not available from Statistics Canada at the time of writing.

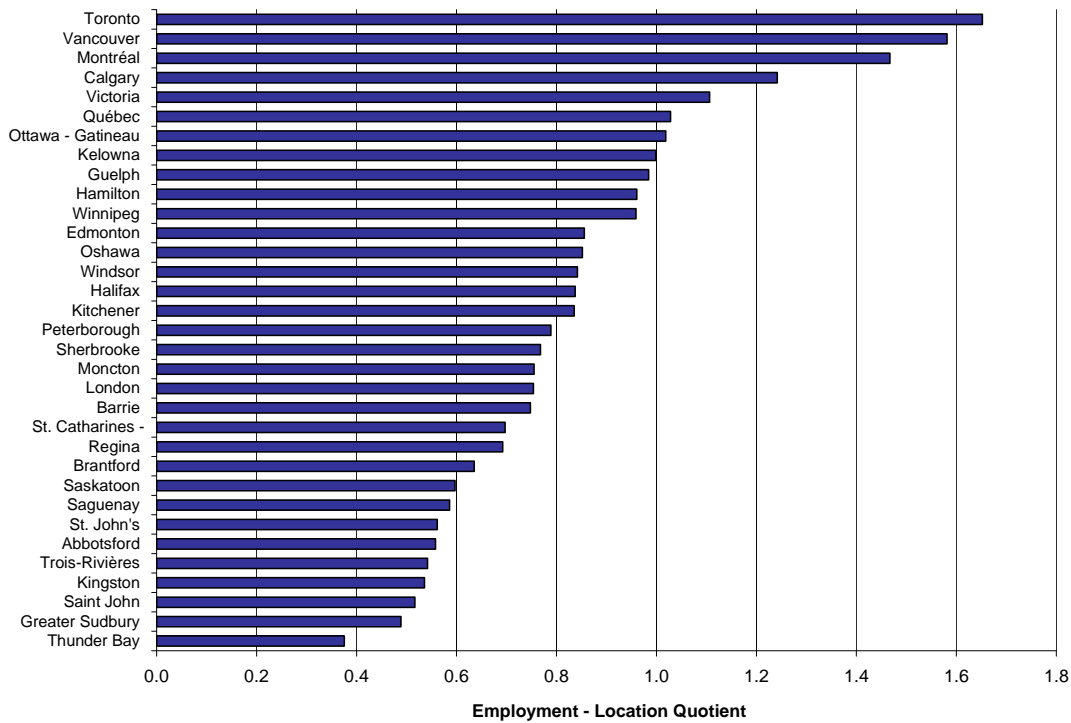
⁶ The Design Index is defined using employment in design occupations. It is a measure of the relative concentration of designers in a particular city and is calculated using a location quotient. It compares a city's share of the nation's designers to a city's share of the nation's population. A value greater than 1 means that a city has a higher proportion of designers in their workforce compared to Canada, and a value less than 1 means that a city has a lower proportion of designers than the national average.

Figure 6: Design Employment in Canadian Cities, 2006



Source: Statistics Canada, 2006. *Census of Population*. [author's calculations]

Figure 7: The Design Index - Canadian Cities, 2006



Source: Statistics Canada, 2006. *Census of Population*. [author's calculations]

Table 3: Employment by design occupation in Ontario's cities, 2006

	Architects	Landscape Architects	Industrial Designers	Graphic Designers	Interior Designers	Other Designers¹	All Designers
Ottawa - Gatineau	645	55	370	1,975	635	240	3,920
Kingston	30	0	10	165	45	10	260
Peterborough	10	10	35	185	30	20	290
Oshawa	40	15	90	635	95	60	935
Toronto	3,690	475	2,500	14,445	3,735	3,125	27,970
Hamilton	235	35	255	1,145	285	190	2,145
St. Catharines - Niagara	60	10	90	520	135	50	865
Kitchener	60	35	235	795	125	55	1,305
Brantford	10	0	40	165	30	15	260
Guelph	10	40	50	265	50	25	440
London	100	20	115	715	135	55	1,140
Windsor	80	0	260	340	105	55	840
Barrie	20	10	30	310	45	35	450
Greater Sudbury	0	10	0	160	50	20	240
Thunder Bay	15	0	0	105	25	0	145
Ontario	5,200	765	4,630	24,290	5,990	4,275	45,150
CANADA	13,960	1,620	10,250	51,890	14,355	11,410	103,485

¹ Includes theatre, fashion, exhibit and other creative designers. Note: Numbers may not add due to rounding.
 Source: Statistics Canada, *Census of Population, 2006*. [author's calculations]

Table 4: Employment by design occupation in Ontario's cities, 2006 (%)

	Architects	Landscape Architects	Industrial Designers	Graphic Designers	Interior Designers	Other Designers¹	All Designers
Ottawa - Gatineau	12.4	7.2	8.0	8.1	10.6	5.6	8.7
Kingston	0.6	0.0	0.2	0.7	0.8	0.2	0.6
Peterborough	0.2	1.3	0.8	0.8	0.5	0.5	0.6
Oshawa	0.8	2.0	1.9	2.6	1.6	1.4	2.1
Toronto	71.0	62.1	54.0	59.5	62.4	73.1	61.9
Hamilton	4.5	4.6	5.5	4.7	4.8	4.4	4.8
St. Catharines - Niagara	1.2	1.3	1.9	2.1	2.3	1.2	1.9
Kitchener	1.2	4.6	5.1	3.3	2.1	1.3	2.9
Brantford	0.2	0.0	0.9	0.7	0.5	0.4	0.6
Guelph	0.2	5.2	1.1	1.1	0.8	0.6	1.0
London	1.9	2.6	2.5	2.9	2.3	1.3	2.5
Windsor	1.5	0.0	5.6	1.4	1.8	1.3	1.9
Barrie	0.4	1.3	0.6	1.3	0.8	0.8	1.0
Greater Sudbury	0.0	1.3	0.0	0.7	0.8	0.5	0.5
Thunder Bay	0.3	0.0	0.0	0.4	0.4	0.0	0.3
Ontario (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Ontario (Total)	5,200	765	4,630	24,290	5,990	4,275	45,150

¹ Includes theatre, fashion, exhibit and other creative designers. Note: Numbers may not add due to rounding.

Source: Statistics Canada, *Census of Population, 2006*. [author's calculations]

Table 5: Growth of design employment in Ontario's cities, 1991 to 2006

	Average Annual Growth (%)							
	Designers				Design Workforce	Overall Labour Force	Design Workforce	Overall Labour Force
	1991	1996	2001	2006	1991-2006		2001-2006	
Ottawa - Hull	2,940	3,055	3,555	3,920	1.9	1.2	2.0	1.4
Kingston	230	295	250	265	0.9	0.5	1.2	1.0
Peterborough	45	205	180	290	13.2	1.4	10.0	3.7
Oshawa	445	505	775	920	5.0	2.2	3.5	2.5
Toronto	16,170	18,210	25,645	27,960	3.7	1.6	1.7	1.9
Hamilton	920	1,410	1,780	2,135	5.8	0.9	3.7	1.4
St. Catharines - Niagara	620	505	795	865	2.2	0.6	1.7	1.3
Kitchener	620	900	1,135	1,305	5.1	1.7	2.8	2.0
Brantford	145	140	120	250	3.7	3.3	15.8	8.7
Guelph	150	210	345	445	7.5	1.9	5.2	1.8
London	870	745	1,075	1,145	1.8	0.9	1.3	1.6
Windsor	390	475	645	840	5.2	1.3	5.4	0.9
Barrie	155	255	435	430	7.0	4.2	-0.2	4.3
Greater Sudbury	155	130	150	240	3.0	-0.1	9.9	1.0
Thunder Bay	120	130	130	140	1.0	-0.3	1.5	0.5
Ontario	25,550	29,655	40,050	45,150	3.9	1.2	2.4	1.6
CANADA	59,735	69,230	91,100	103,485	3.7	1.1	2.6	1.6

Note: Growth calculated as compound annual growth rates.

Source: Statistics Canada, *Census of Population, 2001 and 2006*. [author's calculations]

cities has changed over the period between 1991 and 2006, as well as growth rates for both the overall period (1991-2006) and the last five year period (2001-2006) included in the analysis. In every city in Ontario the growth of the design workforce outpaced the growth of the overall labour force by a significant margin between 1991 and 2006. In fact, despite a declining labour force in places such as Sudbury and Thunder Bay in Northern Ontario, the design workforce still grew between 1991 and 2001. The design workforce experienced high growth rates in several mid-sized and smaller cities including Peterborough (13.2% per year), Guelph (7.5%), Barrie (7.0%), Hamilton (5.8%), Windsor (5.2%) and Kitchener (5.1%). This provides some evidence that design expertise is increasingly available in smaller centres outside of Ontario's largest two cities. However, this raises the issue of whether designers in these smaller communities are removed from access to leading edge practices developed in the highly innovative local design ecology that exists in Toronto, as well as in the design schools and other critical institutions.

It is also interesting to note that, in the last five year period (2001-2006), there were two Ontario cities (Toronto, London) where the overall labour force grew faster than the design workforce, and in Barrie, the design workforce remained relatively unchanged in size. However, it should be noted that even though Toronto's design workforce grew at a slightly slower pace than the overall workforce in Toronto and at a slower rate compared to the design workforce across the rest of Ontario and Canada, it remains a strong design centre and has critical mass of designers.⁷

To capture an additional change dimension, we compare the rankings for Canada's 33 largest city-regions on the 2001 Design Index and the 2006 Design Index (Table 6).⁸ While only seven city-regions (Toronto, Montreal, Vancouver, Quebec, Victoria, Calgary, and Ottawa-Hull) have a Design Index score greater than 1 in both 2001 and 2006, it is still useful to look at the relative position of Ontario's fifteen largest city-regions. While Toronto and Ottawa maintained their respective positions of first and seventh respectively, their overall scores on the Design Index decreased between 2001 and 2006; this is true for all of the Canadian cities with scores greater than one in both 2001 and 2006, with the exception of Calgary. Yet, the reverse is true for cities that rank lower on the Design Index. Given this general increase in Design Index scores amongst the cities with a Design Index score lower than one, this may be a sign that design expertise is beginning to become more evenly distributed across Canadian cities; in other words, designers may be dispersing from Canada's largest urban centres to a second tier of Canadian cities. Elsewhere, Markusen and King (2003) have noted a similar pattern amongst artists in US cities (see also Markusen and Schrock 2006). Artists are beginning to move away from top-tier US cities (New York, Los Angeles, San Francisco) towards a select set of second-tier of cities. As Gertler (2004: 5) notes, such decentralization "may be cause for optimism amongst a range of smaller urban regions ... [and] if this trend is sustained, and if a similar trend is evident in Canada, this may bode well for midsized cities across the country, as well as smaller centres within easy reach (a 1-2 hour drive) of larger urban regions." Several Ontario cities close to Toronto experienced both an increase in their score on the Design Index, as well as in their relative position. For example, in 2001, Hamilton and Guelph ranked 12th and 13th respectively, but in 2006 ranked 10th and 9th respectively. While the findings presented here are only suggestive of this trend, it is worth examining in further detail.

⁷ It is also important to note that growth rates are sensitive to initial, base conditions. Since Toronto already had a large, critical mass of designers in 1991 compared to other jurisdictions, the growth rates are dampened as compared to places with only a small number of designers at the beginning of the period.

⁸ Data was recalculated to include the additional 6 Census Metropolitan Areas (CMAs) added since the 2001 *Census of Population* was conducted. These CMAs are: Barrie, Brantford, Guelph, Kelowna, Moncton and Peterborough.

Table 7 summarizes the changes in rankings in the Design Index for Ontario's fifteen largest cities, as well as shifts in the indices calculated for each of the six individual design occupations (see also Appendices C to H). There are two findings that emerge. First, it is clear that outside of Toronto, there are several smaller centres that have particular design strengths and expertise related to the industrial history and structure of the region. For example, Windsor and Kitchener rank highly in terms of industrial design; both of these cities are well-known to be established manufacturing centres. Guelph ranks first in landscape architecture in both 2001 and 2006; this can likely be attributed to the presence of the landscape architecture program at the University of Guelph that acts as an anchor for this type of design expertise. The program is internationally recognized and is amongst the oldest professional programs in Canada. Second, there are several mid-sized and smaller urban centres in Ontario that experienced growth in specific design occupations. For example, between 2001 and 2006, Guelph went from being ranked 19th to 3rd in graphic design.

Finally, it should be noted that it is difficult to make comparisons of the size and performance of Ontario and Canada's design capabilities relative to those of other urban and national economies due to differences in data measurements and classification (Power 2004). However, Gertler and Vinodrai (2004) found that while the United States had almost seven times the number of designers in their workforce, Canada had 4.6 designers per 1,000 labour force compared to only 3.4 designers per 1,000 labour force in the United States. They also found that Canadian cities had higher concentrations of designers than many of their US counterparts. For example, Toronto and Montreal ranked third and sixth respectively in terms of the number of designers in North American cities with a population greater than 1 million. Similarly, Calgary ranked first in absolute and relative terms amongst North American cities of a similar size.⁹

⁹ While a similar analysis of Ontario's cities compared to US cities is desirable, differences in data collection and measurement prevent a direct comparison with the United States prior to the release of Canadian data with detailed socio-economic and demographic information for individual industries and occupations at the 4-digit level. As noted above, the necessary data from Statistics Canada was not available at the time of writing.

Table 6: Design Index rankings, 2001 and 2006

Place Name	2001 Design Index	Rank	Place Name	2006 Design Index	Rank
Toronto	1.74	1	Toronto	1.65	1
Montréal	1.62	2	Vancouver	1.58	2
Vancouver	1.49	3	Montréal	1.47	3
Québec	1.23	4	Calgary	1.24	4
Victoria	1.20	5	Victoria	1.11	5
Calgary	1.18	6	Québec	1.03	6
Ottawa-Hull	1.04	7	Ottawa - Gatineau	1.02	7
Winnipeg	0.95	8	Kelowna	1.00	8
Halifax	0.95	9	Guelph	0.98	9
Barrie	0.93	10	Hamilton	0.96	10
Kelowna	0.92	11	Winnipeg	0.96	11
Hamilton	0.89	12	Edmonton	0.86	12
Guelph	0.89	13	Oshawa	0.85	13
Kitchener	0.84	14	Windsor	0.84	14
Oshawa	0.84	15	Halifax	0.84	15
London	0.81	16	Kitchener	0.84	16
Edmonton	0.80	17	Peterborough	0.79	17
Trois-Rivières	0.74	18	Sherbrooke	0.77	18
St. Catharines-Niagara	0.72	19	Moncton	0.76	19
Sherbrooke	0.71	20	London	0.75	20
Windsor	0.70	21	Barrie	0.75	21
Saskatoon	0.66	22	St. Catharines - Niagara	0.70	22
Peterborough	0.64	23	Regina	0.69	23
St John's	0.58	24	Brantford	0.64	24
Kingston	0.57	25	Saskatoon	0.60	25
Abbotsford	0.51	26	Saguenay	0.59	26
Saint John	0.48	27	St. John's	0.56	27
Chicoutimi - Jonquière	0.48	28	Abbotsford	0.56	28
Brantford	0.47	29	Trois-Rivières	0.54	29
Moncton	0.45	30	Kingston	0.54	30
Regina	0.44	31	Saint John	0.52	31
Thunder Bay	0.36	32	Greater Sudbury	0.49	32
Greater Sudbury	0.34	33	Thunder Bay	0.38	33

Note: Shaded city-regions are part of Ontario's urban system

Source: Statistics Canada, *Census of Population, 2001 and 2006*. [author's calculations]

Table 7: Design Index ranking by city-region and occupation in Ontario, 2001 and 2006

	Design Index		Architects		Landscape Architects		Industrial Designers		Graphic Designers		Interior Designers		Other Designers¹	
	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006
Toronto	1	1	2	4	6	2	4	5	1	1	1	4	2	2
Ottawa - Gatineau	7	7	9	6	5	16	16	11	9	9	7	7	9	14
Guelph	13	9	10	32	1	1	11	8	19	3	18	13	30	17
Hamilton	12	10	20	12	2	15	10	7	11	10	10	10	18	6
Oshawa	15	13	32	27	8	17	18	15	8	5	11	22	26	19
Windsor	21	14	17	16	7	--	3	1	27	26	23	16	29	18
Kitchener	14	16	26	26	11	7	8	4	10	11	17	25	13	29
Peterborough	23	17	18	30	10	4	15	12	20	12	--	24	16	20
London	16	20	25	19	28	18	12	17	12	16	9	20	15	28
Barrie	10	21	14	29	26	12	1	22	21	8	14	26	10	16
St. Catharines - Niagara	19	22	19	23	18	20	14	18	18	21	20	15	27	26
Brantford	29	24	27	31	--	--	--	10	25	22	26	27	23	27
Kingston	25	29	13	20	--	--	24	30	30	27	15	19	25	31
Greater Sudbury	33	32	33	--	24	8	--	--	32	28	29	18	19	25
Thunder Bay	32	33	31	25	--	--	25	--	31	31	30	28	22	--

¹ Includes theatre, fashion, exhibit and other creative designers.

Source: Statistics Canada, *Census of Population, 2001 and 2006*. [author's calculations]

4.4 Signs of Ontario's design success: Case studies

Certainly, the most recent statistics indicate that Ontario is well situated to take advantage of the design economy. Here we identify two compelling stories of Ontario's design success that foreground how Ontario's cities and communities have capitalized on design success 'on the ground'. First, through a case study of the School of Architecture at the University of Waterloo, we show how the presence of active, leading edge design institutions can transform mid-sized and smaller communities. The School of Architecture acts as an 'anchor of creativity' in the broader Kitchener-Waterloo-Cambridge region (Gertler and Vinodrai 2005; Vinodrai 2008b). Through its relocation to the old downtown Galt, the School has been a force for urban revitalization and is bringing design sensibilities to the broader region.

Second, as indicated in our statistical analysis and discussion of Ontario's design workforce, Ontario is home to one of North America's largest critical mass of designers. These designers live and work in what we refer to as Toronto's 'design ecology', comprised of a critical mass of designers and design firms, as well as design-related educational programs, industry and professional associations, design agencies and studios, and other related actors. These institutions have generated a robust architecture of partnerships, relationships, and talent that reinforce a commitment to highly innovative design. Local designers and design firms have the capacity and capability to add value to the Ontario's economy through applying design thinking and practices to the development of products, services and spaces. These designers and design firms draw upon the assets of Toronto's vibrant design ecology, as well as those territorial assets of the broader region. For example, Toronto's neighbourhoods provide fertile grounds for inspiration and the city's diverse economy provides opportunities for learning across sectoral boundaries and bringing different ideas together (see also Gertler and Geddie 2008; Leslie and Brail 2008).

The following two case study vignettes provide a narrative account of design success in Ontario. Overall, these case studies underscore the proposition that Ontario can capitalize on a design dividend along a number of different dimensions.

4.4.1 Upgrading the local economy by design: Architecture at the University of Waterloo

In September 2004, the University of Waterloo's School of Architecture welcomed students to its new location in downtown Galt, part of the broader Kitchener-Waterloo-Cambridge region. The plan involved the adaptive reuse and transformation of an abandoned old silk and textile mill on the banks of the Grand River to become the School of Architecture's new home, housing over 400 faculty, students and staff. With funding totaling more than \$27 million and support from the local, provincial and federal governments, as well as a consortium of business leaders from the Cambridge community, the project is an iconic example of how a design school can be a catalyst for design-related growth, downtown revitalization and upgrading, and investment in the local economy.

Since its relocation to downtown Galt less than five years ago, the School of Architecture has had a demonstrable and visible impact on the development of the surrounding local community with regards to the built environment and supporting infrastructure. In addition to the direct economic impacts related to increased demand for housing and services, the School has created institutional and public spaces for engagement and economic activity in the city and the broader Kitchener-Waterloo-Cambridge region. The School has acted as a public gathering place for regional initiatives, such as the ongoing Waterloo Region Reurbanization Working Group project. Furthermore, the recent openings of a café, leading-edge art and design gallery and an

architecture supply store in the immediate vicinity of the School are clear examples of how a design institution can act as an anchor for urban revitalization and redevelopment and allows for a community to capitalize on the design dividend.

Capitalizing on the School's focus on practice-oriented architectural education, Cambridge has acted as a forum in which student knowledge and experience have been applied to enhance community engagement and identity. There have been several examples of successful student-led initiatives in this regard that focus on adaptive reuse, sustainable building practices and community development. In downtown Galt, a Masters' student project titled 'Synergy' reworked an empty storefront as an 'urban design intervention', emphasizing possibilities for downtown revitalization based on the principles of design, pedestrian-based activity, and adaptive reuse. Just outside the downtown, a co-operative of students and community volunteers conceived, designed, fundraised and built a 4,500 square foot student residence, which not only followed principles of sustainable design and construction, but partnered with local organizations and business people to secure funding and support and offer educational workshops. Furthermore, a partnership with Habitat for Humanity incorporated an innovative student model for pre-fabricated construction into one of its local building projects. These examples are illustrative of how the School of Architecture's collaborative role within the region has catalyzed successful, participatory interventions for community development.

The School of Architecture's focus on practice is also visible in its world-renowned co-operative education program. More than half of the School's undergraduate students have at least one international co-op work term in which they are exposed to leading-edge practices in top global firms. All students also participate in a four month school term in Rome, a practice in place since 1979. In addition, many of the School's graduates – many of whom remain connected to the school as alumni, instructors, and guest lecturers – are significant and active figures in the Toronto architecture and design community. By maintaining such strong ties to highly developed networks of architectural knowledge and practice in the domestic and global design economies, the School of Architecture is positioned as an anchor of creative talent and education.

As an example of this design-led community building, one can look to the Design @ Riverside Gallery, which operates within the School of Architecture as part of the Cambridge Galleries program. One of only two publically funded architecture and design galleries in Canada, Design @ Riverside was asked by the Canada Council of the Arts to manage the Canadian entry – one developed in partnership with a School of Architecture professor and a globally-recognized computer services firm based in Kitchener – at the 2008 Venice Biennale, a major exhibition of art and architecture installations from around the world. Furthermore, in an act of design-led civic entrepreneurialism, the School has been working in partnership with local firms and regional authorities on a bid to house the Biennale's upcoming North American expansion in the Waterloo Region. These partnerships are a testament to the accelerating role of design, supported by strong institutional and governmental actors, in enhancing the cultural and economic profile of mid-size regions and communities.

This success has not been lost on other mid-sized communities in Ontario. Discussions are currently underway to establish a Northern Ontario School of Architecture (NOSOA), to be located in Greater Sudbury in partnership with Laurentian University. From conception, the University of Waterloo's School of Architecture has acted both as a best-practices model and as an active participant in bringing the project to life. In the summer of 2008, Sudbury hosted the installation entitled 'Public Places: Localized Infrastructures' that was designed and executed by a group of senior undergraduate students from the UW School of Architecture. The installation,

aimed to ‘unearth the possibilities inherent in underutilized public space of Greater Sudbury’s downtown core, in an effort to enhance community engagement and identity’ are both echoed and enhanced in the NOSOA project plans. Having secured initial funding and partners from within the local community, the idea is that the NOSOA initiative will be a critical design-led catalyst for talent attraction and retention, economic growth and prosperity and will transform downtown Sudbury, the Greater Sudbury region and the broader Ontario North and allow this region to benefit from the design dividend. As a proponent for and representative of the success of this strategy, UW’s School of Architecture is an exemplar of the key role of design-led institutions in upgrading the built environment, fostering community engagement, and facilitating new paths to growth and prosperity in Ontario’s smaller mid-sized communities and city-regions.

4.4.2 Bringing design to the city and the world: Toronto’s ‘design ecology’

Toronto is unquestionably at the centre of Ontario’s and Canada’s design economy with the largest absolute and relative number of design workers and design establishments in the province and the nation. This large and diverse design workforce exists within Toronto’s complex design ecology made up of design-related higher education programs (including those housed at such institutions as the Ontario College of Art and Design, George Brown College, Sheridan College, York University, Ryerson University and the University of Toronto), industry and professional associations, design agencies and studios, self-employed and freelance designers, and other related actors. These actors and institutions have generated dense formal and informal networks of partnerships, relationships, and talent that reinforce a commitment to highly innovative design. Toronto-based firms and individual designers both inform and capitalize on this vibrant design ecology to gain access to design work and realize local and international success through design.

Toronto has been the breeding grounds for several up-and-coming and globally renowned design firms operating in architecture, interior design, industrial and product design, graphic arts and design, and fashion. For example, Yabu Pushelberg is a world-renowned upscale interior design firm, formed over 20 years ago in Toronto, with over 80 employees in offices in Toronto and New York, and award-winning upscale hotel and retail projects in locations such as Dubai, New York, Hong Kong and San Francisco. This success is firmly rooted in the Toronto design community. Both principals graduated from Ryerson’s Interior Design program in the 1970s and received their first major contract to design Club Monaco retail stores in Toronto. In addition to international prestige, the firm has won recent acclaim for its design of the upscale Hazelton Hotel in Toronto’s trendy Yorkville, and is currently working on a second high-end hotel and condominium project in the neighbourhood. In addition, the recent legalization of same-sex marriages in Canada has inspired the firm to consider a redesign of the Toronto City Hall’s wedding chapel.

Umbra is an iconic example of local design success. From a small firm that was started in Toronto by two friends in 1979, Umbra has grown into a multinational product and housewares design firm (and brand) with more than 250 employees in offices from Amsterdam to Hong Kong. Its \$160 million in annual sales are anchored by a strong export-brand strategy that includes iconic items such as the ‘swing can’ trash receptacle. The anchor of this growth has been an innovative design and product development team based in Toronto that generates 300 to 400 new products each year. The firm has expanded its Toronto presence with the opening of its first Concept Store in 2007, which has also served to foreground the role design through in-store designer appearances and hosting community and industry events. Furthermore, Umbra has shown a continued commitment to enhancing the Toronto design industry and the broader community by hiring and developing talent from the many design-based educational programs

in the city, and contributing to initiatives such as the 'Bring Back the Don' conservation program.

There are several Toronto firms that have developed expertise at the intersections between interior architecture, interior design, industrial design and graphic design. figure3 is a multidisciplinary design and branding firm, with a focus on retail, work and social spaces. Managing over \$80M in projects annually, the firm's strongest successes have been generated through partnerships and innovative projects nurtured within Toronto's design ecology. The aforementioned Umbra Concept Store – winner of a 2007 Association of Registered Interior Designers of Ontario (ARIDO) Award of Excellence – was designed by figure3. This project exists within a broader partnership that has seen figure3 design other work and retail environments for Umbra, reflective of a shared philosophy and commitment to innovation in design. The firm has worked for a number of high-profile international companies, designing work and retail spaces for IBM, British Airways, Warner Bros. and others. However, international success is complemented by success at home. In addition to noteworthy projects such as the interior design of Porter Airlines' lounge at the Toronto Island Airport and the new TELUS offices in downtown Toronto, the company has received awards for the design of the LEED-silver certified Allsteel showroom. While these design projects have benefited the firm's clients through stronger brand identity, the recognition the firm has generated through the Association of Registered Interior Designers of Ontario (ARIDO) has helped to raise its profile in the local and international design communities.

Firms like Umbra and Yabu Pushelburg are viewed as key training grounds for new designers. These firms – like most others in this field – combine and recombine team and project members and draw on their well-established networks of designers. Project-based work allows for new ideas to emerge, as well as expose designers to leading edge practices. Such experiences are viewed favourably by other employers in the region.

At the other end of the spectrum, there are large numbers of small, versatile design studios and independent designers who work for local clients, the larger Toronto design studios and for select international clients. These small and versatile firms can (and do) contribute to the success of Toronto's diverse range of industries by adding value through design. For example, founded in 2001, Ross + Doell is an industrial design and brand development studio based in Toronto. Both principals graduated from the Ontario College of Art and Design, and have worked for large companies in areas such as branding, automotive, and retail design. Having cultivated this diverse international portfolio, they settled in Toronto where they have worked on products and brands for companies including Cisco, Hewlett-Packard and Imax. Among their successful products have been a drill bit 'binder' which was showcased at the Design Exchange, a Toronto design institution, a 'sink caddie' and iconic playing cards for Umbra, and a brand identity project for an organic bath supplies company. Additionally, one partner has a background in medical device development, which has included research and product development for Bloorview Children's Rehab Centre in Toronto. For this reason, the firm recently participated in an event hosted by htx.ca, The Health Technology Exchange which helped to inform business leaders and experts in the medical and assistive devices industry about the importance of design as part of a broader business and competitiveness strategy for firms in this dynamic and innovative local industry.

Overall, in one way or another, all of the aforementioned firms' continued successes in innovative design remains anchored in Toronto, its vibrant design ecology and - especially - in the deep pool of local design talent. Because design work is often contract or project-based and designers are often self-employed or freelancers, the concentration of design firms, institutions

and formal and informal networks in Toronto is critical in allowing individual designers to gain access to projects, jobs and design-related work. Toronto's neighbourhoods provide fertile grounds for inspiration and the city's diverse economy provides opportunities for learning across sectoral boundaries and bringing different ideas together.

5 Ontario's design economy: Strengths, challenges and policy implications

At the outset of this paper, we suggested that local firms and regional economies can accrue a **design dividend** as designers contribute to and enhance the local economy directly and indirectly by:

1. **generating revenue** from their own design practices which serve both local and global clients, require inputs and services from local suppliers, and **create employment opportunities** for other designers through the project-based nature of design.
2. applying design skills and thinking to **add value and enhance the quality and sustainability** of products and services in other sectors;
3. acting as a **source of new knowledge and innovation**, often crossing disciplinary and sectoral boundaries;
4. participating in activities that **enhance community engagement and identity**; and
5. contributing to the **construction of quality of place** and improving the aesthetic appeal and quality of the built environment;

For the Ontario and its communities to remain prosperous, they must recognize the necessity of capturing the design dividend and act to support and develop design related activities.

The statistical evidence presented in this paper suggests that Ontario has a large design force, including a critical mass of designers in Toronto. Moreover, there are some signs of local success as demonstrated in the case studies of the Toronto and Kitchener-Waterloo-Cambridge regions. However, there remains a lack of coordinated support for design-related activity and Ontario lags behind other regional and national governments in terms of its support for design and design-led innovation. This suggests that for Ontario to effectively advance and capitalize on its local design expertise will require a multi-level and multidisciplinary policy involving local, regional and provincial policymakers, as well as business and community leaders.

Recommendations for achieving these outcomes are as follows:

1. **Promote and encourage Ontario firms to adopt a value-added strategy that incorporates design and design practices.** Ontario has a large and growing design workforce, yet it is not clear that firms, communities and regions in the province have fully taken advantage of this important asset. Providing incentives for implementing design into business practices – such as design tax credits and industry competitions – can be a critical part of a broader strategy for value creation, industrial upgrading, innovation and job retention in traditional and emerging sectors.
2. **Invest in design education, training and workforce development.** Design work has been shown to be extremely susceptible to shifts in the business cycle; design work is risky, contingent and precarious. Providing supports and programs that allow Ontario's designers to remain on the leading edge of practice and facilitating access to job search and employment networks will maximize the

quality and quantity of Ontario's design workforce. Such learning, education and workforce development strategies are critical in today's economy.

3. **Develop and support the strong design infrastructure in Toronto.** It is important to acknowledge the unique and central role that Toronto plays in Ontario's design economy, which supports globally-recognized innovation and contributes to the strong quality of place characteristics of Toronto and the surrounding region. Nurturing these territorial assets – which includes the preservation of diverse, stable, mixed use, mixed income neighbourhoods and affordable living and working spaces – will be critical in maintaining Toronto's thriving design ecology.
4. **Implement supportive, design-related arts and culture policies.** In Ontario's urban centres, both large and small, design contributes to improving the aesthetic appeal and quality of the built environment. Supportive policies, as well as initiatives such as awards competitions and investments in the public realm, will have extraordinary value in constructing quality of place and engaging local citizens in their communities.
5. **Support and encourage the development of strong local design institutions.** Strong local design institutions can act as anchors of the creative economy, both in Ontario's largest cities and its small and mid-sized centres. Such institutions can facilitate the development of networks and associations that support investment and stimulate local design culture, as well as animate communities and regions to engage in community-building and development.

Addressing these issues and challenges will require coordinated actions across different levels of decision making (local, regional, provincial) and across traditionally separate policy making arenas (e.g. art and culture, education, industry and trade, innovation and economic development).

By working to educate business leaders, policymakers and the public about the importance of design as a key source of innovation and value added for both firms and communities and learning from international policy best practices, Ontario can become and remain an innovative prosperous region in the global economy. Ontario clearly has a critical mass of designers. However, this remains a relatively under utilized and under appreciated asset and there is a significant opportunity for Ontario to more fully reap the benefits of a design dividend.

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Appendix A: Description of Design Occupations

Architects (C051) - Architects conceptualize, plan and develop designs for the construction and renovation of commercial, institutional and residential buildings. Architects are employed by architectural firms, private corporations and governments, or they may be self-employed. Exclusions: Landscape architects are classified in unit group C052 - Landscape Architects; Naval architects are classified in unit group C048 - Other Professional Engineers, not elsewhere classified.

Landscape Architects (C052) - Landscape architects conceptualize landscape designs, develop contract documents and oversee the construction of landscape development for commercial projects, office complexes, parks, golf courses and residential development. They are employed by government environmental and development agencies, landscape consulting firms and by architectural and engineering firms, or they are self-employed.

Industrial Designers (C151) - Industrial designers conceptualize and produce designs for manufactured products. They are employed by manufacturing industries and private design firms or they may be self-employed. Exclusions: Interior designers, graphic designers and other non-industrial designers are classified in an appropriate unit group of minor group F14 - Creative Designers and Craftspersons

Graphic Designers and Illustrators (F141) - Graphic designers conceptualize and produce graphic art and visual materials to effectively communicate information for publications, advertising, films, packaging, posters, signs and interactive media such as web sites and CD-ROMs. They are employed by advertising and graphic design firms, by establishments with advertising or communications departments and by multimedia production companies, or they may be self-employed. Graphic designers who are also supervisors, project managers or consultants are included in this unit group. Illustrators conceptualize and create illustrations to represent information through images. They are almost solely self-employed. Exclusions: Interior designers are classified in unit group F142 - Interior Designers.

Interior Designers (F142) - Interior designers conceptualize and produce aesthetic, functional and safe designs for interior spaces in residential, commercial, cultural, institutional and industrial buildings. They are employed by architectural firms, interior design firms, retail establishments, construction companies, hospitals, airlines, hotel and restaurant chains, and other establishments or they may be self-employed. Exclusions: Interior decorators are classified in unit group G211 - Retail Salespersons and Sales Clerks; Designers concerned with visual images and graphic art are classified in unit group F141 - Graphic Designers and Illustrators.

Theatre, Fashion, Exhibit and Other Creative Designers (F143) - Designers in this unit group conceptualize and produce designs for film, television, theatre and video productions, garments and textiles, displays and exhibits, and for other creative items such as jewellery and trophies. Theatre designers are employed by performing arts and broadcasting companies and by festivals; fashion designers are employed by clothing and textiles companies or may be self-employed; and exhibit designers are employed by museums and retail establishments. Other creative designers in this unit group are employed by manufacturing establishments or may be self-employed. Exclusions: Interior designers are classified in unit group F142 - Interior Designers; Graphic designers are classified in unit group F141 - Graphic Designers and Illustrators.

Source: Statistics Canada. 2006. *National Occupational Classification –Statistics (NOC-S) 2006*
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Appendix B: Description of Design Industries

Specialized Design Services (5414) - This industry group comprises establishments primarily engaged in providing specialized design services, except architectural, engineering and computer systems design. It includes several specific industries outlined below.

Interior Design Services (54141) - This industry comprises establishments primarily engaged in planning, designing and administering projects in interior spaces to meet the physical and aesthetic needs of people, taking into consideration building codes, health and safety regulations, traffic patterns and floor planning, mechanical and electrical needs, and interior fittings and furniture. Interior designers and interior design consultants work in areas such as hospitality design, health care design, institutional design, commercial and corporate design and residential design. This industry also includes interior decorating consultants engaged exclusively in providing aesthetic services associated with interior spaces. Exclusion(s): Establishments primarily engaged in: selling furniture and furnishings at retail or wholesale locations that also provide interior design or decorating services (41,44-45,)

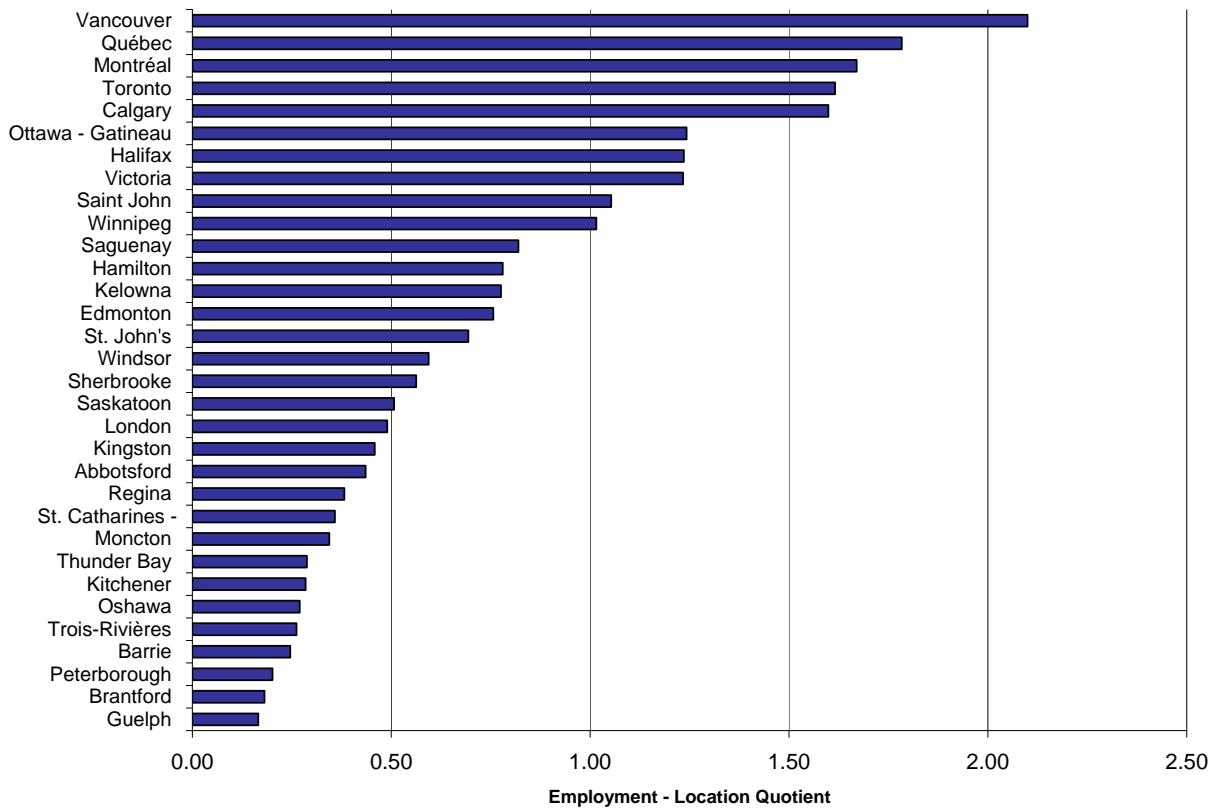
Industrial Design Services (54142) - This industry comprises establishments primarily engaged in creating and developing designs and specifications that optimize the function, value and appearance of products. These services can include the determination of the materials, construction, mechanisms, shape, colour, and surface finishes of the product, taking into consideration human needs, safety, market appeal and efficiency in production, distribution, use and maintenance. Exclusion(s): Establishments primarily engaged in: (1) designing, subcontracting the manufacturing and marketing of products (31-33, Manufacturing); (2) applying principles of engineering in the design, development and utilization of machines, materials, instruments, structures, processes and systems (54133, Engineering Services); (3) designing clothing, shoes and jewellery (54149, Other Specialized Design Services).

Graphic Design Services (54143) - This industry comprises establishments primarily engaged in planning, designing and managing the production of visual communication, so as to convey specific messages or concepts, clarify complex information or project visual identities. These services can include the design of printed materials, packaging, video screen displays, advertising, signage systems and corporate identification. Exclusion(s): Establishments primarily engaged in: printing (32311, Printing); publishing newspapers, periodicals, books, databases, software and related works (511, Publishing Industries (except Internet)); producing animated films (51211, Motion Picture and Video Production); providing advice concerning marketing strategies (54161, Management Consulting Services); creating and placing advertising campaigns in media (54181, Advertising Agencies); purchasing advertising time or space from media owners and reselling it directly to advertising agencies or advertisers (54183, Media Buying Agencies); creating and/or placing public display advertising material (54185, Display Advertising); providing photography services (54192, Photographic Services); creating cartoons and visual art (71151, Independent Artists, Writers and Performers).

Other Specialized Design Services (54149) - This industry comprises establishments, not classified to any other industry, primarily engaged in providing professional design services. Exclusion(s): Establishments primarily engaged in: providing architectural design services; providing landscape architectural design services; providing engineering design services; providing interior design services; providing industrial design services; providing graphic design services; providing computer systems design services.

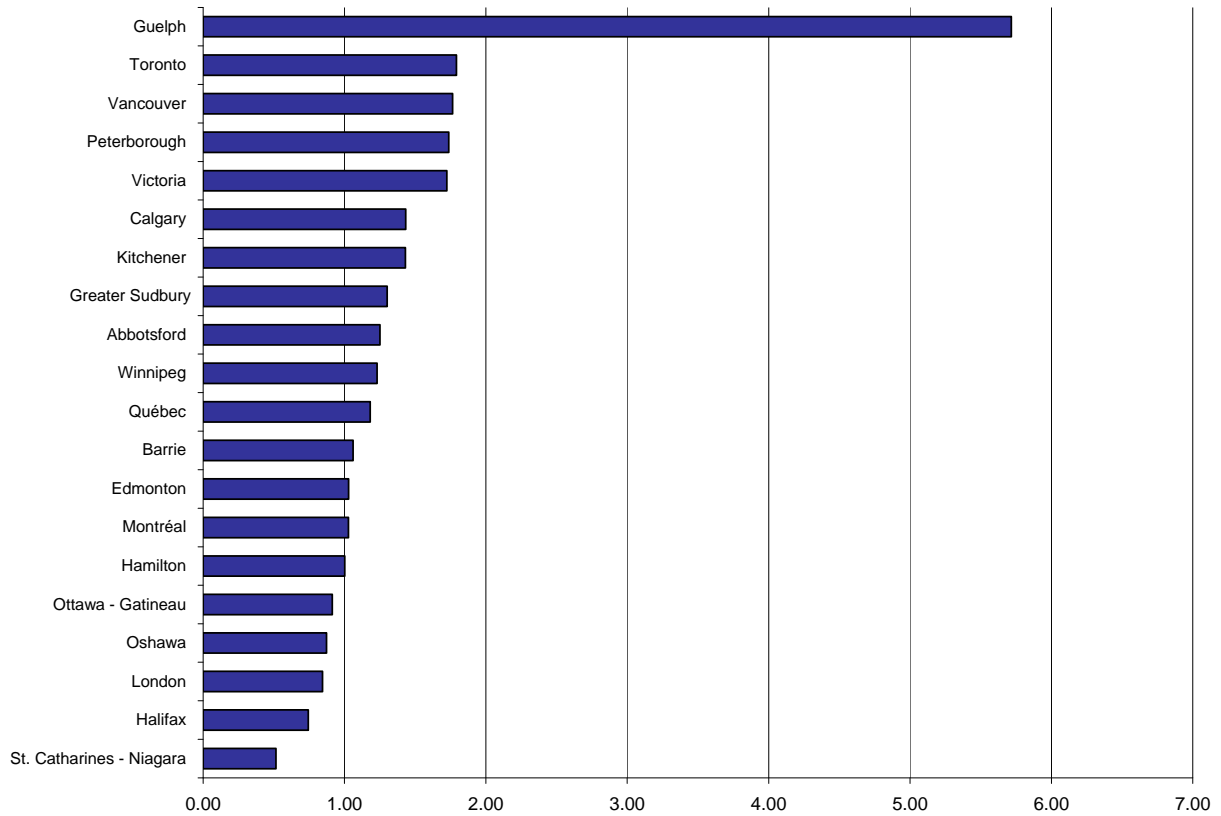
Source: Statistics Canada. 2002. *North American Industry Classification System (NAICS) 2002 – Canada*. <http://www.statcan.ca/english/Subjects/Standard/naics/2002/naics02-menu.htm> [Accessed: September 26, 2008]

Appendix C: The Geography of Design Employment – Architects



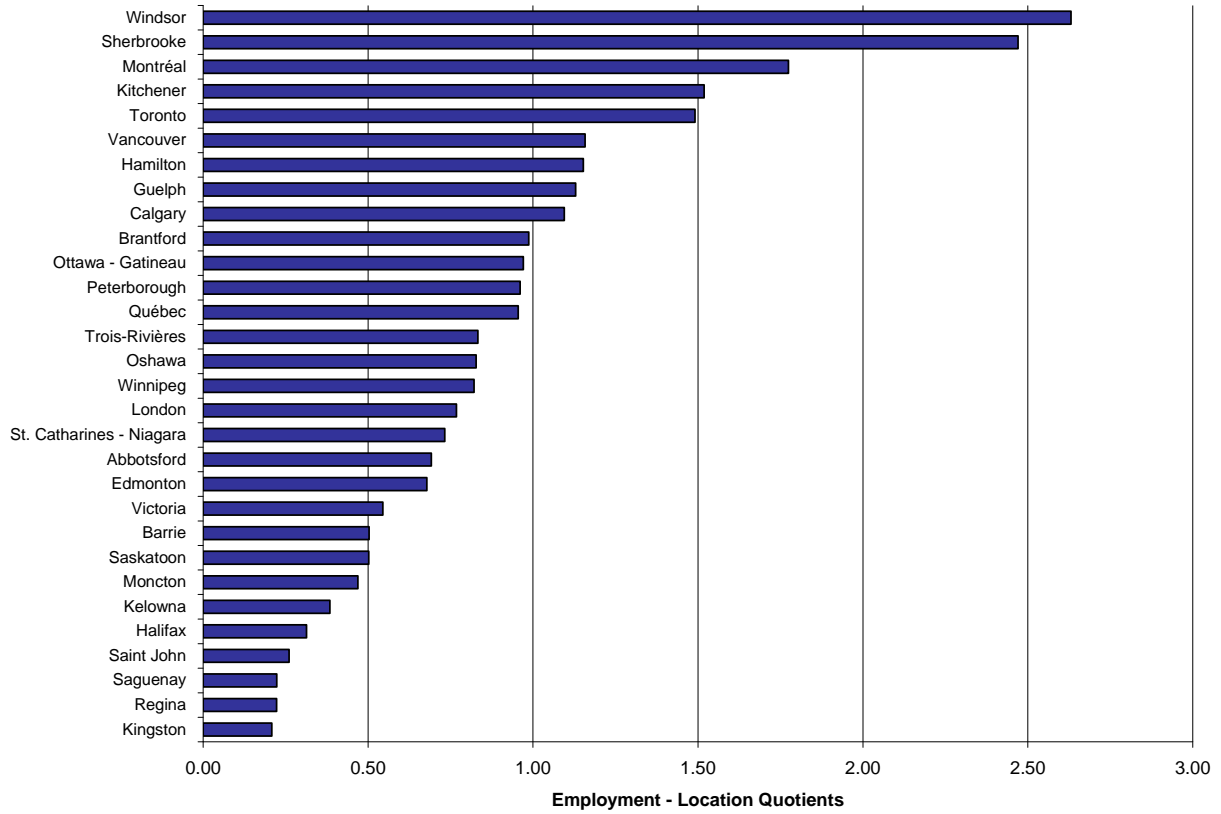
Source: Statistics Canada, 2006. *Census of Population*. [author's calculations]

Appendix D: The Geography of Design Employment – Landscape Architects



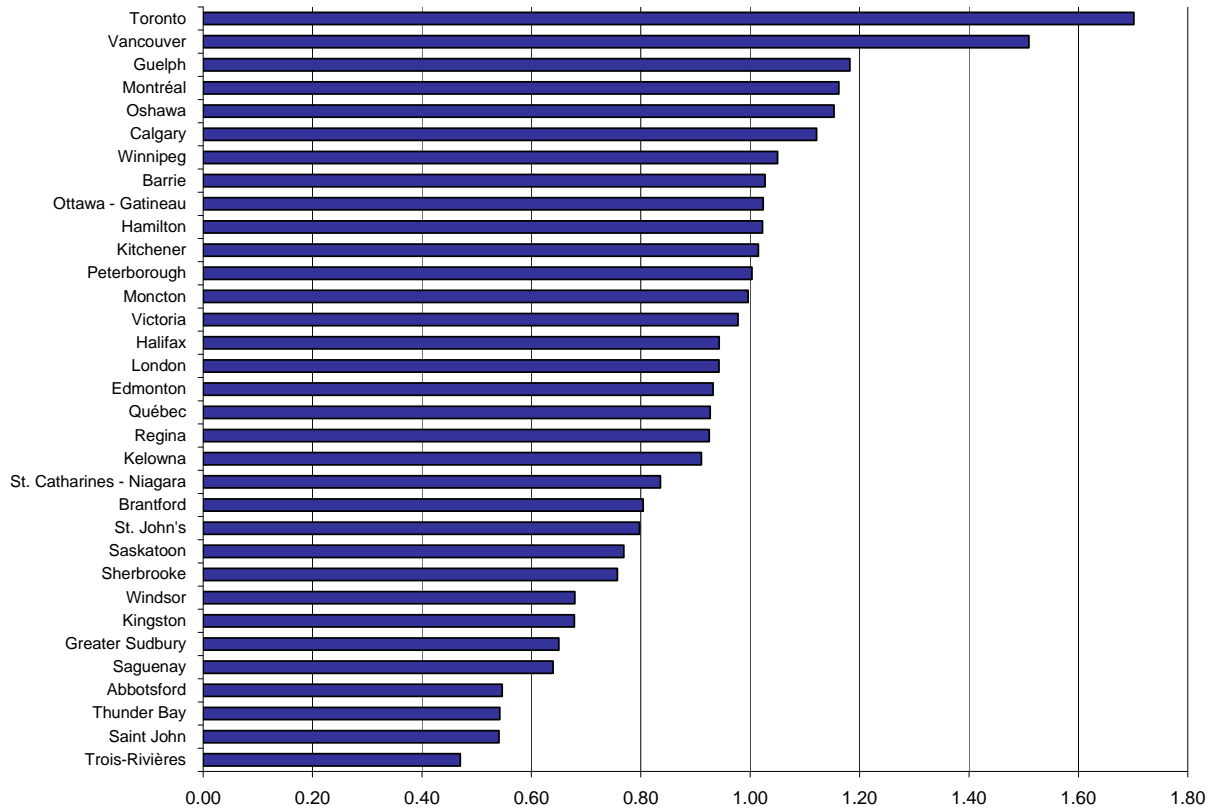
Source: Statistics Canada, 2006. *Census of Population*. [author's calculations]

Appendix E: The Geography of Design Employment – Industrial Designers



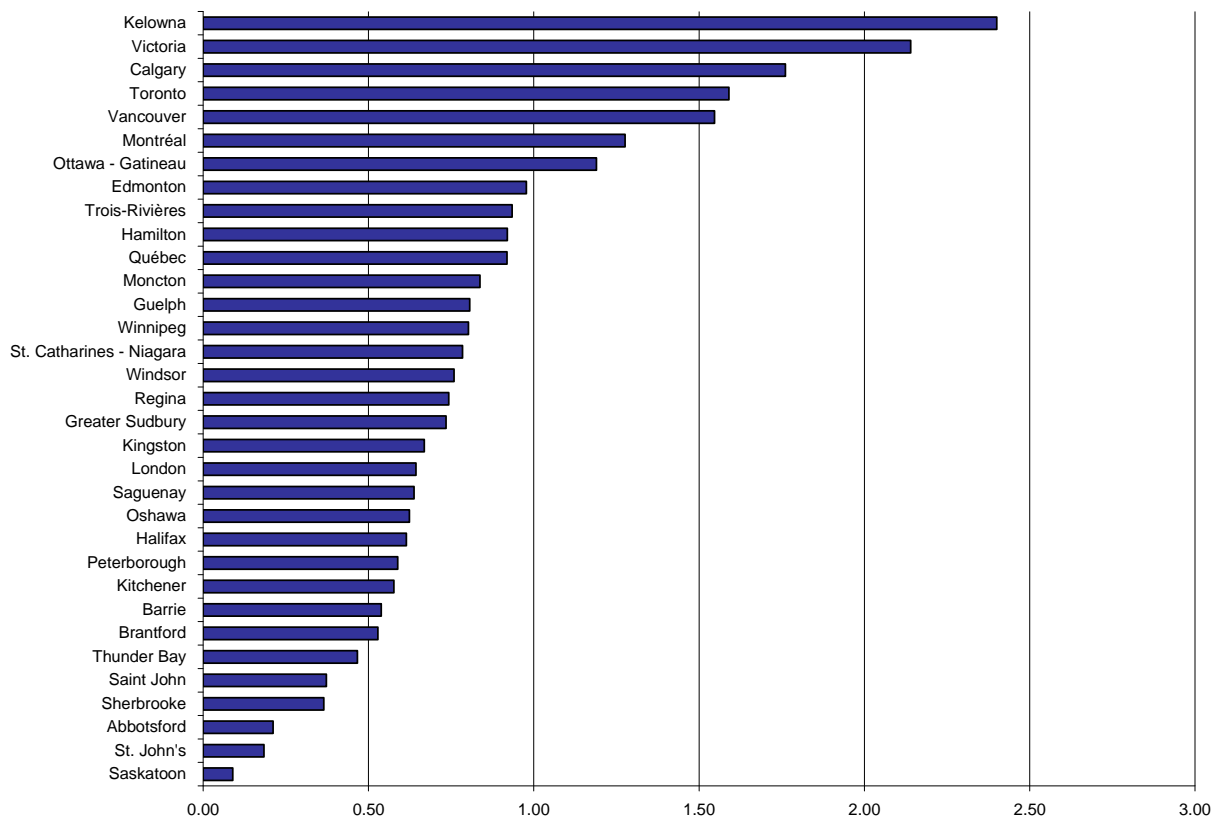
Source: Statistics Canada, 2006. *Census of Population*. [author's calculations]

Appendix F: The Geography of Design Employment – Graphic Designers



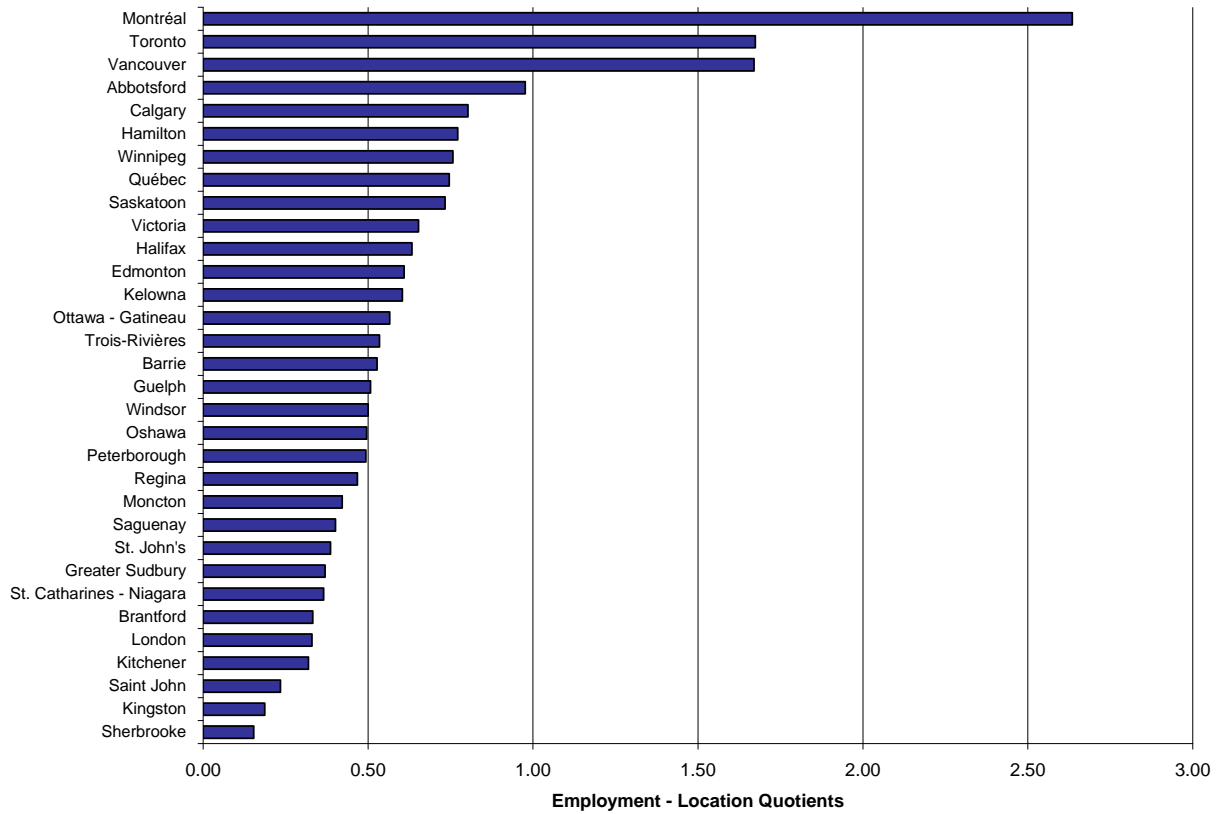
Source: Statistics Canada, 2006. *Census of Population*. [author's calculations]

Appendix G: The Geography of Design Employment – Interior Designers



Source: Statistics Canada, 2006. *Census of Population*. [author's calculations]

Appendix H: The Geography of Design Employment – Theatre, Fashion, Exhibit & Other Designers



Source: Statistics Canada, 2006. *Census of Population*. [author's calculations]

Team Bio

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Working Paper Series

This working paper is part of the *Ontario in the Creative Age* series, a project we are conducting for the Ontario Government. The project was first announced in the 2008 Ontario Budget Speech, and its purpose is to understand the changing composition of Ontario's economy and workforce, examine historical changes and projected future trends affecting Ontario, and provide recommendations to the Province for ensuring that Ontario's economy and people remain globally competitive and prosperous.

The purpose of the working papers in this series is to engage selected issues related to our report: *Ontario in the Creative Age*. The series will involve a number of releases over the course of the coming months. Each paper has been reviewed for content and edited for clarity by Martin Prosperity Institute staff and affiliates. As working papers, they have not undergone rigorous academic peer review.

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