

Competing on Creativity:

An Analysis of Kingston, Ontario

A report prepared for the Kingston Economic Development Corporation

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May 2003

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INTRODUCTION

The recent report *Competing on Creativity: Placing Ontario's Cities in North American Context* provides an analysis of the performance of Canada's 25 Census Metropolitan Areas (CMAs) as measured by a set of indicators reflecting talent, creativity, diversity and technology. This report presents a similar analysis of Kingston's performance using the same set of indicators.¹

The data used for this analysis come from the same sources as those used in *Competing on Creativity*. For Kingston and other Canadian CMAs, we have used the 1996 Census of Population for all variables, except for the Tech Pole Index. The latter is based on 1999 employment-by-industry data from the Small Area Files of Statistics Canada's Longitudinal Employment Analysis Program (LEAP). For American metropolitan areas, we have used data from the 1990 US Census of Population for all variables, except for the Tech Pole Index. The Tech Pole Index for US cities relies on 1999 employment data from the US County Business Patterns.

The four variables employed in this analysis are defined below:

- **Talent (Talent Index):** Talent is defined as the proportion of the population over 18 years of age with a bachelor's degree or higher.
- **Creativity (Bohemian Index):** The Bohemian Index is defined using employment in artistic and creative occupations. It is a location quotient that compares the region's share of employment in bohemian occupations to the national prominence of employment in these same occupations.
- **Diversity (Mosaic Index):** The Mosaic Index reflects the proportion of the total population that is foreign-born.
- **Technology (Tech-Pole Index):** The Tech Pole Index compares a region's share of national employment in technology-intensive manufacturing and service industries to the region's overall share of national employment; this is then adjusted for city-size by multiplying by a region's share of national high-technology employment. Therefore, it reflects both the region's degree of specialization in technology-intensive activity as well as its sheer scale of employment in these sectors.²

¹ Because Kingston was not defined as a CMA in 1996, it was not included in the original analysis. As of the 2001 Census, Kingston has now attained CMA status.

² The Tech Pole Index was originally developed by the Milken Institute, and was adopted by Florida and colleagues for their analysis of US city-regions. See R. DeVol (1999) *America's High-Tech Economy: Growth, Development and Risks for Metropolitan Economies*, Santa Monica, CA: Milken Institute.

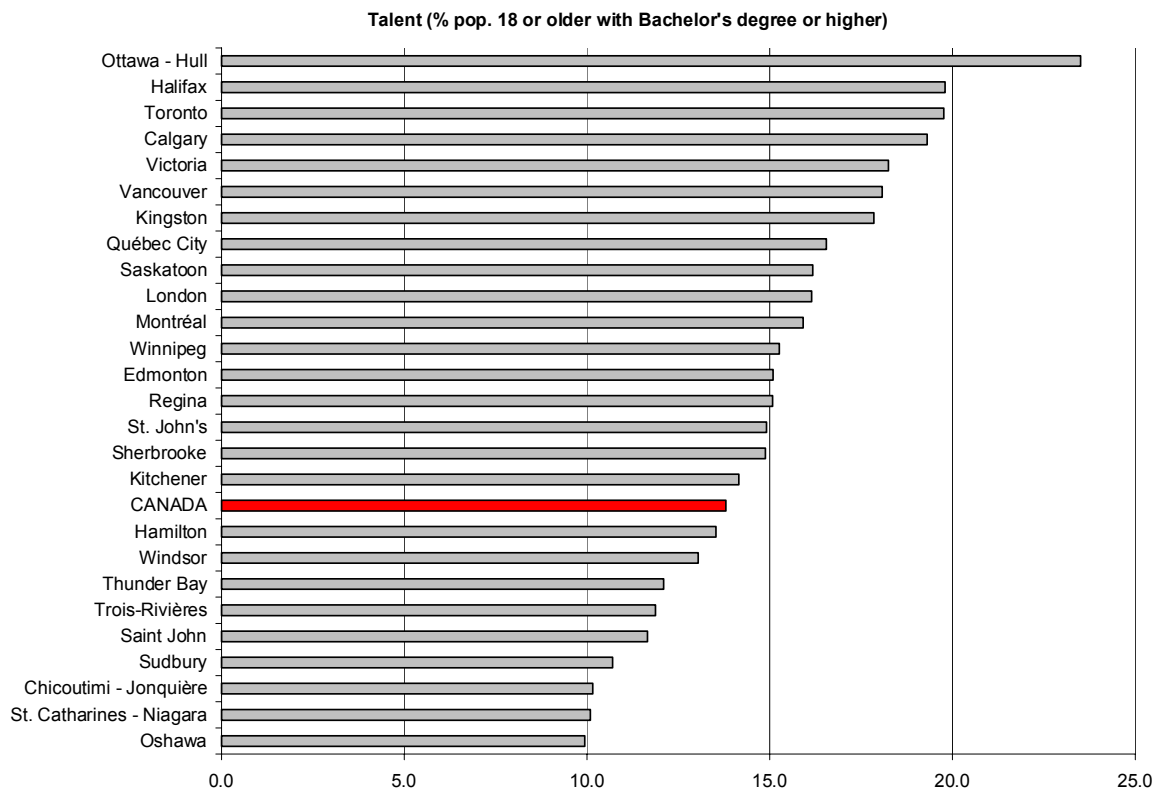
KINGSTON'S PERFORMANCE RELATIVE TO CANADIAN CMAs

In this section, we analyze Kingston's performance relative to the 25 Canadian CMAs included in the original analysis.

Talent

Figure 1 indicates that Kingston ranks a very impressive 7th out of 26 city-regions in Canada on the Talent Index. Its score on this index is just slightly lower than Victoria and Vancouver, and significantly ahead of Montreal, Winnipeg, Edmonton and other major Canadian centres. Clearly, this result reflects the presence of a highly educated workforce in the post-secondary education sector, hospitals, government services, and other knowledge-intensive activities.

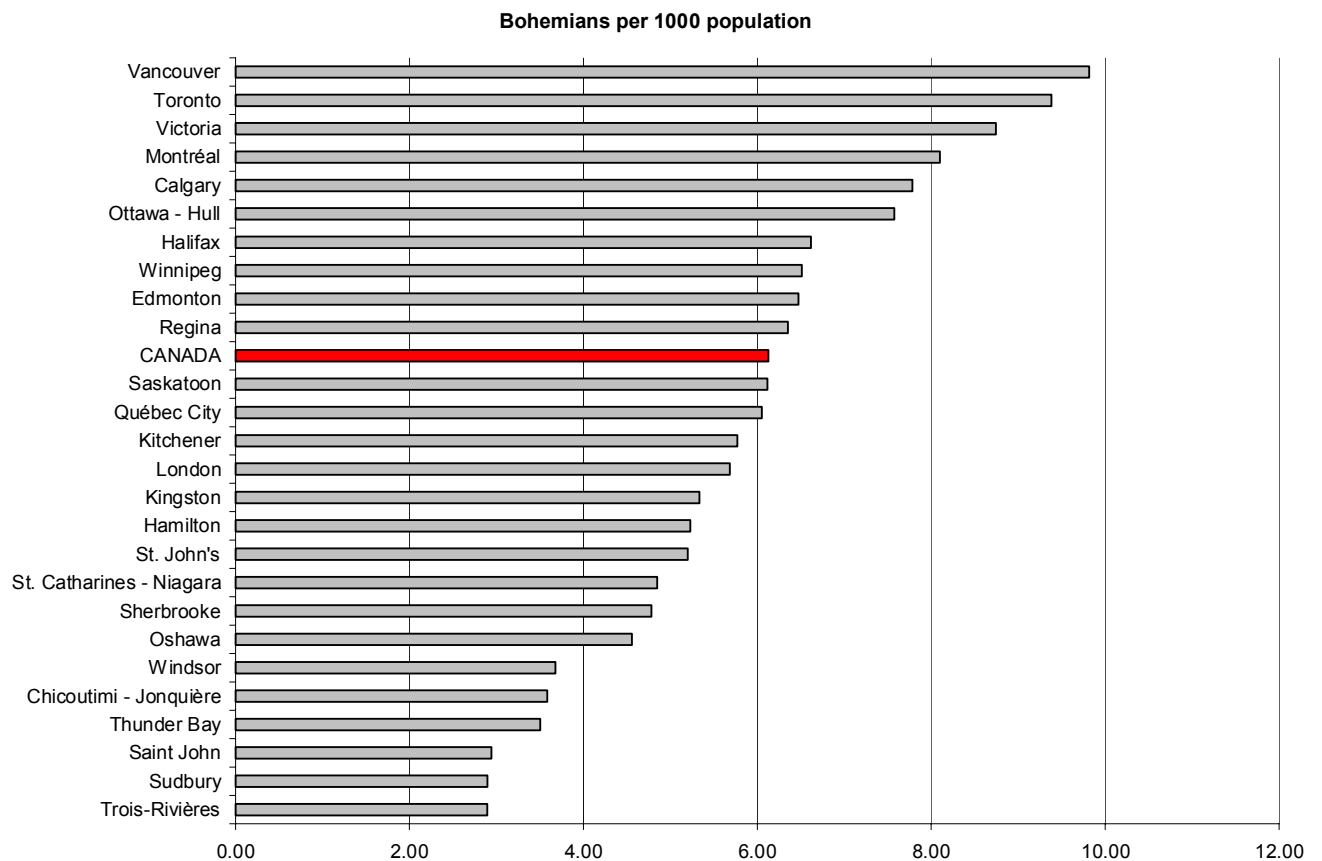
Figure 1: Talent in Canadian City-Regions, 1996



Creativity

Figure 2 presents Kingston's performance on the Bohemian Index relative to the other Canadian centres. On this index, Kingston's ranking drops to 15th out of 26. Nevertheless, it is worth pointing out that, in our previous analysis, larger city-regions tend to have the highest Bohemian Index scores. Considering its small size relative to every other city-region that ranks more highly in this analysis, Kingston's ranking is quite respectable. Kingston also equals or outscores several regions (e.g. Hamilton, St. John's, St. Catharines-Niagara, Oshawa, Windsor) with considerably larger populations.

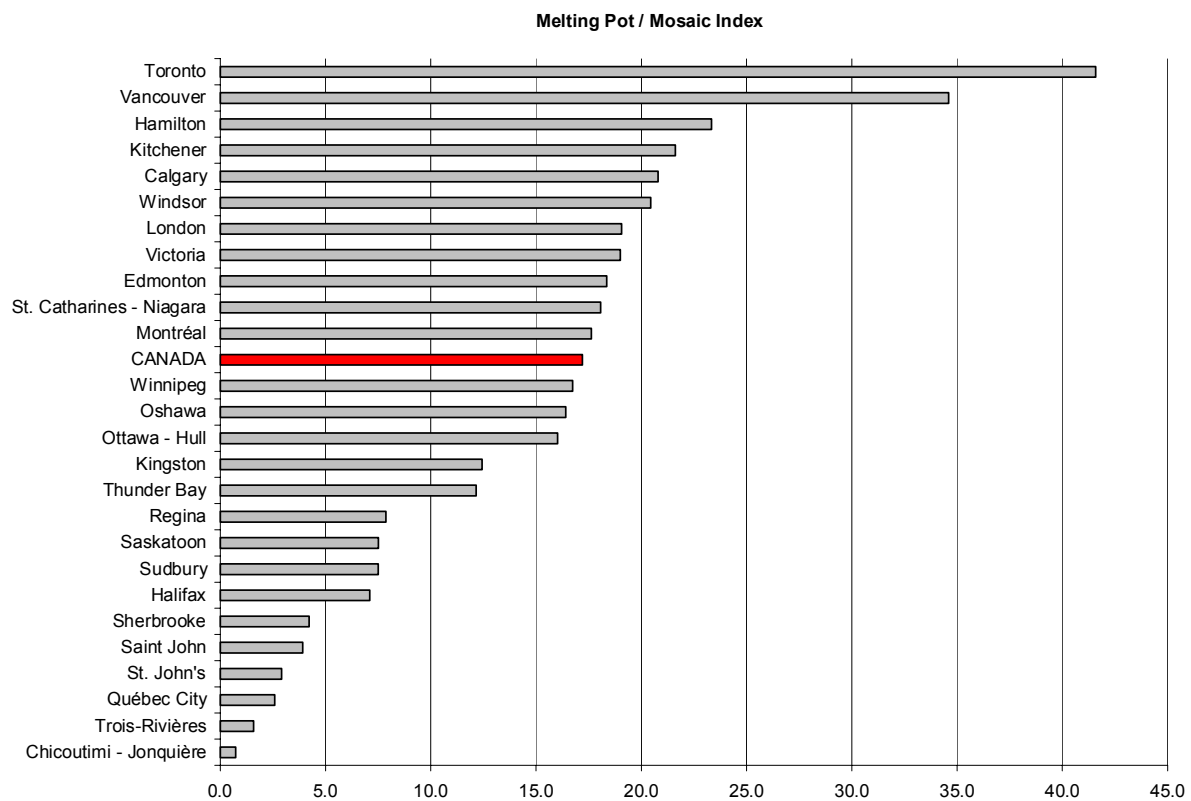
Figure 2: Creativity in Canadian City-Regions, 1996



Diversity

Rankings on the Mosaic Index are shown in Figure 3. Kingston is once again in 15th position, significantly below the national average, and lagging behind every other city-region in Southern Ontario by a substantial margin. This measure of social diversity suggests that Kingston has been less successful than other Ontario communities in attracting immigrants to Canada. On a more positive note, Kingston's rank on the Mosaic Index places it ahead of considerably larger centres such as Regina, Saskatoon, Sudbury, Halifax, St. John's and Québec City. There is no city-region of the same size or smaller that ranks ahead of Kingston.

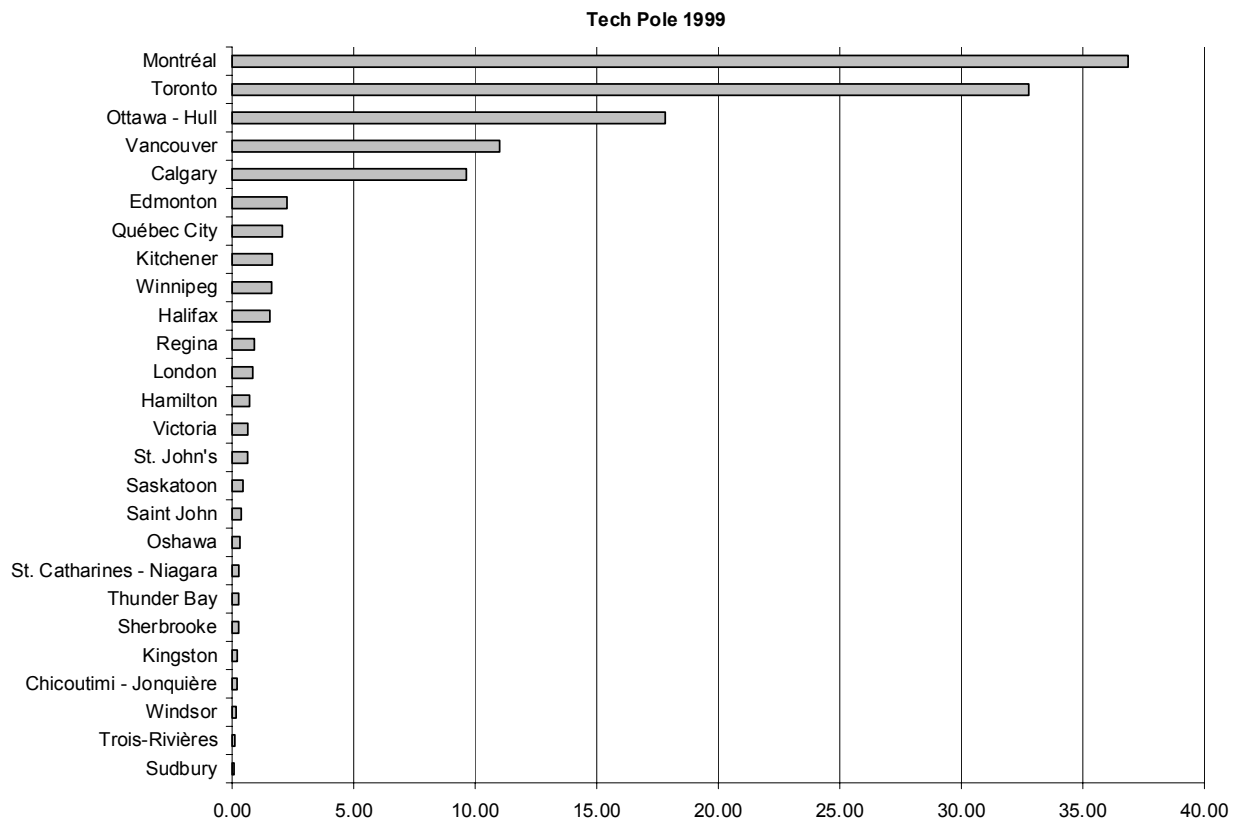
Figure 3: Diversity in Canadian City-Regions, 1996



Technology

As discussed in *Competing on Creativity: Placing Ontario's Cities in North American Context*, the calculation of the Tech Pole Index includes a size component. As a result, a relatively small city-region whose economy is highly specialized in technology-intensive sectors will lag behind a larger region with a similar level of high-tech specialization. In other words, there is a fairly systematic bias against smaller centres using this particular measure. Seen in this light, Kingston's performance on the Tech Pole Index – 22nd out of 26 – is fairly predictable.

Figure 4: Technology in Canadian City-Regions, 1999



Kingston Compared to Canadian City-Regions

Figures 5 through 8 illustrate the statistical relationships between the four key variables employed in this analysis, highlighting Kingston's position.

As already reflected in preceding sections of this report, Kingston's position relative to other Canadian centres appears most favourable in Figures 5 and 6. Here, its high scores on the Talent Index situate Kingston in the upper half of each graph and comfortably within a group of mid-sized city-regions. Kingston's location within these graphs suggests that it has higher scores on the Talent Index than would be expected, based on its performance on the Bohemian and Mosaic indices.

Figure 5: Talent by Bohemian Index for Canadian City-Regions

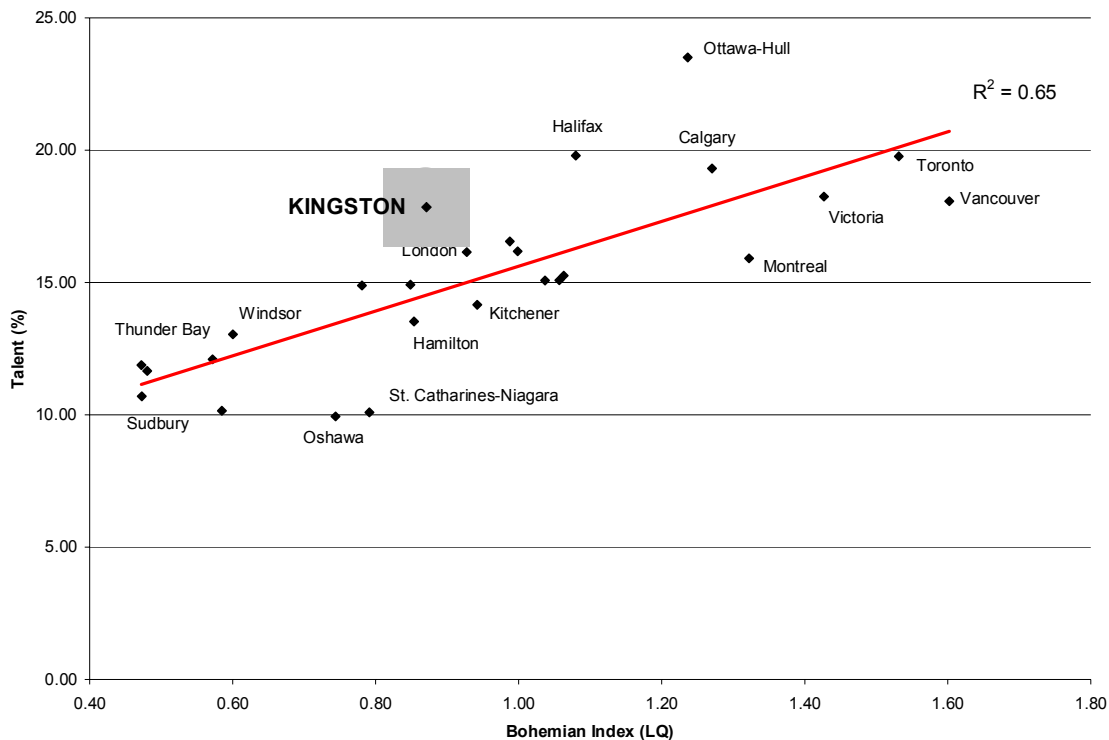
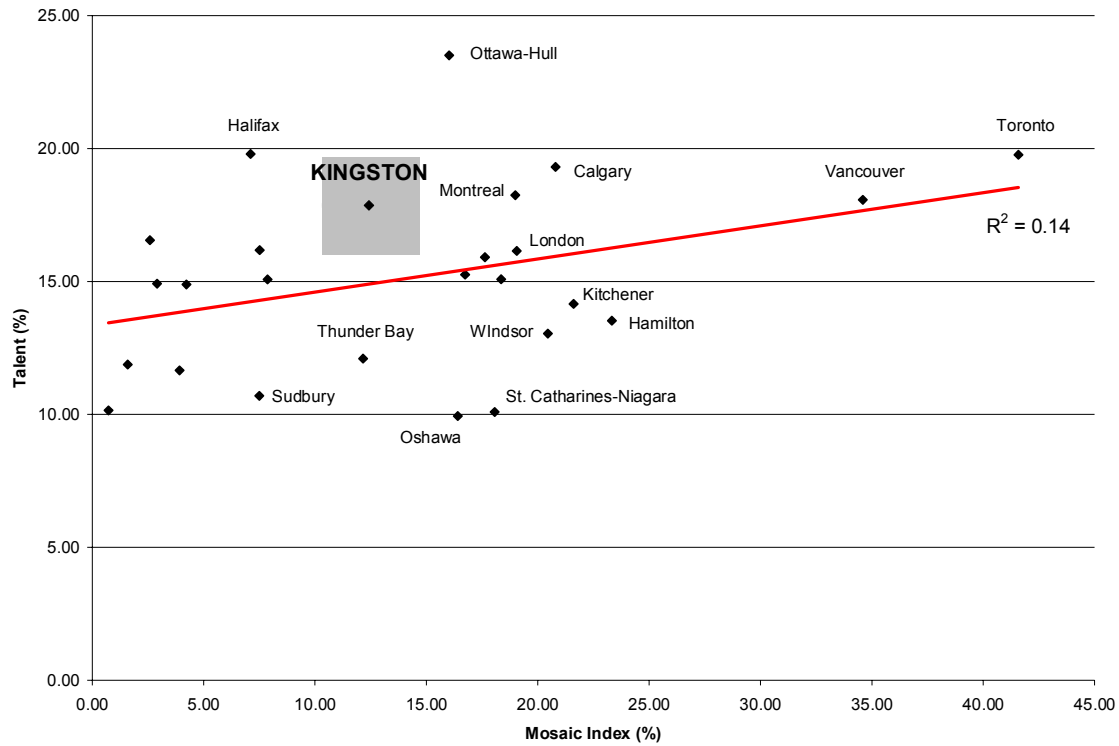


Figure 6: Talent by Mosaic Index for Canadian City-Regions



When we replace the Talent Index with the Tech Pole Index on the vertical axis (Figures 7 and 8), Kingston slips into the lower, left-hand quadrant of the diagram, below the line showing the general relationship between the Tech Pole Index and the Bohemian and Mosaic indices respectively. Considering the above comments on the nature of the Tech Pole Index, one might interpret this position on the two graphs as indicating that Kingston has higher scores on our creativity and diversity measures than its low score on our technology measure would lead us to expect.

Figure 7: Tech-Pole Index by Bohemian Index for Canadian City-Regions

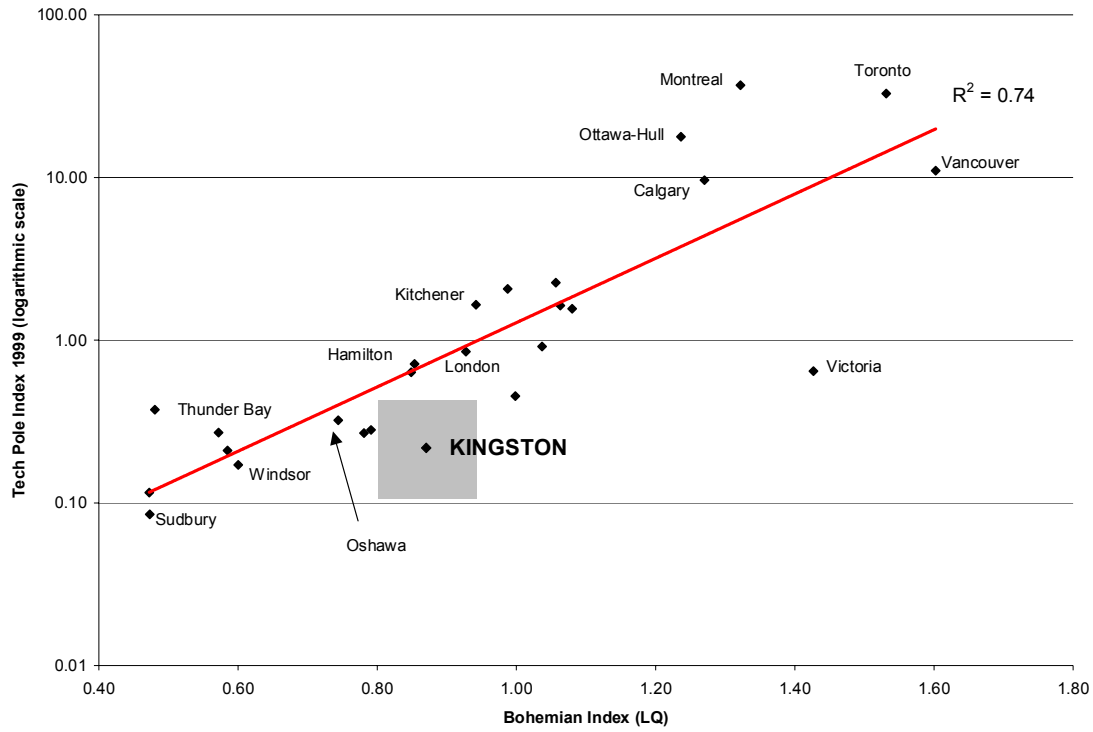
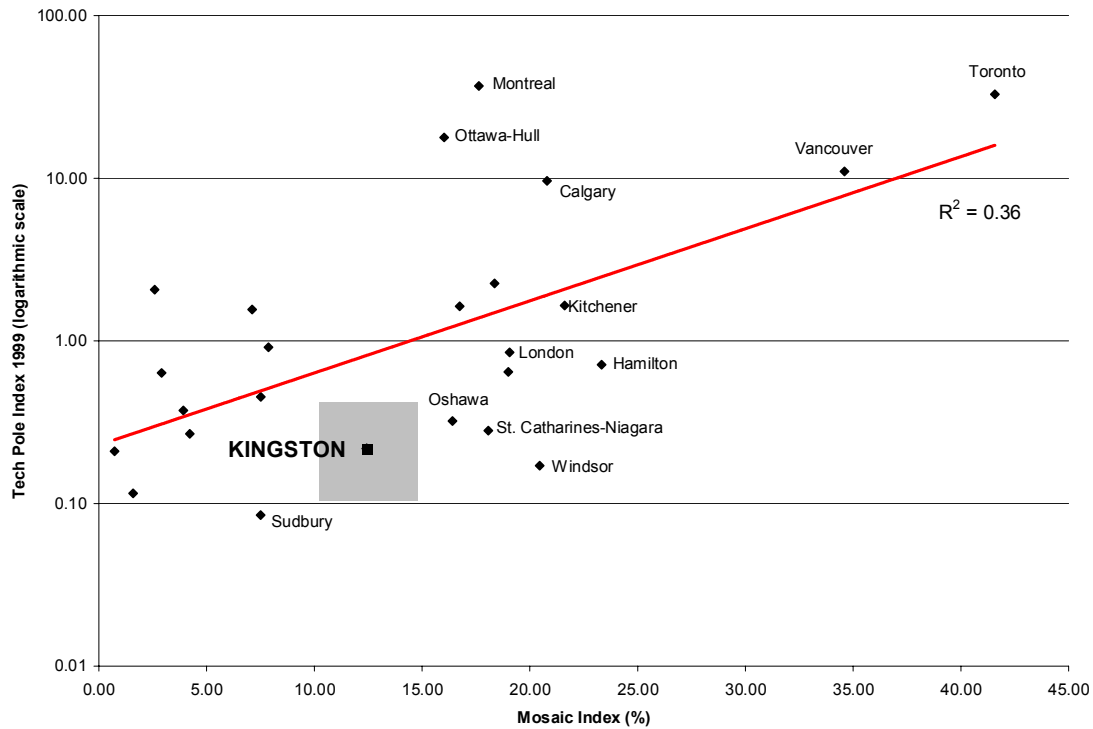


Figure 8: Tech-Pole Index by Mosaic Index for Canadian City-Regions



KINGSTON IN NORTH AMERICAN CONTEXT

In comparing Kingston to the wider group of city-regions in North America, we would argue that it makes most sense to set Kingston’s performance alongside its peer group of similarly sized city-regions, given the tendency for at least two of our indices (Bohemian and Tech Pole) to favour larger city-regions. This means that the most appropriate comparison group is made up of the 160 metropolitan regions³ in Canada and the United States with populations of fewer than 250,000 inhabitants.

Table 1 lists the top 5 city-regions for each of our four indices, as well as indicating Kingston’s rank score out of 160.

Table 1: Top Five North American Metropolitan Areas with fewer than 250,000 Inhabitants, and Kingston’s Rank on Four Indices (out of 160 City-Regions)

Talent	Bohemian	Melting Pot/Mosaic	Tech Pole
1 Iowa City, IA	1 Santa Fe, NM	1 Laredo, TX	1 Huntsville, AL
2 Santa Fe, NM	2 Fort Collins, CO	2 Merced, CA	2 Cedar Rapids, IA
3 Charlottesville, VA	3 Bloomington, IN	3 Yuma, AZ	3 Burlington, VT
4 Columbia, MO	4 Champaign-Urbana, IL	4 Las Cruces, NM	4 Rochester, MN
5 Lawrence, KS	5 Burlington, VT	5 New Bedford, MA	5 Boise City, ID
50 Kingston, ON	40 Kingston, ON	6 Kingston, ON	82 Kingston, ON

Sources: Calculations by the authors, and Gertler, M.S., Florida, R., Gates, G. and Vinodrai, T. (2002) *Competing on Creativity: Placing Ontario’s Cities in North American Context*. Toronto: Ontario Ministry of Enterprise, Opportunity and Innovation, and the Institute for Competitiveness and Prosperity.

Set against its peer group of smaller metropolitan areas, Kingston emerges as a place with a top-10 ranking on diversity (6th), a top-quartile ranking on creativity (40th), and a top-third position on talent (50th). Its technology score situates it just outside the top half (82nd).

In our view, this is a strong and consistent performance. It indicates that, when one compares Kingston to a large set of urban regions of roughly similar size, its wide range of strengths in talent, creativity and diversity come to the fore. The top five ranks in this peer group are dominated by small university towns, with the exception of the Melting Pot/Mosaic Index, where the top-ranked places are almost all in southwestern border states with large populations of Hispanic immigrants. As noted in *Competing on Creativity*, Canadian city-regions generally lag behind their American counterparts on the Talent and Tech Pole indices. Given this, Kingston’s strong performance here is all the more noteworthy.

Finally, Figures 9 and 10 show the statistical relationships between the Talent and Bohemian indices, and the Tech Pole and Bohemian indices, respectively for all 310 North American metropolitan areas (of all sizes) included in our analysis. We have also highlighted Kingston’s position in these two graphs.⁴

³ This includes 9 Census Metropolitan Areas (Canada) plus Kingston, and 150 Metropolitan Statistical Areas (US).

⁴ Kingston’s ranks out of 310 are: Talent – 126; Bohemian – 114; Melting Pot/Mosaic – 35; Tech Pole – 224.

Figure 9: Talent by Bohemian Index for North American City-Regions

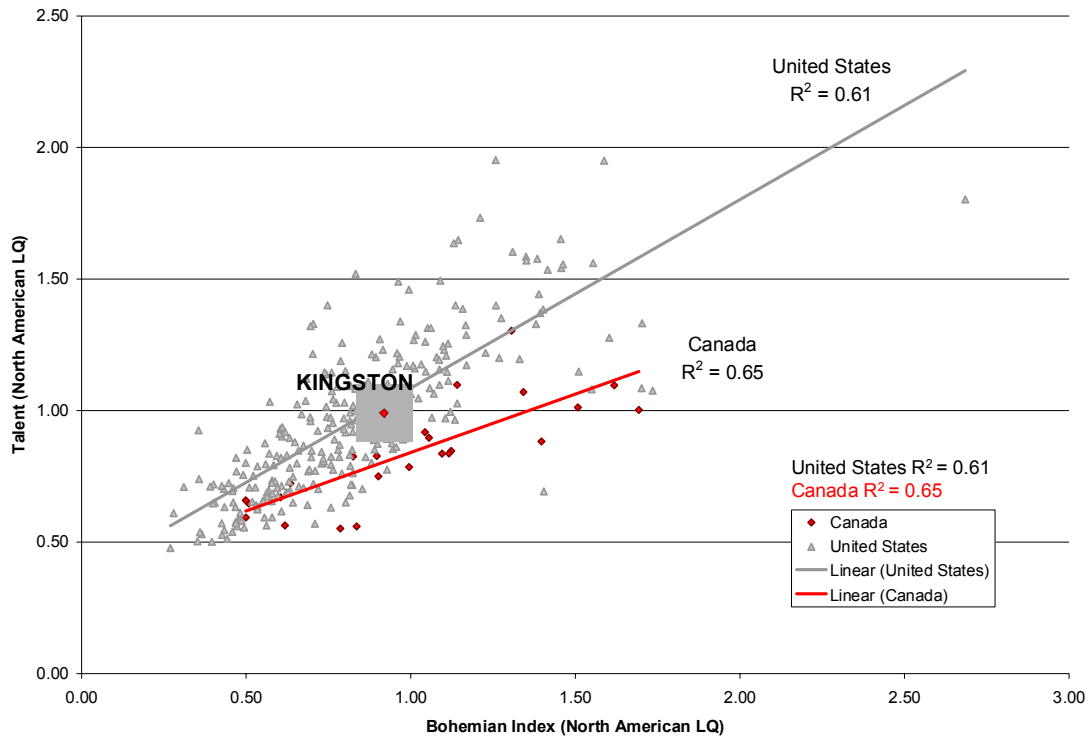
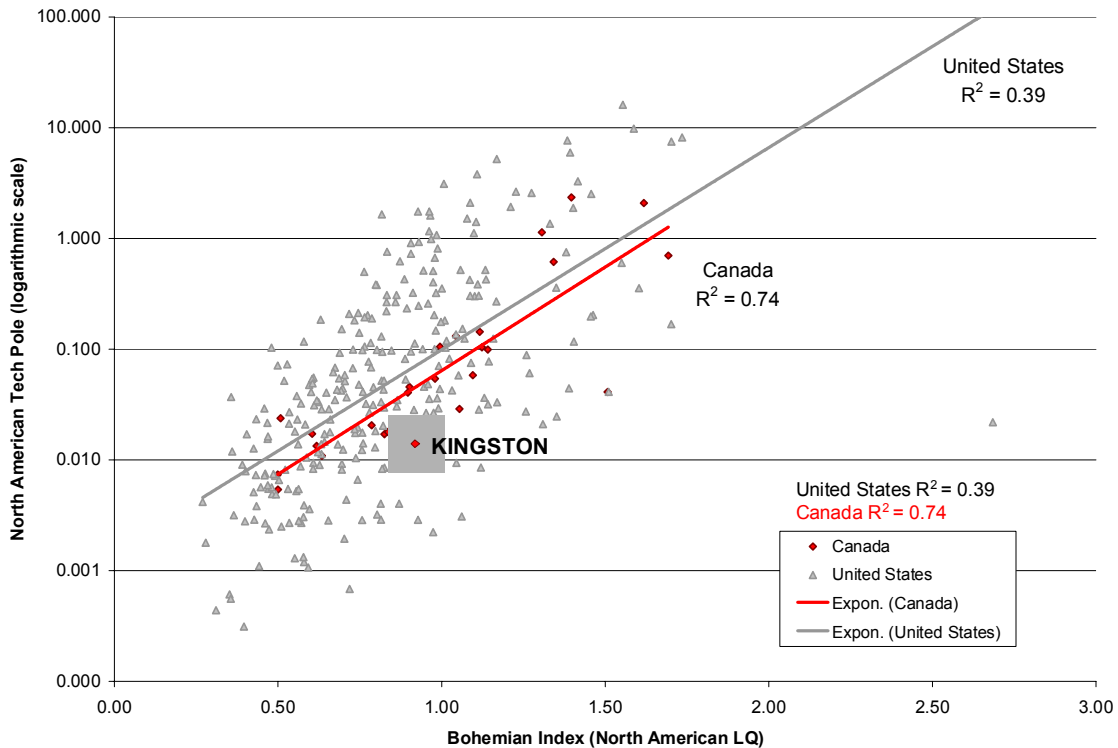


Figure 10: Tech-Pole Index by Bohemian Index for North American City-Regions



COMPETING ON CREATIVITY? INSIGHTS ON KINGSTON

The main findings for Kingston are highlighted below:

- Kingston scores very highly on the Talent Index, ranking 7th of the 26 Canadian city-regions included in our study. This is significantly ahead of Montreal, Winnipeg, Edmonton and other major Canadian centres.
- Kingston ranks 15th out of 26 on both the Bohemian and Mosaic indices. With regard to the Mosaic Index, Kingston lags behind every other city-region in Southern Ontario by a substantial margin, but ranks ahead of larger Canadian centres such as Regina, Saskatoon, Sudbury, Halifax, St. John's and Québec City.
- Kingston's performance on the Tech Pole Index (22nd out of 26) is not surprising given the industrial structure of Kingston and the bias of the technology measure towards larger centres.
- Kingston's score on the Talent Index is higher than expected, based on its performance on the Bohemian and Mosaic indices. Furthermore, Kingston has higher scores on these indices than its low score on the Tech Pole Index would lead us to expect.
- Compared to other small-sized North American metropolitan regions, Kingston fares quite well. It has a top-10 ranking on diversity (6th), a top-quartile ranking on creativity (40th), and a top-third position on talent (50th). Its technology score situates it just outside the top half (82nd). Overall, this is a strong and consistent performance, indicating strengths in talent, creativity and diversity relative to city-regions of similar size.

In summary, Kingston has established some very solid foundations on which to build future talent-based economic development strategies. Its obvious strengths in terms of talent, and its significant achievements to assemble a critical mass of creative workers constitute important local assets that should be enhanced and strengthened further. At the same time, strategies to further increase Kingston's social diversity should pay dividends by improving Kingston's ability to attract and retain highly educated and creative people.