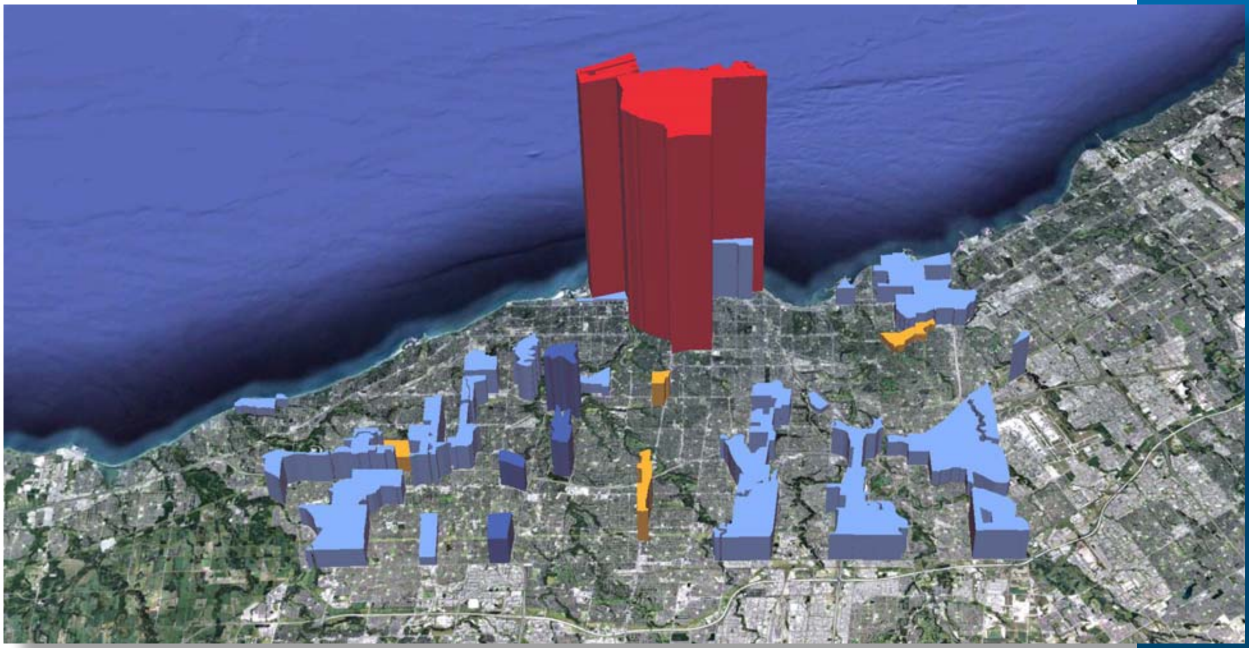
Sustainable Competitive Advantage and Prosperity – Planning for Employment Uses in the City of Toronto



APPENDICES 1 TO 3

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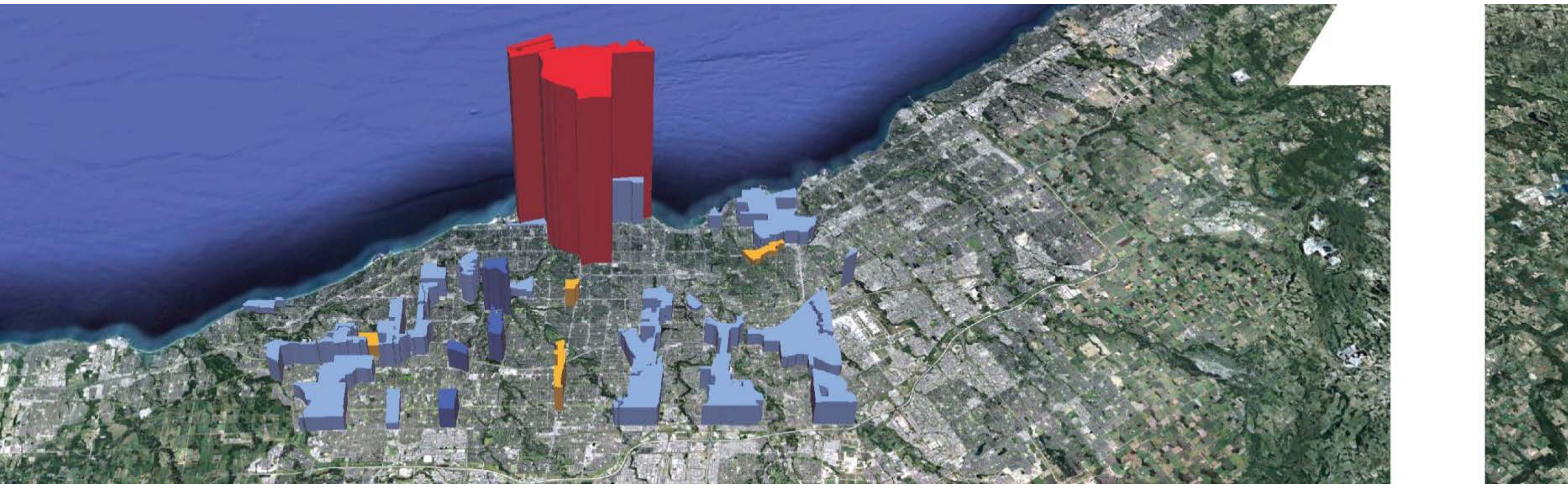

APPENDIX 1: POPULATION AND EMPLOYMENT FORECASTS 2011-2041

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1.0 INTRODUCTION

This Appendix provides the details underlying the population and employment projections summarized in Section 4.0 of the *Planning for Employment Uses in the City of Toronto* report. It provides a profile of the economy of the Greater Toronto Area (GTA) with particular emphasis on the City of Toronto before turning to the projections themselves.

The profile considers the following topics:

- Historical trends in output and employment in Ontario;
- Recent trends in employment in the GTA and in the rest of Ontario;
- Industries that drive the GTA's prosperity and industries that service its residents; and
- Trends in the location of jobs within the GTA on an industry-by-industry basis.

The projections are developed from a base case analysis, with Low and High population and employment outcomes aligned with the Growth Plan's Schedule 3 forecasts for the Greater Golden Horseshoe (the Low alternative) and with the Ministry of Finance's June 2012 population forecasts for Toronto and the rest of the province (the High alternative). Each is to the 2041 horizon. The projections address:

- Projected employment for export and community based industries for the GTA;
- Projected trends in GTA output and employment by industry;
- Potential GTA and City of Toronto employment by industry;
- Office employment in the GTA and the City of Toronto.

They provide the foundation for the employment space and land needs estimates addressed in the main report's Section 4.0 and the land use policy recommendations that follow.

It should be noted that growth projections or forecasts are based on a number of assumptions that may or may not be realized – the numbers they generate are inherently uncertain. The results are nonetheless considered a reasonable and defensible basis for planning to meet future employment needs.

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2.0 FOUNDATIONS – EMPLOYMENT TRENDS IN THE GTA AND TORONTO

2.1 Historical Trends in Output and Employment in Ontario

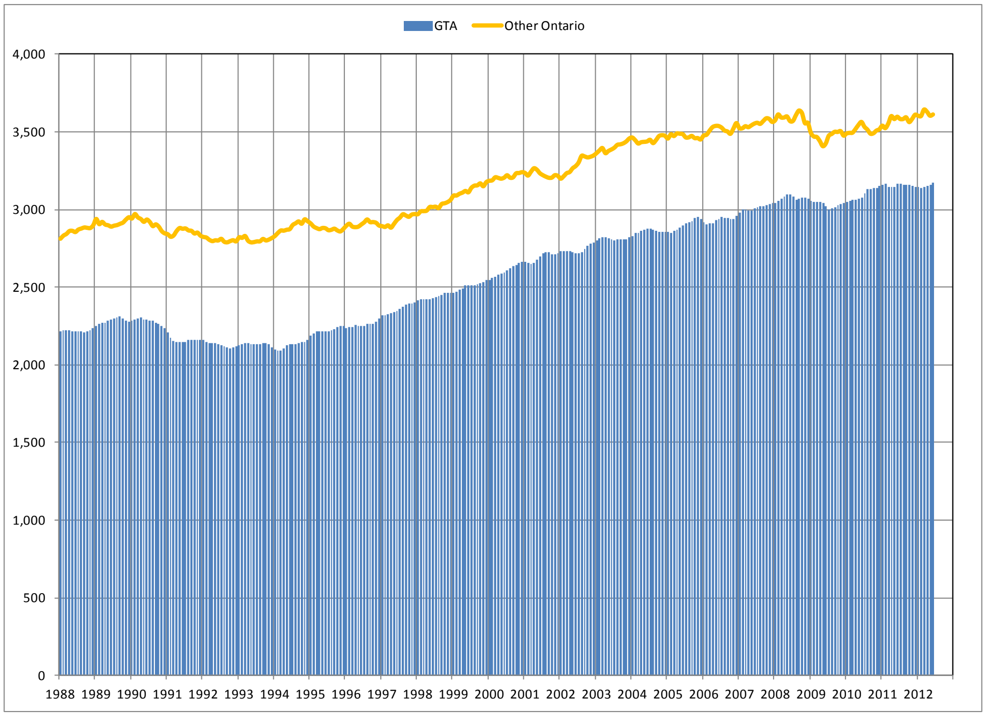
From 1987 through to 2011 real Gross Domestic Product (GDP) in Ontario grew at an average annual rate of 2.3 percent in real terms. Over that same period real GDP in the Greater Toronto Area (GTA) grew at an estimated average annual rate of 2.6 percent. As a result of the GTA's slightly faster pace of growth its share of provincial production grew from 46.8 percent in 1987 to 53.1 percent in 2011. Over the same period total employment in Ontario grew at an average annual rate of 1.3 percent while the rate for the GTA averaged 1.6 percent. The GTA's employment share within Ontario grew from a 44.2 percent in 1987 to 47.2 percent in 2011. Due to the relatively strong job generating capacity of the GTA its population over that period grew from 41.8 percent of Ontario as a whole to 47.3 percent.

The GTA's job generating strength attracts job seekers and their dependents from other parts of Ontario, Canada and the world and is the main driver of the area's overall population growth.

2.2 Recent Trends in Employment in the GTA and in the Rest of Ontario

Monthly seasonally adjusted data covering the period from January 1996 through to June 2012 show that the recent recession hit the rest of Ontario in terms of job losses much more than it hit the GTA (Figure 1). Since the end of 2010 employment in the GTA has been holding firm at a level almost 2 percent higher than its pre-recession peak level of May 2008. In contrast employment in the rest of Ontario, though gradually recovering, nevertheless has only just recently recovered to its pre-recession peak level.

Figure 1: Employment in the GTA and the Rest of Ontario January 1988 to June 2012 (Monthly Data, Seasonally Adjusted, Thousands of Persons)



Source: Statistics Canada's Labour Force Survey (Note GTA = Toronto CMA + Oshawa CMA)

2.3 Industries that Drive the GTA's Prosperity and Industries that Service its Residents

The GTA's growth strength within the province in terms of production, employment and population reflects the fact that its economy is the most diversified in Canada. When one of the area's economic driver industries is in a cyclical downturn other less cyclically sensitive economic driver industries are there to take up the slack. Using location quotients (which compare the number of jobs by industry per capita for the GTA to other metropolitan areas across the country) based on 2006 Census data we have decomposed the 2.7 million jobs located in the GTA in 2006 into those that were export based – those driving the prosperity of the area through the production of goods and services mostly consumed by people and businesses based outside of the GTA (in other parts of Ontario, Canada and the world) – and those that were community based – those primarily serving the needs of the local population.

In this procedure we calculate the number of jobs on a place-of-work basis in each of 49 metropolitan regions across Canada for each of 35 industries on a per capita basis, 17 of which represent individual manufacturing sectors. We attribute all jobs in the primary (agriculture, forestry, mining, etc.) and manufacturing sectors in each region to the economic-base of the region since most of the products produced in these industries are destined for markets outside the region. We compare the per capita job levels across all of the remaining industries, most of which are services, and attribute all jobs above the norm in the GTA to be economic-base jobs, too, since, because they are above the norm, they must represent jobs providing services to people not normally residing in the GTA (that is, they represent exportable services).

When economic-base service jobs crop up in the retail, food-accommodation, and arts-entertainment-recreation sectors it is a sign that tourism forms part of that region's economic-base (such as occurs in Niagara in Ontario). The fact that the export base shares are very high of all the GTA's jobs in information (40 percent), finance and insurance (36 percent) and professional services (26 percent) means the number of jobs per capita in these industries in the GTA is way above the norm.

Figure 2 shows that for the GTA as a whole at least some export based jobs exist in 18 of the 19 industries we monitor. Most other metropolitan areas across Canada support export based jobs in just 5 or 6 industries.

Some 28 percent of all the jobs located in the GTA (758,600 out of 2.7 million in total) provide exported goods and services. By definition it is assumed that all jobs in the primary (agriculture, mining) and the manufacturing sectors are export oriented. Our location quotient assessment indicates that high shares of all the jobs in a number of service industries are also export oriented, most notably in information and culture (40 percent are export oriented), finance and insurance (36 percent), wholesale trade (28 percent), professional services (26 percent), transportation and warehousing (21 percent) and other business services (14 percent) (see Figure 2).

Figure 2 shows that on a GTA-wide basis the largest provider of export based jobs is manufacturing (395,400, or 52.1 percent of all GTA export based jobs), followed by finance and insurance (96,300, 12.7 percent), professional services (66,800, 8.9 percent), wholesale trade (48,800, 6.4 percent) and information and culture (39,200, 5.2 percent). These four sectors together account for 85.3 percent of the GTA's total export based jobs.

Figure 2: Total Employment in the GTA by Place-of-Work in 2006
Export Based and Community Based Employment

	Export Based	Community Based	Total	Export Based Share (%)
Total Employment	758,600	1,915,400	2,674,000	28
Agriculture, Fishing	10,000	0	10,000	100
Forestry, Logging	300	0	300	100
Mining	4,900	0	4,900	100
Manufacturing	395,400	0	395,400	100
Utilities	2,400	19,000	21,400	11
Construction	4,800	72,300	77,100	6
Wholesale Trade	48,800	124,100	172,900	28
Retail Trade	400	297,300	297,700	0
Transportation, Warehousing	26,000	95,500	121,500	21
Information, Culture	39,200	59,500	98,700	40
Finance, Insurance	96,300	172,200	268,500	36
Professional Services	66,800	190,600	257,400	26
Other Business Services	16,400	101,200	117,600	14
Education	13,000	157,800	170,800	8
Health, Social Assistance	20,800	209,900	230,700	9
Arts, Entertainment, Recreation	1,900	47,500	49,400	4
Food and accommodation	600	150,000	150,600	0
Other Services	10,600	114,000	124,600	9
Public Administration	0	104,500	104,500	0

Source: Statistics Canada's 2006 Census, Decomposition by C4SE-SPI-C4SE

2.4 The Location of Export Based Jobs within the GTA

Figure 3 shows the location of export based jobs in the GTA in 2006. The City of Toronto accounted for 54 percent of all the GTA's export based jobs while the area's four suburban regions collectively accounted for the remaining 46 percent. On a major industry basis:

- The City of Toronto accounted for 100 percent of the GTA's export based jobs in finance, insurance and real estate; education and health; and tourism (combining information and culture; arts, entertainment and recreation; and accommodation and food);
- It accounted for 96 percent of the GTA's export based jobs in professional and other business services, 36 percent of its jobs in manufacturing, 26 percent of its jobs in the primary industries, and 58 percent of its export based jobs in all other industries (construction, utilities, retail and other personal services);

- The rest of the GTA accounted for 100 percent of the GTA's export based jobs in logistics (wholesale trade; and transportation and warehousing).

In other words the City accounts for the lion's share of the GTA's export based jobs in most goods and exportable services sectors except manufacturing and logistics.

Figure 3: Total Employment in the GTA by Place-of-Work in 2006 by Major Industry Export Based Employment in Toronto and the Rest of the GTA

	GTA Total	Toronto	Other GTA	Toronto's Share (%)
Total Economic Base Jobs	758,600	408,300	350,300	54
Primary	15,200	3,900	11,300	26
Manufacturing	395,400	142,000	253,400	36
Logistics	74,800	0	74,800	0
Professional and Other Business Services	83,200	80,000	3,200	96
Finance, Insurance, Real Estate	96,300	96,300	0	100
Education, Health	33,800	33,800	0	100
Information	39,200	39,200	0	100
Tourism	2,500	2,500	0	100
Other	18,200	10,600	7,600	58

Source: Statistics Canada's 2006 Census, Decomposition by C4SE-SPI-C4SE
Note:
Logistics includes wholesale trade, transportation and warehousing.
Tourism includes information, culture; arts, entertainment and recreation; accommodation and food.
Other includes construction, utilities, retail sales, other personal services and public administration.

2.5 Trends in the Location of Jobs within the GTA on an Industry-by-Industry Basis

The best consistent source of information regarding employment by industry by place-of-work for both the GTA as a whole and for each of its components – the City vs. the four regions – is provided by Census of Canada employment by place-of work data. However, we have access to such data only for the Censuses of 2001 and 2006. Information from the 2011 Census regarding employment by industry will not be available until June 2013.

We do have access to annual data regarding employment by industry from the Labour Force Survey for the GTA as a whole covering the period from 1987 to 2011. Though we were successful above using 2006 employment by industry by place-of-work data in decomposing jobs within the City and the rest of the GTA into those that are export based and those that are community based, we are not able to decompose jobs into those categories over time. We can, however, deduce which export based industries GTA wide have created the most jobs over time using the LFS GTA data.

2.6 Trends in GTA Wide Export Based Jobs

In the decomposition of jobs section above it was noted that about 28 percent of all the jobs in the GTA in 2006 were export based jobs and that 54 percent were located in the City of Toronto and 46 percent in the four suburban regions.

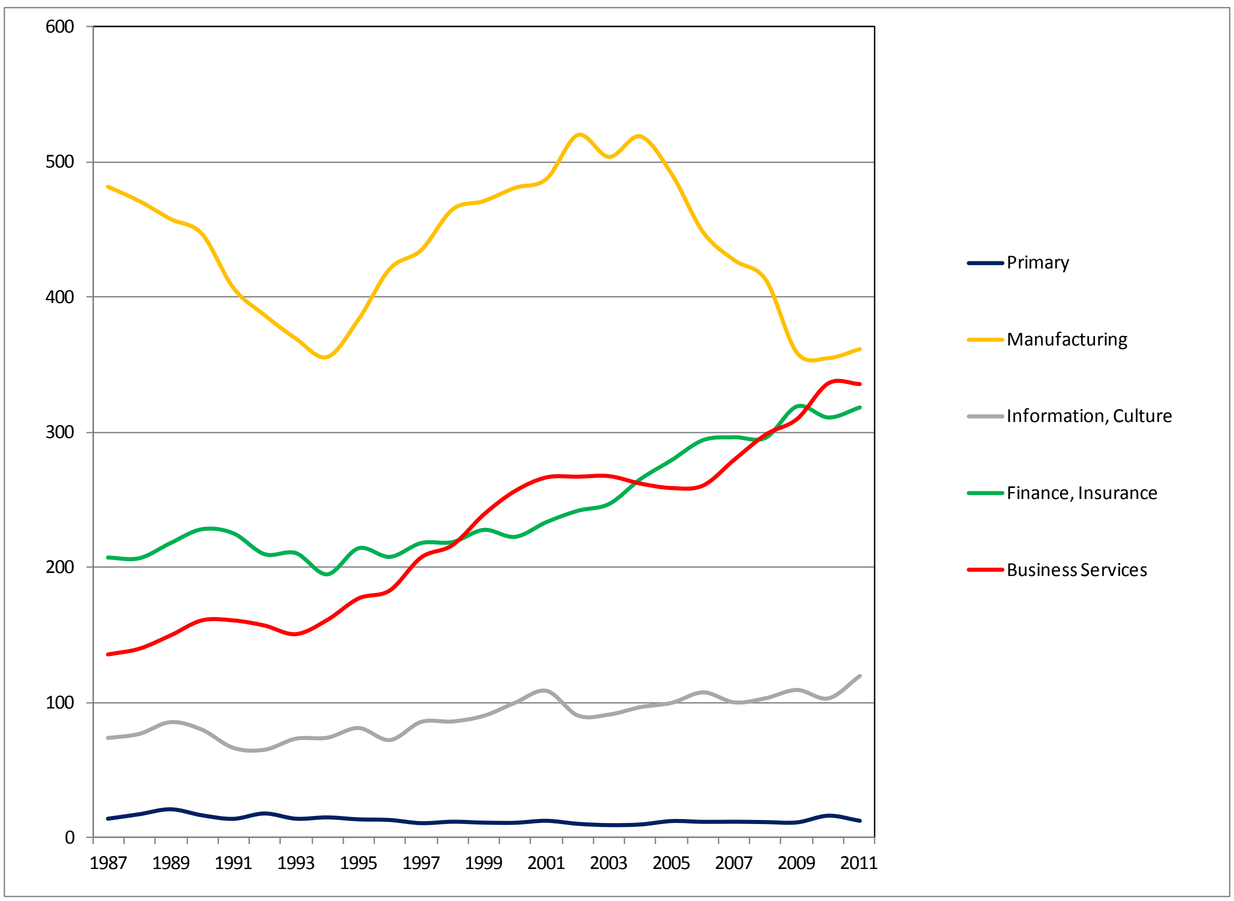
The growth of export based jobs is driven primarily by external factors – trade with the rest of Ontario, the rest of Canada, the United States and other countries – buffeted over time by significant exchange rate fluctuations, new trading arrangements (the free trade deals two decades ago boosted manufacturing production and jobs in Ontario and the GTA for most of the 1990s), by international crises (the post-911 period, SARS, etc. temporarily reduced trade between Canada and the US in the first half of the last decade) and by economic cycles (the US recession of 2008 to 2009 and its subsequent slow recovery have negatively impacted economic activity in Ontario and the GTA since the middle of 2008).

Figure 4 shows the evolution of employment for the GTA as a whole from 1987 to 2011 for each of the industries that are fully or significantly driven by export demand. Figure 5 shows the evolution of employment for the GTA as a whole over the same period for the sum of all the industries in Figure 4. These two Figures together reveal the following:

- The greatest swings in employment across this period occurred in manufacturing. Manufacturing employment reached cyclical peaks in the late 1980s and the early 2000s and reached cyclical lows in 1994 and 2009. Across the entire period manufacturing employment was virtually flat.
- Primary industries account for only a few export based jobs in the GTA. Generally speaking they have been declining over time.
- Employment in finance and insurance was flat through most of the 1990s but has been growing steadily on an annual basis since 2000. Note that 36 percent of these jobs were export driven in 2006.
- Employment in business services was on an upward trend throughout the period. Growth in such jobs was temporarily interrupted by the recessions of the early 1990s and of 2008-2009. We estimate that about one quarter of these jobs were export driven in 2006.

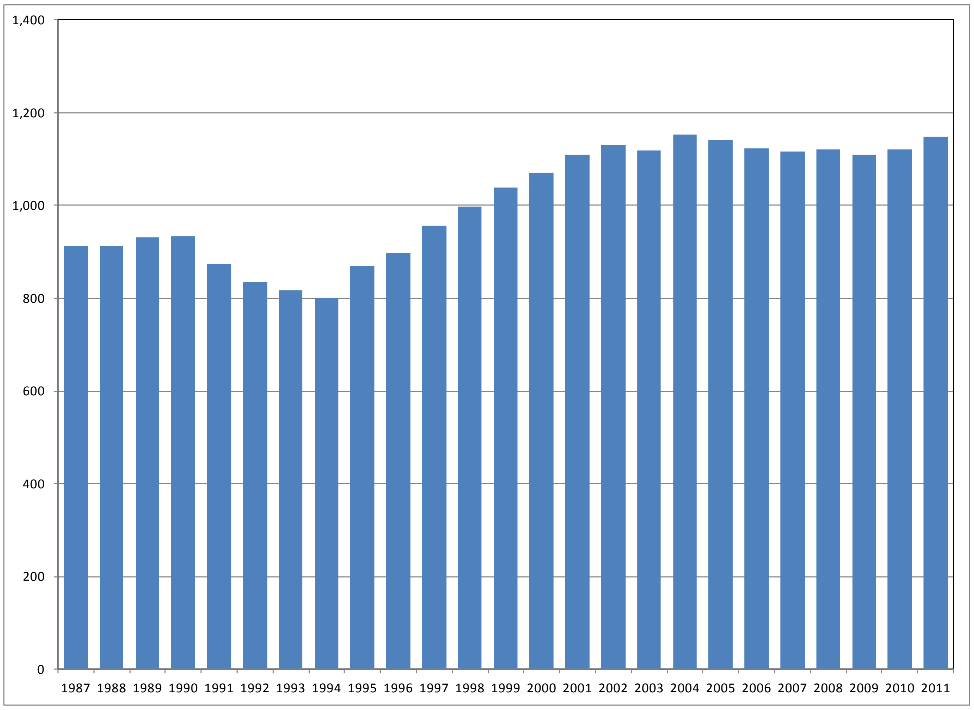
- Jobs in information and culture were also on an upward trend through most of the last quarter century. About 40 percent of these jobs were export driven in 2006.
- Figure 7 illustrates the long term trend in GTA jobs across all industries that are fully or significantly export driven. It depicts how such jobs fell from 1987 through 1994 due to the recession and the need to regroup in light of FTA/NAFTA, expanded steadily from 1994 through to 2004, and slid sideways since that time. That the total number of export oriented jobs in the GTA held steady over the last 7 years is a remarkable result given that manufacturers shed 150,000 jobs in the GTA between 2004 and 2009. The upshot of Figures 7 and 8 is that the remaining export driven industries fully offset the employment losses in manufacturing over this difficult adjustment period.

Figure 4: GTA Employment in Export Based Industries by Industry
Annual Data, Thousands of Persons, 1987 to 2011



Source: Statistics Canada Labour Force Survey

Figure 5: GTA Employment in Export Based Industries in Total Annual Data, Thousands of Persons, 1987 to 2011



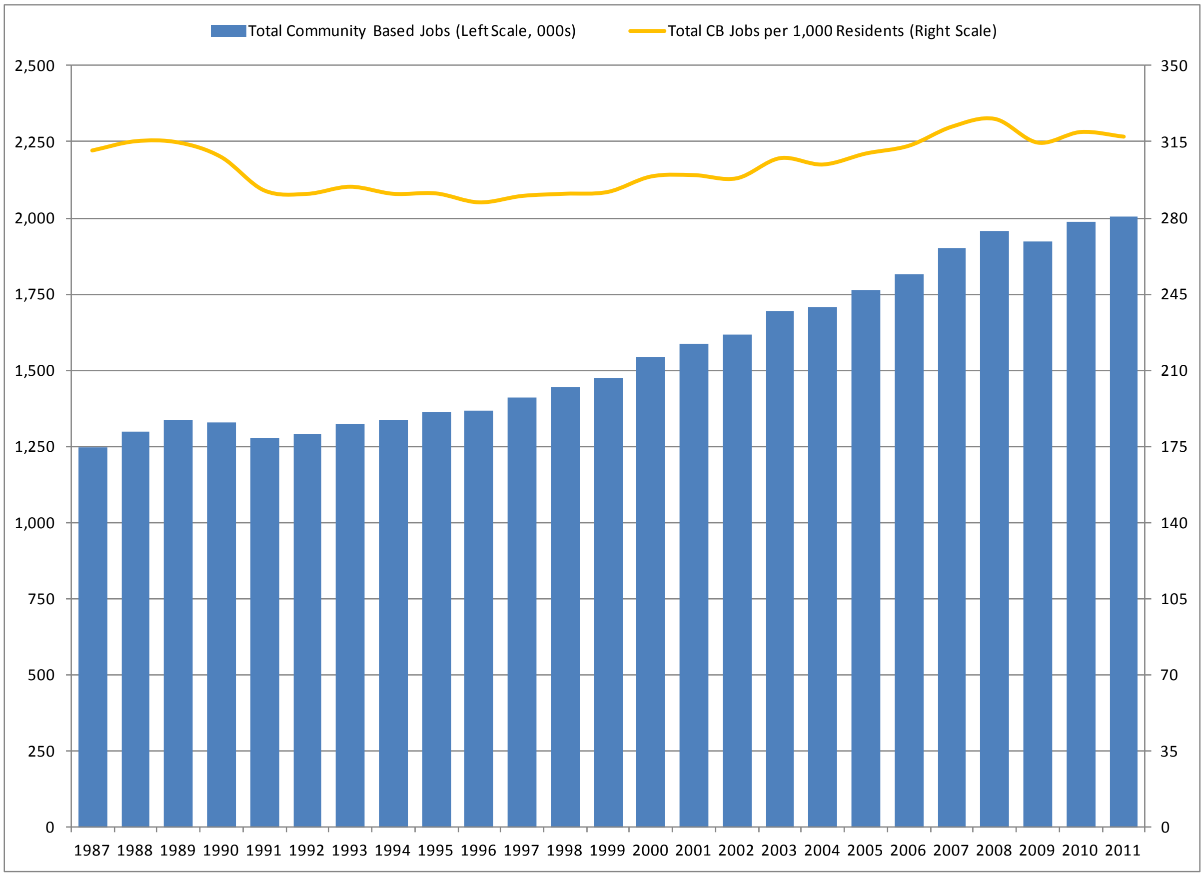
Source: Statistics Canada Labour Force Survey

2.7 Trends in GTA Wide Community Based Jobs

All of the other jobs in the GTA are primarily driven by the needs of the local population. (Community based industries include utilities; construction; wholesale trade; retail trade; transportation and warehousing; education; health and social services; arts, entertainment and recreation; food and accommodation; other services; and public administration.) Figure 6 shows that the sum total of such jobs within the GTA increased steadily throughout the 1987 to 2011 period with only minor setbacks during the recession of the early 1990s and again, to a lesser extent, during the recession of 2008-2009. These jobs are referred to as population serving and/or community based because the key driver is population growth.

Figure 6 also shows the ratio of such jobs to the population (plotted is the number of such jobs per 1,000 people in the GTA). Over time this ratio has changed very little. It declined from the late 1980s through to the mid-1990s due to the recession's negative impacts on disposable income and spending and when government, education and health budgets were cut in the face of growing deficits and debt at that time. The ratio held steady through most of the 1990s, then grew gradually from 1999 through 2008 against a backdrop of relative prosperity (compared to that of the 1990s). The ratio fell during the recession of 2008-2009 but held steady in 2010 and 2011.

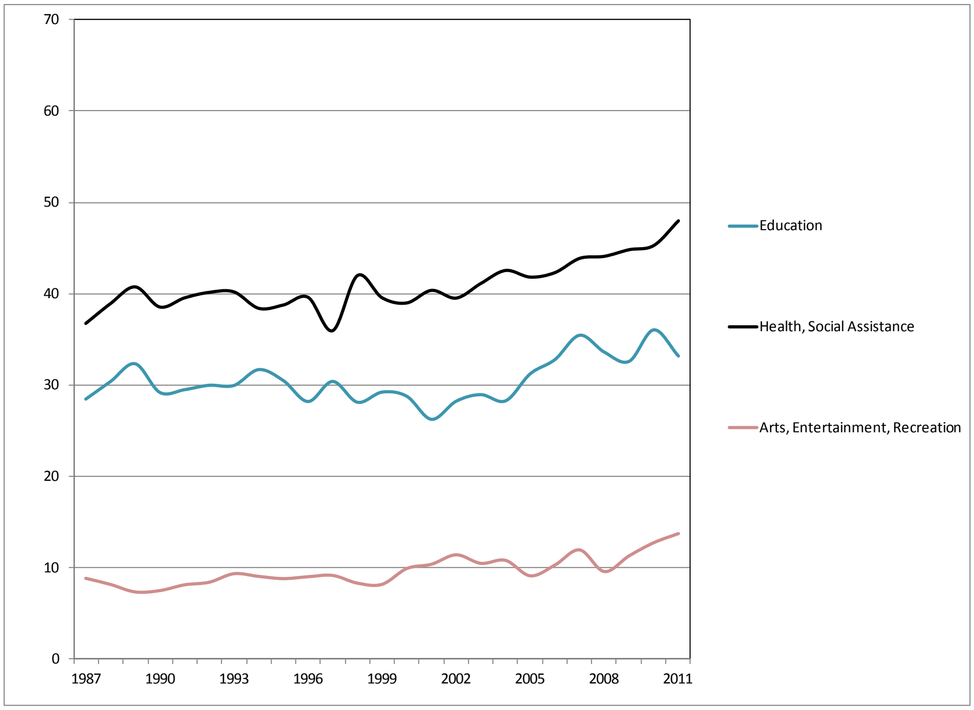
Figure 6: GTA Employment in Community Based Industries
Level in Thousands of Persons and as a Ratio per 1,000 Residents
Annual Data, 1987 to 2011



Source: Statistics Canada Labour Force Survey, City of Toronto Employment Survey and C4SE-SPI-C4SE

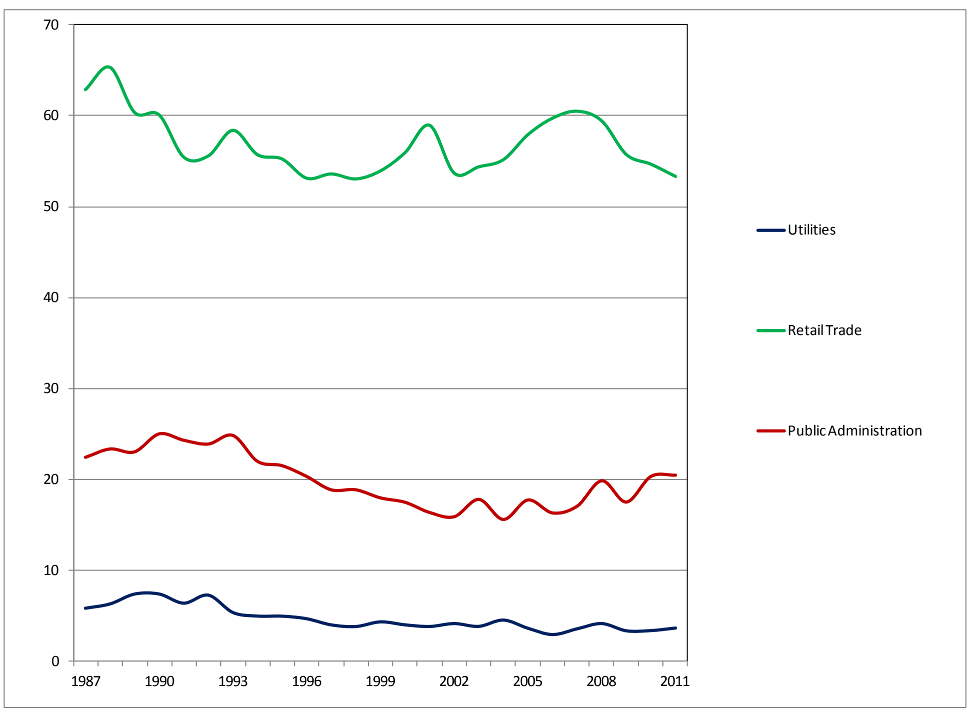
The ratio of such jobs to the population on a component-by-component basis varies significantly. The ratios in a few community based industries have increased slightly over time (Figure 7) while in a few they have decreased slightly over time (Figure 8). But in most population serving industries they have followed a relatively flat trend (Figure 9).

Figure 7: GTA Employment in Community Based Industries with Increasing Ratios Annual Data, Employed per 1,000 Residents, 1987 to 2011



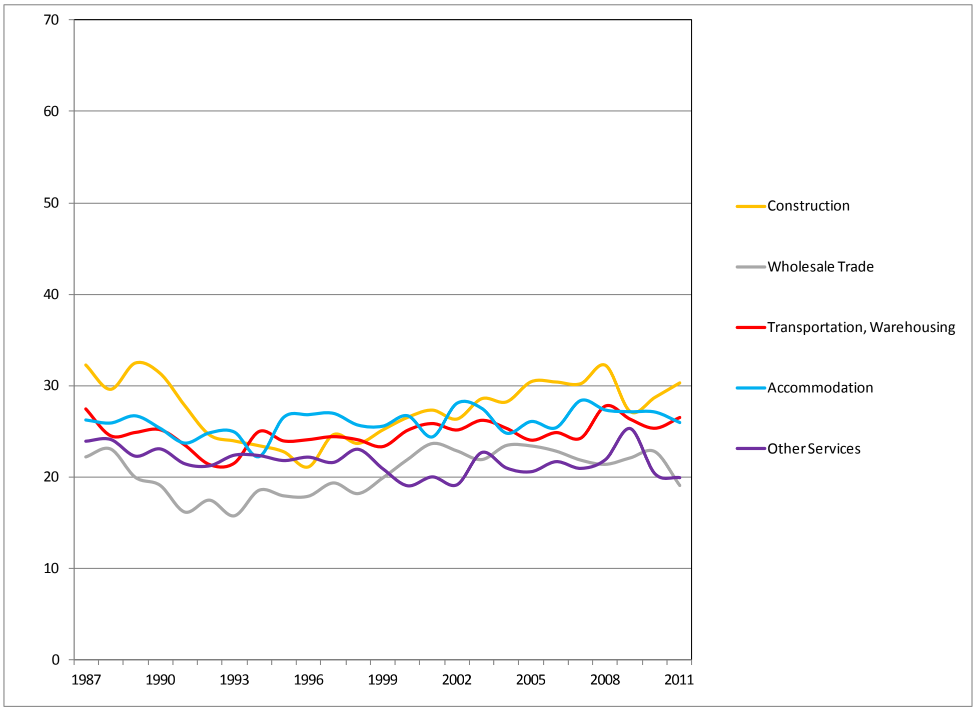
Source: Statistics Canada Labour Force Survey and C4SE-SPI-C4SE

Figure 8: GTA Employment in Community Based Industries with Decreasing Ratios Annual Data, Employed per 1,000 Residents, 1987 to 2011



Source: Statistics Canada Labour Force Survey and C4SE-SPI-C4SE

Figure 9: GTA Employment in Community Based Industries with Steady Ratios Annual Data, Employed per 1,000 Residents, 1987 to 2011



Source: Statistics Canada Labour Force Survey and C4SE-SPI-C4SE

Population growth in the City has not kept pace with population growth in the GTA's four suburban regions. Between 1987 and 2011 the population of the City increased from 2,332,000 to 2,727,000, or by 395,000 people, a gain of 17 percent. In contrast the population of the rest of the GTA over that period grew from 1,685,000 to 3,591,000, or by 1,906,000, a gain of 113 percent. Over that period the City accounted for 21 percent of the GTA's total population growth.

In view of these relative population changes it is to be expected that the City's share of population serving employment within the GTA declined in most every category over that period.

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3.0 EMPLOYMENT FORECASTS TO 2031 AND 2041

3.1 Projected Employment in Export and Community Based Industries for the GTA

The Centre for Spatial Economics - Strategic Projections Inc. (C4SE-SPI) has developed a projection framework we use to prepare and regularly update detailed economic and demographic projections at the national, provincial and metropolitan area level throughout the country. The system is driven by expectations regarding growth in the United States economy, our greatest trading partner, and by expectations regarding economic policies, the stage of the business cycle, etc. This framework drives economic growth at metropolitan area levels across the country, including the GTA, as follows:

- National trends in output by industry in the export oriented industries are driven primarily by expectations regarding the US economy. National trends in employment by industry in these export oriented industries are driven by projected output by industry and by expectations regarding underlying productivity growth by industry.
- Provincial trends in output in these export oriented industries reflect expected shifting shares of national output. Provincial trends in employment in these industries are driven by provincial trends in output and projected provincial trends in productivity.
- Metropolitan area trends in employment by industry are driven assuming each metro area retains its share of export based jobs within each province across the projection horizon.
- Export based jobs are allocated to metropolitan area sub-area's (such as to Toronto within the GTA) assuming their shares of such jobs within the province will be sustained across the projection horizon.

The population of each sub-area within the GTA is set considering expected overall job growth prospects for the entire area and taking into account the extent to which each sub-area is able to and/or mandated to accommodate population growth according to Places to Grow.

Employment among those industries that are population serving is projected for each sub-area based on its base year ratio of such jobs to the population and on projected province-wide trends in those ratios in the future (which, in turn, reflect past trends regarding the increasing, decreasing or steady nature of such ratios historically). The projected ratios are applied to the projected population for each sub-area to derive projected employment for each population serving industry.

Real output of each population serving industry is projected based on the number of jobs projected for it and on projected productivity for such jobs at the provincial level.

The next section describes future trends in GTA-wide employment and output by industry across all export and community based industries as derived using the methodology described here.

3.2 Projected Trends in GTA Output and Employment by Industry

Figures 10a and 10b tabulate past (1997 to 2011) and projected future (2011 to 2031 in Figure 10a and 2011 to 2041 in Figure 10b) trends in output (real GDP), employment and output per worker (productivity) for the GTA as a whole by industry. The employment estimates for the GTA are based on Labour Force Survey employment by industry data (summing the CMAs of Toronto and Oshawa). Output per worker (productivity) estimates for Ontario were derived using Statistics Canada data regarding Ontario real GDP by industry and Labour Force Survey data for Ontario regarding employment by industry. Real GDP estimates for the GTA were estimated by applying Ontario productivity estimates by industry to the LFS estimates of employment by industry for the GTA.

Figures 10a and 10b show that:

- We project real GDP for the GTA to increase by 2.7 percent per year on average over the two decade span from 2011 to 2031 and by 2.5 percent per year on average over the three decade span from 2011 to 2041. By way of comparison that pace is slightly slower than the 3.0 percent pace per year achieved over the span from 1997 to 2011.

- We project total employment will grow 1.4 percent and 1.2 percent per year over the next two and three decade spans respectively compared to 2.1 percent per year from 1997 to 2011.
- We project output per worker will grow by 1.3 percent per year over each of the next two decade and three decade spans compared to 0.9 percent annually from 1997 to 2011.

A key objective of this assessment is to determine the extent to which employment will grow in the GTA as a whole and within the City of Toronto in particular. First, the GTA. Figures 10a and 10b compare our projected growth in employment by industry for the GTA as a whole from 2011 to 2031 (10a) and from 2011 to 2041 (10b) to the growth that actually occurred between 1997 and 2011. Figures 10a and 10b reveal that we expect GTA industrial employment growth in the future to mirror that of the past with the following exceptions:

- We project that GTA manufacturing production will grow 2.2 percent annually from 2011 to 2031 and 1.8 percent annually from 2011 to 2041 after declining 0.2 percent annually from 1997 to 2011. We project stronger productivity growth in manufacturing over the next two to three decades (2.1 percent from 2011 to 2031 and 2.0 percent from 2011 to 2041) than over the 1997 to 2011 span (1.0 percent per year) reflecting successful efforts on the part of manufacturers in Ontario and the GTA to remain competitive with producers abroad.

  As a result manufacturing employment will grow at an annual rate of 0.1 percent between 2011 and 2031 and decline at an average rate of 0.1 percent from 2011 to 2041 after increasing at a rate of 2.1 percent between 1997 and 2011. In other words we are projecting that manufacturing output and productivity growth will accelerate but that manufacturing employment growth will barely grow.

- The apparent historical versus projected inconsistencies in manufacturing GDP and employment growth in the GTA are clarified by taking a longer term historical perspective. Figure 11 shows the annual path of real output and employment in manufacturing for the GTA historically from 1987 to 2011 (that is back 10 years further than the perspective provided in Figure 10) and the projected path for each from 2012 to 2041. It also shows the long-term trend growth path of manufacturing real output and employment over the period based on data from 1987 to 2011. The long-term trend line for both is extrapolated beyond 2011 to 2041 to indicate where each would have been in the future had they followed a steady growth path from 1987 to 2011 (instead of the highly cyclical path that actually occurred).

Figure 11 shows that both manufacturing output and employment in 2011 were well below their long term trend values. In other words gaps between actual and trend levels have emerged for both output and employment. Figure 11 also shows that we expect manufacturing output from this point forward to grow at a rate close to its long term trend. Note, however, that we do not expect the output gap to ever close. In other words, recent trends in manufacturing output in the GTA suggest a permanent loss of at least some production activity occurred over the last decade. Furthermore, because we expect productivity growth in manufacturing in the future will exceed that of the past, manufacturing employment growth in the future will consistently fall short of its historical pace.

As a result the employment gap, though narrowing slightly during the current recovery-expansion period, will nevertheless get larger over time, suggesting that permanent job losses in manufacturing occurred over the last decade and more losses will occur gradually over the decades ahead. These various rates of growth mean that manufacturing employment in 2031 will be 15,000 more than it was in 2011 but that by 2041 it will be 23,000 less than it was in 2011. By way of comparison it fell between 1997 and 2011 by almost 75,000 but it was flat between 1987 and 2011.

- Employment in health care and social assistance will grow faster in the future than in the past due to the aging of the population. The number of persons 65 and over – the population that accounts for the largest use of health care services – will increase significantly throughout Canada over the next three decades. The oldest Baby Boomers turned 65 in 2011 while the youngest will turn 65 in 2031. By 2041 every surviving member of the Baby Boom Generation will be 75 years of age or older.

- Professional services and finance-insurance employment will grow in the future at rates less than half those achieved in the past. The expected deceleration in employment growth in each of these two industries reflects both a deceleration in output growth – there's only so much outsourcing of expertise by manufacturers and others to these sectors that can occur – and an expected acceleration in future rates of productivity growth through the continued application of new technologies in these sectors.

Exhibit 10a: Real GDP, Employment and Productivity Growth in the GTA 1997-2011 and 2011-2031

	Levels									Averaqge Annual Percent Change					
	Real GDP ($02, 000,000s)			Employed (000s)			Productivity ($02, 000s)			Real GDP		Employed		Productivity	
	1997	2011	2031	1997	2011	2031	1997	2011	2031	97-11	11-31	97-11	11-31	97-11	11-31
Total all industries	163,550	242,562	399,082	2,368	3,154	4,085	69	77	98	2.9	2.7	2.1	1.4	0.8	1.3
Primary, utilities	2,614	3,465	4,052	30	36	30	86	92	130	2.7	0.8	1.6	-0.9	0.6	1.8
Construction	7,006	11,084	14,903	120	192	265	58	62	60	3.6	1.6	3.6	1.7	0.5	-0.1
Manufacturing	36,413	34,166	51,170	435	361	368	84	95	140	-0.2	2.2	-1.2	0.1	1.0	2.1
Trade	15,710	27,598	53,215	355	458	578	44	57	88	4.2	3.5	1.9	1.2	1.9	2.3
Transportation and warehousing	7,218	10,641	16,647	119	168	204	61	67	86	2.9	2.4	2.6	1.0	0.8	1.3
Finance, insurance, real estate and leasing	44,182	74,639	122,605	218	319	391	203	235	315	3.8	2.6	2.8	1.1	1.1	1.5
Professional, scientific and technical services	9,222	16,970	28,642	207	335	459	45	51	63	4.6	2.8	3.6	1.7	1.1	1.1
Business, building and other support services	4,451	7,105	13,576	103	148	229	43	49	60	3.5	3.5	2.8	2.3	0.9	1.1
Educational services	8,354	11,078	14,638	148	209	289	57	52	50	2.2	1.5	2.7	1.7	-0.5	-0.2
Health care and social assistance	8,181	12,934	18,584	175	303	481	47	45	41	3.4	1.9	4.1	2.5	-0.3	-0.5
Information, culture and recreation	5,051	8,665	17,488	86	120	155	59	79	125	4.3	3.8	2.7	1.4	2.2	2.4
Accommodation and food services	2,332	3,053	4,448	94	121	164	25	25	27	2.5	2.0	2.0	1.6	0.2	0.4
Other services	6,153	11,544	24,268	187	256	303	33	44	79	4.9	4.0	2.7	0.9	2.3	3.1
Public administration	6,664	9,620	14,846	92	129	160	73	78	97	2.9	2.3	2.9	1.1	0.5	1.2

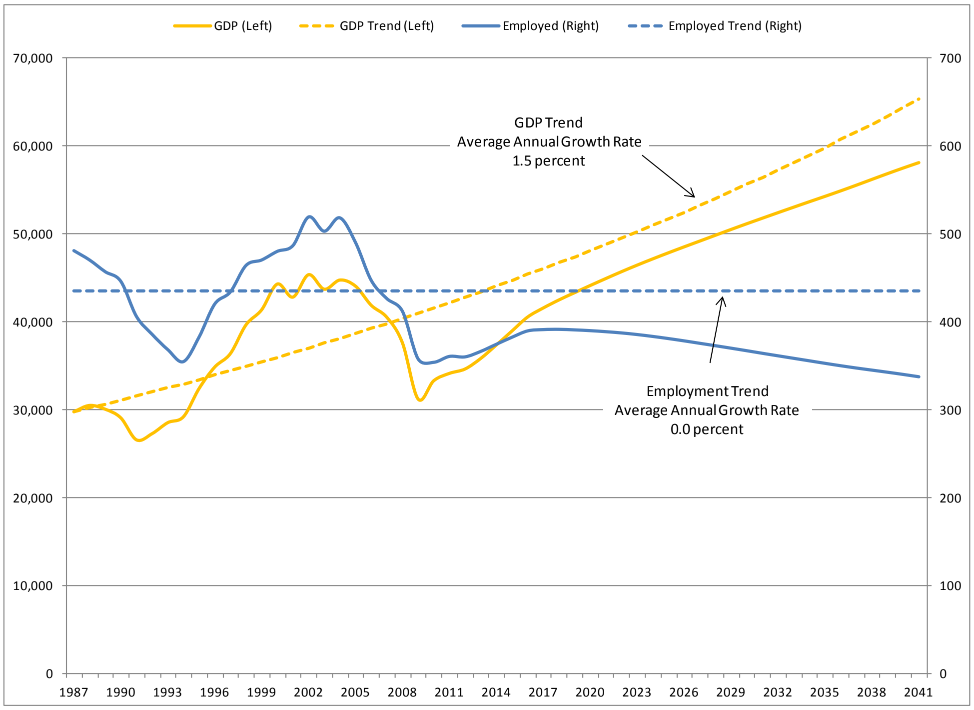
Source: Statistics Canada Ontario GDP Estimates and GTA Labour Force Survey Employment Estimates and C4SE-SPI-C4SE

Exhibit 10b: Real GDP, Employment and Productivity Growth in the GTA 1997-2011 and 2011-2041

	Levels									Averaqge Annual Percent Change					
	Real GDP ($02, 000,000s)			Employed (000s)			Productivity ($02, 000s)			Real GDP		Employed		Productivity	
	1997	2011	2041	1997	2011	2041	1997	2011	2041	97-11	11-41	97-11	11-41	97-11	11-41
Total all industries	163,550	242,562	503,330	2,368	3,154	4,502	69	77	112	2.9	2.5	2.1	1.2	0.8	1.3
Primary, utilities	2,614	3,465	4,139	30	36	26	86	92	153	2.7	0.6	1.6	-1.0	0.6	1.7
Construction	7,006	11,084	16,550	120	192	302	58	62	59	3.6	1.3	3.6	1.5	0.5	-0.2
Manufacturing	36,413	34,166	58,118	435	361	338	84	95	173	-0.2	1.8	-1.2	-0.2	1.0	2.0
Trade	15,710	27,598	72,160	355	458	629	44	57	110	4.2	3.3	1.9	1.1	1.9	2.2
Transportation and warehousing	7,218	10,641	20,561	119	168	221	61	67	98	2.9	2.2	2.6	0.9	0.8	1.3
Finance, insurance, real estate and leasing	44,182	74,639	156,198	218	319	426	203	235	369	3.8	2.5	2.8	1.0	1.1	1.5
Professional, scientific and technical services	9,222	16,970	35,947	207	335	517	45	51	70	4.6	2.5	3.6	1.5	1.1	1.1
Business, building and other support services	4,451	7,105	18,364	103	148	278	43	49	67	3.5	3.2	2.8	2.1	0.9	1.1
Educational services	8,354	11,078	16,477	148	209	338	57	52	48	2.2	1.3	2.7	1.6	-0.5	-0.3
Health care and social assistance	8,181	12,934	20,355	175	303	565	47	45	38	3.4	1.5	4.1	2.1	-0.3	-0.6
Information, culture and recreation	5,051	8,665	26,133	86	120	176	59	79	164	4.3	3.8	2.7	1.3	2.2	2.5
Accommodation and food services	2,332	3,053	5,131	94	121	185	25	25	27	2.5	1.7	2.0	1.4	0.2	0.3
Other services	6,153	11,544	34,875	187	256	315	33	44	109	4.9	3.8	2.7	0.7	2.3	3.0
Public administration	6,664	9,620	18,323	92	129	176	73	78	109	2.9	2.2	2.9	1.0	0.5	1.1

Source: Statistics Canada Ontario GDP Estimates and GTA Labour Force Survey Employment Estimates and C4SE-SPI-C4SE

Figure 11: Real GDP (Millions of $2002) and Employment (Thousands) in Manufacturing in the GTA
Annual Data 1987 to 2041



Source: Statistics Canada and C4SE-SPI-C4SE

3.3 Potential GTA and City of Toronto Employment by Industry

The assessment above is based on historical employment by industry Labour Force Survey data for the GTA as a whole and on LFS-based projections we developed for GTA-wide employment by industry. While LFS data can be obtained separately for each of the GTA's component regions LFS data reflect where workers live not where they work. The only data reflecting where the GTA's workers work for both the City and the rest of the GTA are the employment by place-of-work data provided through the Census. At the time of writing of this report, this latter data source is only available up to 2006.

To develop estimates for 2011 and projections to 2031 and to 2041 of employment by industry by place-of-work for each of the City and the rest of the GTA we developed a model which carries out the following calculations:

- Estimates of employment by industry by place-of-work for the GTA as a whole are driven by the LFS-based projections for the GTA by industry described above. Actual data for employment by place-of-work by industry are obtained from the 2001 and 2006 Census while estimates by industry for 2011 and projections by industry to 2031 and 2041 are generated consistent with the LFS-based projections for the GTA by industry.

- The projections for the components of the GTA – for the City and for the rest of the GTA – were derived as follows. Export oriented industrial employment for each area is driven by expected future trends nationally and provincially and is based on the assumption each area will retain its share of such jobs within the province. In other words these projections imply the City's share for such jobs within the GTA will hold firm in the future. These projections, therefore, can be seen as providing a "best case" assessment of the City's potential for export based job growth (that is, we are assuming the City will not lose its share of such jobs in the future though there are signs it has in the past).
- Community based employment for each area reflects expected future changes in the ratio of such jobs to the population and the expected future population of each area.

The consulting team recommended to staff that the City's best interests with respect to assessing future land requirements within the City for employment purposes would be best served through the consideration of two alternative futures for the City.

In that regard it was determined that, given the current planning policy significance to the area of Places to Grow, an employment by industry projection reflecting the allocation of jobs to the City found in the Province's Growth Plan for the Greater Golden Horseshoe, would serve as a useful starting point. Note however that the consulting team is of the view that Schedule 3 projected 2031 values for the population (3.08 million) and employment (1.64 million) of the City understate the City's growth potential to 2031.

The consulting team recommended that the recently released Ontario Ministry of Finance projections (Spring 2012) for the population of Ontario by region and county be used as the basis for an alternative projection for the City. The Finance projections call for considerably more population (3.31 million, or 225,500 more) for the City in 2031 than allocated to it by the Province's Growth Plan.

Because the Province will be extending its Schedule 3 projections beyond 2031 in the coming months the consulting team also recommended that the City base its future employment land requirements on projections extending to 2041.

The Centre for Spatial Economics-Strategic Projections Inc. (C4SE-SPI) is the consulting team member assigned the responsibility for developing the alternative employment by place-of-work and total population projections for each of the

City and the rest of the GTA for this assignment. Our base case population projection for the City for 2031 falls about mid-way between the Schedule 3 and Ministry of Finance projections (we project the City's population at 3.12 million and employment at 1.69 million for 2031). Our base case employment projection for the City and the GTA for 2031 exceeds that of Schedule 3. The Ministry of Finance projections address population only, not employment.

Drawing on our base case projections for employment by industry for the GTA as summarized in Figures 10a and 10b, and on the allocation model framework described above, we developed two projections for the City. The first projection is consistent with Schedule 3's employment allocation (the Low projection). The second is consistent with the level of employment that would likely arise if the City's population reaches the level suggested by the Ontario Ministry of Finance (the High projection).

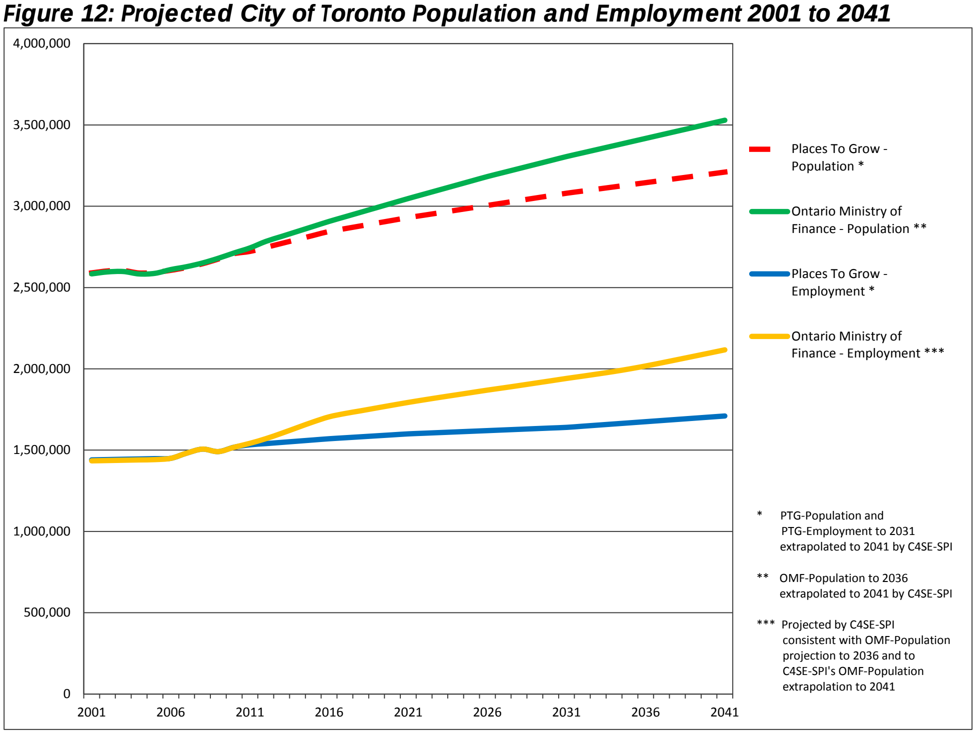
We extended the Schedule 3 population and employment projections to 2041 assuming that the annual pace of growth in the 2030's (that is from 2031 to 2041) would decelerate in line with the slowdown projected to occur in Schedule 3 between the 2020's and 2030's. We extended the Schedule 3 employment projections to 2041 assuming the overall activity rate in the City would hold at the projected level at 2031 through to 2041. We extended the Ministry of Finance population projections – which go to 2036 – out to 2041 assuming that the slowdown projected to occur over the final five years of the 2030's (2036 to 2041) will match the slowdown Finance projects will occur from the late 2020's to the early 2030's.

Figure 12 summarizes the total population and total employment projections developed by C4SE-SPI for the City to 2041 based on the above assumptions

Figure 13a shows C4SE-SPI's base case population and detailed employment projections by industry for each of the City and the GTA to 2031 while Figure 13b shows the projections to 2041. This projection calls for the population of the GTA to increase between 2011 and 2041 by just over 2.5 million people with the City accounting for 533,200 of that gain, or for 22 percent.

Our base case calls for total employment in the GTA to increase between 2011 and 2041 by just over 1.1 million with the City accounting for 389,700 of that gain, or for 34 percent. The higher projected share of future employment growth for the City within the GTA reflects the disproportionate role the City is expected to play in attracting new jobs in such export based service sectors as finance, health and professional business services. In the case of these industries we project the City will capture 51 percent, 44 percent and 43 percent of all the jobs created in these industries in the GTA. The existing and projected shares within the GTA in 2001 and 2011 of the City's employed by industry is provided as is the City's share of the projected levels in 2041 and the projected change from 2011 to 2041.

Figure 12: Projected City of Toronto Population and Employment 2001 to 2041



Source: Ontario Ministry of Finance Demographic Projections (June 2012), Places to Grow Schedule 3 and C4SE-SPI.

This base case assisted us in developing the Low and High projections for employment by industry for the City as summarized in Figure 14. It should be noted that Figure 14 adds an employment component at the bottom of the industry list to account for all those jobs within the City held by persons with no fixed place of work in order that total employment in each projection in each year matches PTG's Schedule 3 definition for total employment.

Figure 14 indicates that if Places to Grow's Schedule 3 (extended to 2041 by C4SE-SPI) is used as the basis for projecting the City's total population and employment between 2011 and 2041, the City's total population will grow by 487,900 and its total employment will grow by 177,300 over that span.

On the other hand, if the Ontario Ministry of Finance's projection (extended to 2041 by C4SE-SPI) is used as the basis for projecting the City's total population and a consistent level of employment, the population of the City will grow by 806,800 and its total employment will grow by 584,100 over that period.

Census data for 1996, 2001 and 2006 indicate that the number of jobs on a place-of-work basis in the City of Toronto grew by 114,380 between 1996 and 2001, but by only 8,910 between 2001 and 2006, for a total gain over that ten year period (1996 to 2006) of 123,290. That achievement is about mid-way between the projected gains in jobs per decade from 2011 to 2041 summarized in Figure 14. Figure 14 suggests the average job creation pace per decade from 2011 to 2041 could be as low as 59,100 (Low alternative) or as high as 194,700 (High alternative). In other words the Low and High alternatives bracket the average job creation pace achieved over the decade by the City from 1996 to 2006.

Achieving a gain of the magnitude reflected in the High alternative is clearly at odds with recent history. Nevertheless, if the City's population growth between 2011 and 2041 is as strong as that suggested by the High alternative its employment base will have to grow at a pace well ahead of the pace achieved recently. A strong pace of population growth in the City is consistent with an above average pace of expansion in its economic base jobs – they will draw more residents – and an above average pace of growth in its community base jobs – the new residents will require far more community services.

Figure 13a: Greater Toronto Area and City of Toronto Total Population and Employment by Industry C4SE-SPI Base Case Projection Actual Data 2001, Estimated Data 2011, Projected Data 2031

	Actual			Estimated			Projected					
	Level 2001			Level 2011			Level 2031			Change 11-31		
	City	GTA	City %	City	GTA	City %	City	GTA	City %	City	GTA	
Population	2,594,700	5,308,700	49	2,727,200	6,318,300	43	3,123,700	8,158,200	38	396,500	1,839,900	22
Total employed by place of work	1,327,500	2,512,900	53	1,413,300	2,863,100	49	1,691,100	3,683,900	46	277,800	820,800	34
Primary	2,500	13,400	19	4,000	15,700	25	2,900	11,400	25	-1,100	-4,300	26
Utilities	9,800	21,800	45	9,100	25,200	36	8,900	29,900	30	-200	4,700	-4
Construction	28,700	70,700	41	30,400	88,200	34	37,300	124,300	30	6,900	36,100	19
Manufacturing	173,300	431,500	40	115,900	322,700	36	117,000	325,800	36	1,100	3,100	35
Wholesale trade	55,700	159,800	35	52,200	169,600	31	66,400	239,300	28	14,200	69,700	20
Retail trade	137,000	283,500	48	130,000	305,900	42	139,200	370,100	38	9,200	64,200	14
Transportation, warehousing	40,500	113,400	36	42,100	137,200	31	45,400	162,200	28	3,300	25,000	13
Information, cultural industries	73,200	97,400	75	70,600	101,000	70	68,700	103,400	66	-1,900	2,400	-79
Finance, insurance, real estate	170,300	243,300	70	191,300	289,300	66	221,500	350,600	63	30,200	61,300	49
Professional, scientific, technical	149,000	238,600	62	184,100	327,500	56	235,600	447,900	53	51,500	120,400	43
Other business services	60,400	104,200	58	62,000	119,200	52	88,600	183,900	48	26,600	64,700	41
Educational	83,200	147,300	56	99,200	188,400	53	124,500	260,100	48	25,300	71,700	35
Health care, social assistance	121,700	198,400	61	163,700	284,400	58	236,300	447,700	53	72,600	163,300	44
Arts, entertainment, recreation	24,200	43,300	56	30,300	59,700	51	41,800	92,600	45	11,500	32,900	35
Accommodation, food	76,100	141,900	54	78,300	160,400	49	95,000	217,700	44	16,700	57,300	29
Services not specified elsewhere	62,300	110,900	56	68,700	135,900	51	72,700	158,500	46	4,000	22,600	18
Public administration	59,600	93,500	64	81,400	132,800	61	89,300	158,500	56	7,900	25,700	31
Persons with no usual place of work	0	0	0	0	0	0	0	0	0	0	0	0

Source: C4SE-SPI

Figure 13b: Greater Toronto Area and City of Toronto Total Population and Employment by Industry C4SE-SPI Base Case Projection Actual Data 2001, Estimated Data 2011, Projected Data 2041

	Actual			Estimated			Projected					
	Level 2001			Level 2011			Level 2041			Change 11-41		
	City	GTA	City %	City	GTA	City %	City	GTA	City %	City	GTA	
Population	2,594,700	5,308,700	49	2,727,200	6,318,300	43	3,260,400	8,795,300	37	533,200	2,477,000	22
Total employed by place of work	1,327,500	2,512,900	53	1,413,300	2,863,100	49	1,803,000	3,995,900	45	389,700	1,132,800	34
Primary	2,500	13,400	19	4,000	15,700	25	2,300	9,200	25	-1,700	-6,500	26
Utilities	9,800	21,800	45	9,100	25,200	36	8,600	30,400	28	-500	5,200	-10
Construction	28,700	70,700	41	30,400	88,200	34	40,600	140,100	29	10,200	51,900	20
Manufacturing	173,300	431,500	40	115,900	322,700	36	108,500	302,000	36	-7,400	-20,700	36
Wholesale trade	55,700	159,800	35	52,200	169,600	31	71,000	262,900	27	18,800	93,300	20
Retail trade	137,000	283,500	48	130,000	305,900	42	143,100	393,400	36	13,100	87,500	15
Transportation, warehousing	40,500	113,400	36	42,100	137,200	31	47,000	171,400	27	4,900	34,200	14
Information, cultural industries	73,200	97,400	75	70,600	101,000	70	68,500	104,500	66	-2,100	3,500	-60
Finance, insurance, real estate	170,300	243,300	70	191,300	289,300	66	235,500	376,500	63	44,200	87,200	51
Professional, scientific, technical	149,000	238,600	62	184,100	327,500	56	257,700	497,300	52	73,600	169,800	43
Other business services	60,400	104,200	58	62,000	119,200	52	102,500	216,900	47	40,500	97,700	41
Educational	83,200	147,300	56	99,200	188,400	53	138,200	296,300	47	39,000	107,900	36
Health care, social assistance	121,700	198,400	61	163,700	284,400	58	263,400	511,200	52	99,700	226,800	44
Arts, entertainment, recreation	24,200	43,300	56	30,300	59,700	51	48,100	110,300	44	17,800	50,600	35
Accommodation, food	76,100	141,900	54	78,300	160,400	49	101,700	240,600	42	23,400	80,200	29
Services not specified elsewhere	62,300	110,900	56	68,700	135,900	51	73,000	163,200	45	4,300	27,300	16
Public administration	59,600	93,500	64	81,400	132,800	61	93,300	169,700	55	11,900	36,900	32
Persons with no usual place of work	0	0	0	0	0	0	0	0	0	0	0	0

Source: C4SE-SPI

Figure 14: City of Toronto Total Population and Employment by Industry Actual Data 2001, Estimated Data 2011, Projected Data 2031 and 2041

	Actual	Estimated	Projected									
	Level	Level	Level 2021		Level 2031		Level 2041		Change 11-31		Change 11-41	
	2001	2011	Low	High	Low	High	Low	High	Low	High	Low	High
Population	2,590,000	2,722,100	2,930,000	3,047,400	3,080,000	3,305,500	3,210,000	3,528,900	357,900	583,400	487,900	806,800
Total employed by place of work	1,440,000	1,532,700	1,600,000	1,793,500	1,640,000	1,941,000	1,710,000	2,116,800	107,300	408,300	177,300	584,100
Primary	2,500	4,000	3,600	3,500	3,200	2,800	2,800	2,200	-800	-1,200	-1,200	-1,800
Utilities	9,800	9,100	8,900	9,400	8,600	9,000	8,500	8,800	-500	-100	-600	-300
Construction	28,700	30,400	32,200	36,200	33,400	39,700	35,300	43,700	3,000	9,300	4,900	13,300
Manufacturing	173,300	115,900	113,100	119,700	108,400	115,700	105,700	113,800	-7,500	-200	-10,200	-2,100
Wholesale trade	55,700	52,200	55,800	62,300	58,500	68,500	62,200	75,700	6,300	16,300	10,000	23,500
Retail trade	137,000	130,000	131,900	142,000	131,600	144,900	133,700	150,200	1,600	14,900	3,700	20,200
Transportation, warehousing	40,500	42,100	43,100	46,000	43,300	46,900	44,400	48,700	1,200	4,800	2,300	6,600
Information, cultural industries	73,200	70,600	69,400	73,800	67,100	72,200	66,000	71,900	-3,500	1,600	-4,600	1,300
Finance, insurance, real estate	170,300	191,300	197,300	221,200	199,900	237,100	206,200	256,500	8,600	45,800	14,900	65,200
Professional, scientific, technical	149,000	184,100	197,100	224,200	206,700	250,300	220,000	279,800	22,600	66,200	35,900	95,700
Other business services	60,400	62,000	68,800	82,800	74,300	98,500	81,200	115,400	12,300	36,500	19,200	53,400
Educational	83,200	99,200	105,800	120,900	110,700	135,000	117,500	150,900	11,500	35,800	18,300	51,700
Health care, social assistance	121,700	163,700	179,700	216,200	192,500	255,400	208,800	297,600	28,800	91,700	45,100	133,900
Arts, entertainment, recreation	24,200	30,300	33,300	39,600	35,700	46,400	38,700	53,900	5,400	16,100	8,400	23,600
Accommodation, food	76,100	78,300	82,600	91,800	85,500	99,400	90,000	108,500	7,200	21,100	11,700	30,200
Services not specified elsewhere	62,300	68,700	69,600	73,500	69,300	73,600	70,300	74,900	600	4,900	1,600	6,200
Public administration	59,600	81,400	83,100	90,700	83,400	94,200	85,200	99,300	2,000	12,800	3,800	17,900
Persons with no usual place of work	112,500	119,400	124,700	139,700	127,900	151,400	133,500	165,000	8,500	32,000	14,100	45,600

Source: C4SE-SPI

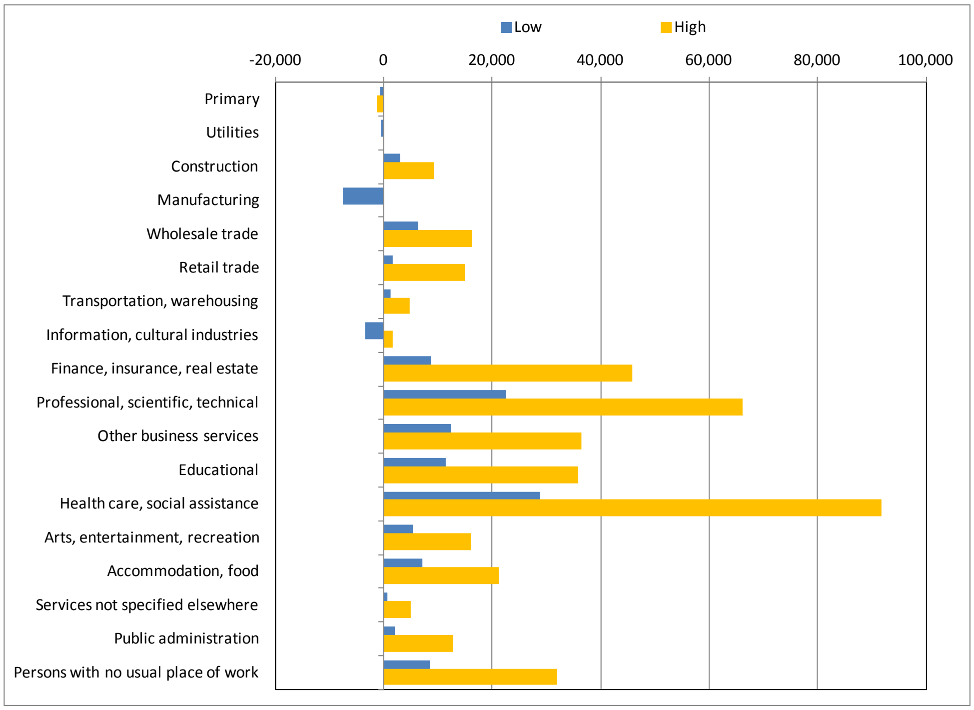
As noted earlier, the consulting team is of the view that Places to Grow has allocated too little population and too little employment growth to the City of Toronto to 2031. And it believes the City ought to be looking to the year 2041 for its employment land planning purposes. As a result the team recommends that the High projection alternative in Figures 11 through 14 – based on the Ontario Ministry of Finance population projections for the City but extended by C4SE-SPI to 2041, complemented by employment by industry projections derived by C4SE-SPI consistent with that population growth – ought to form the basis for the City's employment land planning purposes. It should be noted that the level of employment in every industry in the High projection in 2041 is higher than that in the Low projection because achieving such high growth in the City is consistent with a stronger outlook for Ontario generally over the projection horizon than that forming the basis of the PTG projections. That stronger economy generates the potential for more jobs in the City in its export based industries. And its stronger population growth generates the need for more community based jobs in the City.

Figure 15a illustrates the growth in employment by industry projected for the City from 2011 to 2031 according to the High and Low projection alternative as tabulated in Figure 14. Figure 15a shows clearly the extent to which health care, financial services and professional and other business services would be expected to dominate job growth in the City over this period in the case of both the High and Low alternatives.

Figures 15b and 15c illustrate the temporal path for growth in employment by industry from 2011 to 2041 lying behind the consultants-preferred High alternative projections in Figure 14.

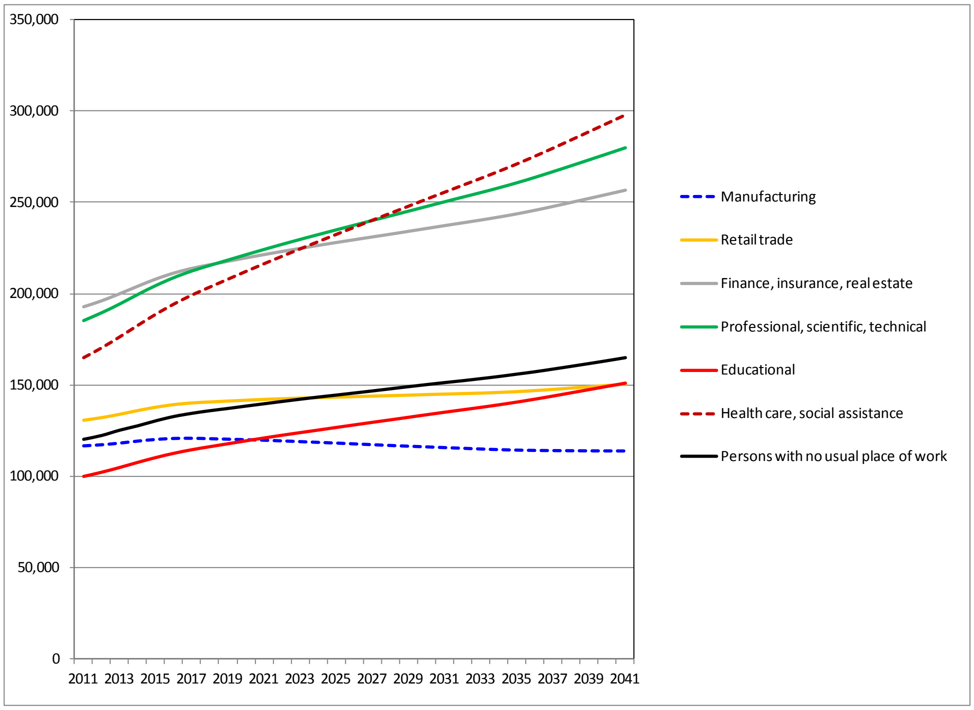
Forecast jobs for each industry sector under the Low and High alternatives are given for five-year horizons out to 2041 in Exhibit 16.

Figure 15a: Projected City of Toronto Job Growth by Major Industry 2011 to 2031 (High and Low Alternatives)



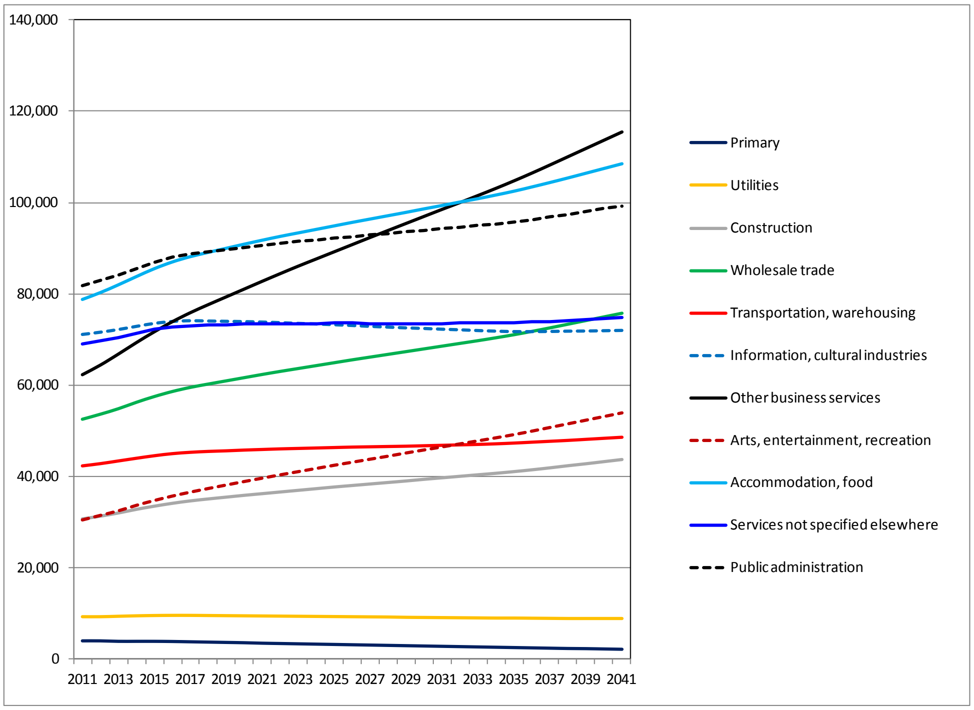
Source: C4SE-SPI

Figure 15b: City of Toronto Employment by Industry 2011 to 2041: High Alternative Industries Employing 100,000 or More in 2011



Source: C4SE-SPI

Figure 15c: City of Toronto Employment by Industry 2011 to 2041: High Alternative Industries Employing Fewer Than 100,000 in 2011



Source: C4SE-SPI

Figure 16: Low and High Employment Projections by Five-Year Horizon

Low Projection	2001	2011	2016	2021	2026	2031	2036	2041
Population	2,590,000	2,722,100	2,845,000	2,930,000	3,005,000	3,080,000	3,145,000	3,210,000
Total employed by place of work	1,440,000	1,532,700	1,570,000	1,600,000	1,620,000	1,640,000	1,675,000	1,710,000
Primary	2,500	4,000	3,800	3,600	3,400	3,200	3,000	2,800
Utilities	9,800	9,100	9,000	8,900	8,800	8,600	8,600	8,500
Construction	28,700	30,400	31,400	32,200	32,800	33,400	34,400	35,300
Manufacturing	173,300	115,900	114,800	113,100	110,700	108,400	107,100	105,700
Wholesale trade	55,700	52,200	54,100	55,800	57,200	58,500	60,300	62,200
Retail trade	137,000	130,000	131,300	131,900	131,700	131,600	132,700	133,700
Transportation, warehousing	40,500	42,100	42,700	43,100	43,200	43,300	43,900	44,400
Information, cultural industries	73,200	70,600	70,200	69,400	68,200	67,100	66,600	66,000
Finance, insurance, real estate	170,300	191,300	194,700	197,300	198,600	199,900	203,100	206,200
Professional, scientific, technical	149,000	184,100	191,000	197,100	201,900	206,700	213,300	220,000
Other business services	60,400	62,000	65,500	68,800	71,500	74,300	77,700	81,200
Educational	83,200	99,200	102,800	105,800	108,300	110,700	114,100	117,500
Health care, social assistance	121,700	163,700	172,100	179,700	186,100	192,500	200,600	208,800
Arts, entertainment, recreation	24,200	30,300	31,900	33,300	34,500	35,700	37,200	38,700
Accommodation, food	76,100	78,300	80,600	82,600	84,100	85,500	87,800	90,000
Services not specified elsewhere	62,300	68,700	69,300	69,600	69,400	69,300	69,800	70,300
Public administration	59,600	81,400	82,400	83,100	83,200	83,400	84,300	85,200
Persons with no usual place of work	112,500	119,400	122,400	124,700	126,400	127,900	130,500	133,500

High Projection	2001	2011	2016	2021	2026	2031	2036	2041
Population	2,584,100	2,743,700	2,906,700	3,047,400	3,182,500	3,305,500	3,417,200	3,528,900
Total employed by place of work	1,434,100	1,542,000	1,704,800	1,793,500	1,869,100	1,941,000	2,017,600	2,116,800
Primary	2,500	4,000	3,900	3,500	3,200	2,800	2,500	2,200
Utilities	9,800	9,200	9,500	9,400	9,200	9,000	8,900	8,800
Construction	28,600	30,600	34,100	36,200	38,000	39,700	41,400	43,700
Manufacturing	172,600	116,600	120,900	119,700	117,700	115,700	114,100	113,800
Wholesale trade	55,400	52,500	58,700	62,300	65,500	68,500	71,700	75,700
Retail trade	136,500	130,800	139,500	142,000	143,500	144,900	146,700	150,200
Transportation, warehousing	40,400	42,300	45,100	46,000	46,500	46,900	47,600	48,700
Information, cultural industries	72,900	71,000	74,100	73,800	73,000	72,200	71,600	71,900
Finance, insurance, real estate	169,600	192,500	211,500	221,200	229,400	237,100	245,400	256,500
Professional, scientific, technical	148,400	185,200	209,200	224,200	237,500	250,300	263,600	279,800
Other business services	60,200	62,400	74,100	82,800	90,800	98,500	106,400	115,400
Educational	82,900	99,800	112,700	120,900	128,100	135,000	142,100	150,900
Health care, social assistance	121,200	164,700	194,500	216,200	236,200	255,400	275,000	297,600
Arts, entertainment, recreation	24,100	30,400	35,700	39,600	43,100	46,400	49,900	53,900
Accommodation, food	75,800	78,800	87,200	91,800	95,700	99,400	103,400	108,500
Services not specified elsewhere	62,100	69,100	72,900	73,500	73,600	73,600	73,800	74,900
Public administration	59,300	81,800	88,200	90,700	92,500	94,200	96,200	99,300
Persons with no usual place of work	111,800	120,300	133,000	139,700	145,600	151,400	157,300	165,000

Source: C4SE-SPI

4.0 OFFICE EMPLOYMENT IN THE GTA AND THE CITY OF TORONTO

Figures 17a and 17b show the amount of office space available in 2011 in the City, the rest of the GTA and the GTA as a whole; the estimated number of jobs in office buildings in 2011 by industry; the percent share of all jobs in offices by industry in 2011 for each area; and the implied amount of office space that will be required in each area between 2011 and 2031 (Figure 17a) and between 2011 and 2041 (Figure 17b) to accommodate the C4SE-SPI base case projection of job growth by industry in each area as described above.[1]

The projections call for the total amount of office space in the GTA to increase from 200.49 million square feet by 41.51 million (21 percent) between 2011 and 2031 and by 57.71 million (29 percent) between 2011 and 2041. The projection foresees office space in the City increasing from 137.00 million square feet in 2011 by 20.69 million (15 percent) between 2011 and 2031, and by 29.49 million (22 percent) between 2011 and 2041.

Space in the rest of the GTA will increase from 63.49 million square feet in 2011 by 20.83 million (by 33 percent) between 2011 and 2031 and by 28.22 million (by 44 percent) between 2011 and 2041.

Figures 18a and 18b develop projections of new office space requirements for the City only between 2011 and 2031 (Figure 18a) and between 2011 and 2041 (Figure 18b) for each of the Low and High projection alternatives. By 2031 the Low projection results in a new office space requirement of 7.39 million whereas

[1] The estimates of employment in offices by industry are derived using office space estimates by industry as of 2011 and assuming that 195 square feet of space is associated with each job. These calculations suggest that the number of jobs by industry in offices slightly exceeds the total number of jobs estimated for each of a few industries in 2011 (i.e. the office share exceeds 100 percent). While this clearly cannot be the case it should be recognized that the numerator in that calculation – jobs in offices – is based on space estimates and a rough estimate of space per job while the denominator – total jobs – is based on Census 2006 results augmented by growth GTA wide by more recent LFS estimates, then allocated to the City and the rest of the GTA based on other assumptions. The higher than 100 percent share in a few cases simply reflect the fact that these industries are predominantly accommodated in offices, and our projections appropriately assume they will continue to be so accommodated in the future.

the High alternative results in a need of 28.48 million. By 2041 the Low alternative results in a new office requirement of 11.14 million square feet whereas the High alternative results in a need for 42.27 million. A comparison of the Low and High projections regarding new space required depicts how the greatest differences occur in finance, insurance and real estate; and in professional business services.

In other words a key ingredient to the achievement of the High projection for the City is the creation of significant new office space of a calibre that will attract finance, insurance, real estate and professional business service jobs to the City.

Note that all of the office space projections here are based on the assumption that the share of jobs by industry located in offices in 2011 will prevail through to 2031 and 2041. It is possible that the office share could increase in the future in many industries. Thus even more new office space than indicated here may be required.

It should also be noted that the projections here do not take account of the possibility that a major office employer with significant space requirements currently located elsewhere might, at some point over the projection horizon, seek to locate in the City.

Figure 17a: Office Space and Office Jobs: City of Toronto, the Rest of the GTA and the GTA as a Whole 2011 and 2031

	Office Space 2011			Office Jobs 2011			Office Jobs % of Total Jobs 2011			New Office Space 2011 to 2031		
	City	OGTA	GTA	City	OGTA	GTA	City	OGTA	GTA	City	OGTA	GTA
Total	137.00	63.49	200.49	702,600	325,500	1,028,100	50	22	36	20.69	20.83	41.51
Primary	1.38	0.22	1.60	7,100	1,100	8,200	180	9	52	-0.38	-0.06	-0.44
Utilities	1.11	0.83	1.94	5,700	4,300	10,000	63	27	40	-0.02	0.25	0.23
Construction	0.88	1.11	2.00	4,500	5,700	10,200	15	10	12	0.20	0.56	0.76
Manufacturing	4.42	7.37	11.79	22,700	37,800	60,500	20	18	19	0.04	0.07	0.12
Wholesale trade	2.03	5.90	7.93	10,400	30,200	40,600	20	26	24	0.55	2.79	3.34
Retail trade	1.90	2.62	4.52	9,800	13,400	23,200	8	8	8	0.13	0.82	0.95
Transportation, warehousing	1.09	1.82	2.92	5,600	9,400	15,000	13	10	11	0.09	0.42	0.50
Information, cultural industries	15.55	6.82	22.37	79,700	35,000	114,700	113	115	114	-0.40	0.95	0.54
Finance, insurance, real estate	39.99	13.28	53.27	205,100	68,100	273,200	107	70	94	6.32	4.21	10.53
Professional, scientific, technical	25.53	10.63	36.16	130,900	54,500	185,400	71	38	57	7.16	5.09	12.25
Other business services	3.88	2.24	6.13	19,900	11,500	31,400	32	20	26	1.66	1.50	3.16
Educational	2.80	0.96	3.76	14,400	4,900	19,300	15	5	10	0.71	0.50	1.21
Health care, social assistance	3.51	1.12	4.63	18,000	5,700	23,700	11	5	8	1.56	0.84	2.40
Arts, entertainment, recreation	0.72	0.08	0.79	3,700	400	4,100	12	1	7	0.27	0.06	0.33
Accommodation, food	0.34	0.49	0.82	1,700	2,500	4,200	2	3	3	0.07	0.24	0.31
Services not specified elsewhere	12.40	2.26	14.66	63,600	11,600	75,200	93	17	55	0.73	0.63	1.35
Public administration	17.67	4.52	22.19	90,600	23,200	113,800	111	45	86	1.72	1.57	3.29
Not identified	1.79	1.21	3.01	9,200	6,200	15,400	0	0	0	0.27	0.40	0.67

Source: Re-Search Corp and C4SE-SPI

Figure 17b: Office Space and Office Jobs: City of Toronto, the Rest of the GTA and the GTA as a Whole 2011 and 2041

	Office Space 2011			Office Jobs 2011			Office Jobs % of Total Jobs 2011			New Office Space 2011 to 2041		
	City	OGTA	GTA	City	OGTA	GTA	City	OGTA	GTA	City	OGTA	GTA
Total	137.00	63.49	200.49	702,600	325,500	1,028,100	50	22	36	29.49	28.22	57.71
Primary	1.38	0.22	1.60	7,100	1,100	8,200	180	9	52	-0.57	-0.09	-0.66
Utilities	1.11	0.83	1.94	5,700	4,300	10,000	63	27	40	-0.07	0.30	0.23
Construction	0.88	1.11	2.00	4,500	5,700	10,200	15	10	12	0.30	0.80	1.10
Manufacturing	4.42	7.37	11.79	22,700	37,800	60,500	20	18	19	-0.28	-0.47	-0.75
Wholesale trade	2.03	5.90	7.93	10,400	30,200	40,600	20	26	24	0.73	3.74	4.47
Retail trade	1.90	2.62	4.52	9,800	13,400	23,200	8	8	8	0.19	1.11	1.30
Transportation, warehousing	1.09	1.82	2.92	5,600	9,400	15,000	13	10	11	0.13	0.56	0.69
Information, cultural industries	15.55	6.82	22.37	79,700	35,000	114,700	113	115	114	-0.47	1.24	0.77
Finance, insurance, real estate	39.99	13.28	53.27	205,100	68,100	273,200	107	70	94	9.24	5.83	15.07
Professional, scientific, technical	25.53	10.63	36.16	130,900	54,500	185,400	71	38	57	10.21	7.12	17.33
Other business services	3.88	2.24	6.13	19,900	11,500	31,400	32	20	26	2.54	2.24	4.78
Educational	2.80	0.96	3.76	14,400	4,900	19,300	15	5	10	1.10	0.74	1.84
Health care, social assistance	3.51	1.12	4.63	18,000	5,700	23,700	11	5	8	2.14	1.18	3.32
Arts, entertainment, recreation	0.72	0.08	0.79	3,700	400	4,100	12	1	7	0.42	0.08	0.51
Accommodation, food	0.34	0.49	0.82	1,700	2,500	4,200	2	3	3	0.10	0.34	0.44
Services not specified elsewhere	12.40	2.26	14.66	63,600	11,600	75,200	93	17	55	0.78	0.78	1.55
Public administration	17.67	4.52	22.19	90,600	23,200	113,800	111	45	86	2.60	2.19	4.79
Not identified	1.79	1.21	3.01	9,200	6,200	15,400	0	0	0	0.39	0.54	0.92

Source: Re-Search Corp and C4SE-SPI

Figure 18a: Low and High Projection Total Jobs, Office Jobs and Office Space: City of Toronto 2011 and 2031

	Total Jobs			Office Jobs			Office Space (msf)			Space Change (msf)		
	Actual 2011	Low 2031	High 2031	Est'd 2011	Low 2031	High 2031	Est'd 2011	Low 2031	High 2031	Low 2031	High 2031	High - Low
Total employed by place of work	1,532,700	1,650,900	1,925,300	702,600	740,500	848,600	137.00	144.39	165.48	7.39	28.48	21.08
Primary	4,000	3,200	2,800	7,100	5,700	5,000	1.38	1.10	0.97	-0.27	-0.41	-0.14
Utilities	9,100	8,700	8,900	5,700	5,400	5,600	1.11	1.05	1.09	-0.06	-0.02	0.04
Construction	30,400	33,700	39,300	4,500	5,000	5,800	0.88	0.98	1.14	0.10	0.26	0.16
Manufacturing	115,900	109,100	114,700	22,700	21,400	22,500	4.42	4.17	4.38	-0.25	-0.04	0.21
Wholesale trade	52,200	58,900	68,000	10,400	11,700	13,500	2.03	2.29	2.64	0.25	0.61	0.35
Retail trade	130,000	132,500	143,700	9,800	10,000	10,800	1.90	1.94	2.10	0.04	0.19	0.16
Transportation, warehousing	42,100	43,600	46,600	5,600	5,800	6,200	1.09	1.13	1.21	0.04	0.12	0.08
Information, cultural industries	70,600	67,500	71,600	79,700	76,200	80,800	15.55	14.87	15.76	-0.68	0.21	0.90
Finance, insurance, real estate	191,300	201,200	235,200	205,100	215,700	252,200	39.99	42.06	49.17	2.07	9.18	7.12
Professional, scientific, technical	184,100	208,000	248,300	130,900	147,900	176,500	25.53	28.85	34.42	3.32	8.89	5.58
Other business services	62,000	74,800	97,700	19,900	24,000	31,400	3.88	4.68	6.13	0.80	2.24	1.44
Educational	99,200	111,400	133,900	14,400	16,200	19,400	2.80	3.15	3.78	0.35	0.97	0.62
Health care, social assistance	163,700	193,800	253,300	18,000	21,300	27,900	3.51	4.15	5.44	0.64	1.93	1.29
Arts, entertainment, recreation	30,300	35,900	46,100	3,700	4,400	5,600	0.72	0.85	1.08	0.14	0.37	0.23
Accommodation, food	78,300	86,100	98,600	1,700	1,900	2,100	0.34	0.38	0.42	0.04	0.08	0.04
Services not specified elsewhere	68,700	69,800	73,000	63,600	64,600	67,600	12.40	12.60	13.18	0.20	0.78	0.59
Public administration	81,400	83,900	93,500	90,600	93,400	104,100	17.67	18.21	20.30	0.55	2.63	2.09
Persons with no usual place of work	119,400	128,800	150,100	9,200	9,900	11,600	1.79	1.93	2.26	0.14	0.47	0.33

Source: Re-Search Corp and C4SE-SPI

Figure 18b: Low and High Projection Total Jobs, Office Jobs and Office Space: City of Toronto 2011 and 2041

	Total Jobs			Office Jobs			Office Space (msf)			Space Change (msf)		
	Actual 2011	Low 2041	High 2041	Est'd 2011	Low 2041	High 2041	Est'd 2011	Low 2041	High 2041	Low 2041	High 2041	High - Low
Total employed by place of work	1,532,700	1,710,000	2,116,800	702,600	759,700	919,300	137.00	148.14	179.27	11.14	42.27	31.13
Primary	4,000	2,800	2,200	7,100	5,000	3,900	1.38	0.97	0.76	-0.41	-0.62	-0.21
Utilities	9,100	8,500	8,800	5,700	5,300	5,500	1.11	1.03	1.07	-0.08	-0.04	0.04
Construction	30,400	35,300	43,700	4,500	5,200	6,500	0.88	1.02	1.28	0.14	0.39	0.26
Manufacturing	115,900	105,700	113,800	22,700	20,700	22,300	4.42	4.03	4.34	-0.39	-0.08	0.31
Wholesale trade	52,200	62,200	75,700	10,400	12,400	15,100	2.03	2.42	2.95	0.39	0.92	0.53
Retail trade	130,000	133,700	150,200	9,800	10,100	11,300	1.90	1.96	2.19	0.06	0.29	0.23
Transportation, warehousing	42,100	44,400	48,700	5,600	5,900	6,500	1.09	1.15	1.27	0.06	0.18	0.12
Information, cultural industries	70,600	66,000	71,900	79,700	74,500	81,200	15.55	14.54	15.84	-1.01	0.29	1.31
Finance, insurance, real estate	191,300	206,200	256,500	205,100	221,100	275,000	39.99	43.11	53.62	3.12	13.63	10.51
Professional, scientific, technical	184,100	220,000	279,800	130,900	156,400	198,900	25.53	30.50	38.79	4.97	13.26	8.29
Other business services	62,000	81,200	115,400	19,900	26,100	37,000	3.88	5.09	7.22	1.21	3.34	2.13
Educational	99,200	117,500	150,900	14,400	17,100	21,900	2.80	3.33	4.26	0.53	1.46	0.93
Health care, social assistance	163,700	208,800	297,600	18,000	23,000	32,700	3.51	4.49	6.38	0.98	2.87	1.89
Arts, entertainment, recreation	30,300	38,700	53,900	3,700	4,700	6,600	0.72	0.91	1.28	0.19	0.56	0.37
Accommodation, food	78,300	90,000	108,500	1,700	2,000	2,400	0.34	0.40	0.48	0.06	0.14	0.08
Services not specified elsewhere	68,700	70,300	74,900	63,600	65,100	69,300	12.40	12.70	13.52	0.29	1.11	0.82
Public administration	81,400	85,200	99,300	90,600	94,800	110,500	17.67	18.48	21.55	0.82	3.88	3.06
Persons with no usual place of work	119,400	133,500	165,000	9,200	10,300	12,700	1.79	2.01	2.47	0.21	0.68	0.47

Source: Re-Search Corp and C4SE-SPI