Final Report

Facts and Findings

Background for the Development of Mississauga's Economic Development Strategy

June 2010

MISSISSAUGA
Leading today for tomorrow

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Contents

1. Facts and Findings

1 FACTS AND FINDINGS

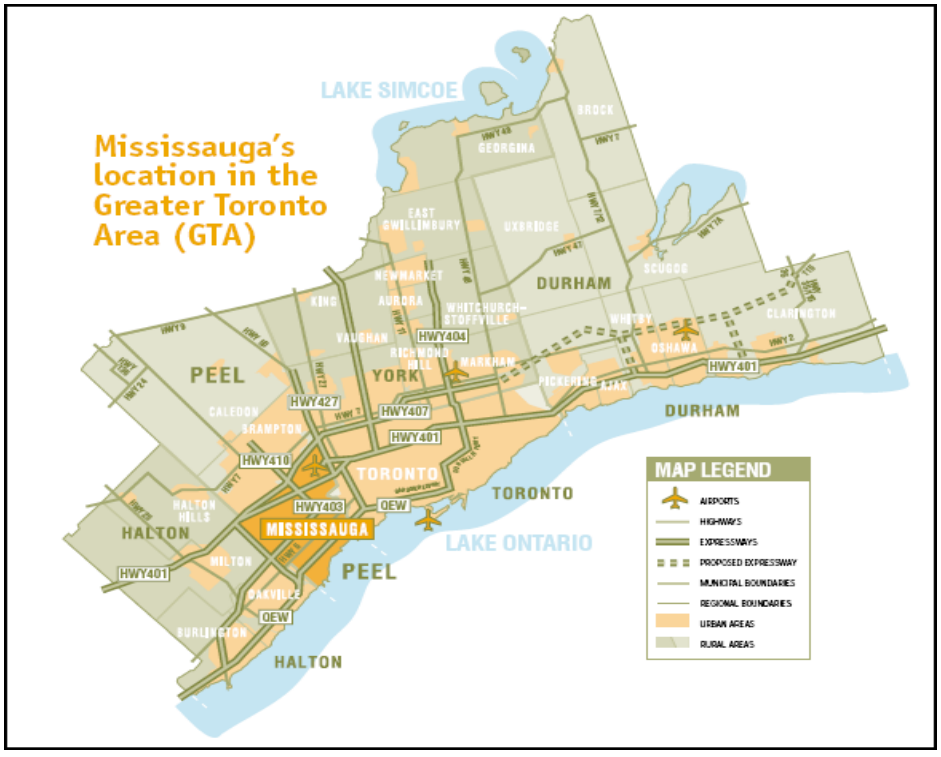
1.1 Economic Base Analysis

1.1.1 Location in the Greater Toronto Area

The City of Mississauga is located in the western portion of the Greater Toronto Area and is the largest of three municipalities in Peel Region, and now the sixth-largest city in Canada by population. Mississauga has experienced rapid growth in population and employment, as well as commercial and residential development activity, in recent years.

Though its location within the Greater Toronto Area results in competitive pressures from surrounding regions and municipalities, it also provides the City with a significant strategic advantage. Pearson International Airport, the central hub of air traffic for the region, and Canada is located within Mississauga. The 400-series highway system – including Highways 407, 401, 403/QEW and 410 – all run through the City, enabling easy, multi-modal access to a large pool of clients, suppliers and markets. All told, Mississauga's location places it at the heart of a region with over 6 million people, with direct transportation linkages to the world's major markets, all at its doorstep – making it a prime location for future business growth and investment attraction.

Figure 1: Location in the Greater Toronto Area



Source: City of Mississauga: Profiles, Facts and Maps

This access and proximity has enabled Mississauga's strong economic growth. However, the City must remain vigilant to the impacts associated with emerging growth pressures, demographic changes, and land-use limitations moving forward. To properly understand Mississauga's current and future competitive

position requires a comprehensive analysis of its social, demographic and economic performance, both in comparison to the Greater Toronto region and the Province of Ontario.

An economic base analysis has been undertaken using Statistics Canada information from 2001 and 2006 for the City of Mississauga, the constituent municipalities in the Greater Toronto Area[1], and the Province of Ontario. Statistics Canada's Canadian Business Patterns Data from 2003 and 2009 was also analyzed. In addition, 2009 demographic data has been purchased from Manifold Data Mining Inc. and is used to supplement Census data where appropriate. Finally, additional material has been gathered from public databases and relevant municipal growth strategies to facilitate the inclusion of population projections and housing market trends. Together, these data sources enable a comprehensive and up-to-date understanding of demographic, industry and employment indicators for the City of Mississauga.

1.2 Demographic Characteristics

1.2.1 Population Change

As noted previously, the City of Mississauga has experienced rapid population growth, a trend that has persisted now across multiple decades. As shown in Figure 2, Mississauga added 205,161 new residents, or 44.3% of its baseline (1991) population, between 1991 and 2006. Since 2006, the population is projected to have increased by 58,553 new residents (an 8.8% growth rate).

Figure 2: Historic and Current Population Growth, 1991 to 2009

Population	1991	1996	2001	2006	2009	1991 - 2006 % Change	1991 - 2006 (15 Year Net Increase)	2006 - 2009 % Change	2006 - 2009 (3 Year Net Increase)
Mississauga	463,388	544,382	612,925	668,549	727,102	44.3%	205,161	8.8%	58,553

Source: Manifold Data Mining, 2009; Statistics Canada Census of Population: 1996, 2001, 2006

To place this growth in a broader context, Figure 3 demonstrates the rate of growth in Mississauga's population as compared to that of the Greater Toronto Area (GTA) and the Province of Ontario. Between the years 2001 and 2006 Mississauga's population grew at a rate of 9.1%, outpacing the GTA (8.7%) and the province (6.6%). The 2009 estimated population of Mississauga stands at 727,102.

Figure 3: Comparative Population Growth, 1996 to 2006

Population	1996	2001	2006	1996 - 2006 % Change	1996 - 2006 (10 Year Net Increase)	2001 - 2006 % Change	2001 - 2006 (5 Year Net Increase)
Mississauga	544,382	612,925	668,549	22.8%	124,167	9.1%	55,624
Greater Toronto Area	4,289,008	4,706,607	5,116,656	19.3%	827,648	8.7%	410,049
Ontario	10,753,573	11,410,046	12,160,282	13.1%	1,406,709	6.6%	750,236

Source: Statistics Canada Census of Population: 1996, 2001, 2006

This rapid growth has been a boon to the Mississauga economy, and has fuelled significant commercial, industrial and residential expansion and development in the associated time period. This growth, both within Mississauga and the Greater Toronto Area, has also led to significant challenges in ensuring effective service delivery and sustainable use of land and resources in the region. In response, the

[1] For the purposes of this analysis, the 'Greater Toronto Area' (GTA) refers to the following Census Divisions: City of Toronto, York Region, Peel Region, and Durham Region.

Province of Ontario in 2006 released *Places to Grow: Growth Plan for the Greater Golden Horseshoe*, which established target population and employment levels for municipalities throughout the region. This plan, together with Mississauga's *Growth Management Strategy* of 2008*,* identifies the need for greater concentration of land uses in Mississauga and higher densities of jobs and people to accommodate the forecasted growth.

As shown in Figure 4, projections from the City's 2010 Draft Official Plan indicate that Mississauga will continue to experience a high rate of growth, with its population reaching 775,000 by 2021 and 812,000 by 2031. Under these forecasts, Mississauga's share of the GTA's population would decrease from 13.1% in 2006 to 11.3% in 2031, as growth is directed to other municipalities in the region.

In a regional context, then, Mississauga has reached a relative state of maturity. This has significant implications for the City's capacity to reorganize its land-use and service delivery infrastructure to respond to a new set of challenges. Many initiatives have been recently undertaken that begin to address these issues, including the *Mississauga Growth Management Strategy, Employment Land Review Study,* and *Office Strategy* of 2008, as well as a *Parking Strategy for Mississauga City Centre* and *Hurontario Higher Order Transit Feasibility Study* of 2009.

Figure 4: Historical and Forecasted Population Growth, 1991 to 2031

	Mississauga	Greater Toronto Area	Ontario
2009	730,000	-	13,062,000
2011	738,000	5,800,000	13,335,000
2021	775,000	6,530,000	15,038,000
2031	812,000	7,180,000	16,906,000

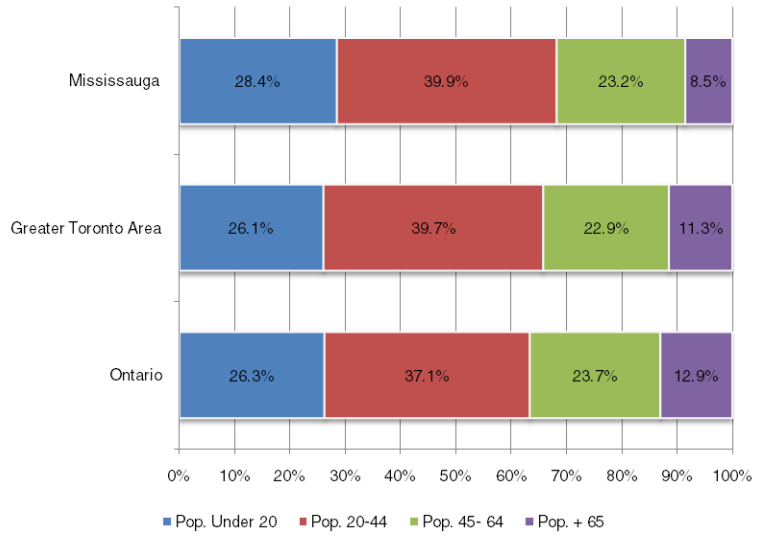
Source: See below[2]

1.2.2 Population by Age

As the Figures below (5 & 6) indicate, Mississauga will not only have to address the challenges of a growing population, in time it will also have to face the challenges of an aging one. The proportion of Mississauga's population over the age of 45 rose from 31.7% in 2001 to 35.5% in 2006. While the City remains a young community, the trend towards an older population is likely to continue; Mississauga's *Growth Management Strategy* forecasts that 40% of Mississauga's population will be over the age of 55 by 2031.

[2] Mississauga projections are consistent with the Mississauga Draft Official Plan, Chapter 4. Greater Toronto Area population projections are taken from the Growth Plan for the Greater Golden Horseshoe via Hemson Consulting Ltd., "The Growth Outlook for the Greater Golden Horseshoe", 2005. Population projections for Ontario are rounded figures, adapated from the Ontario Ministry of Finance Population Growth Projections 2008-2036.

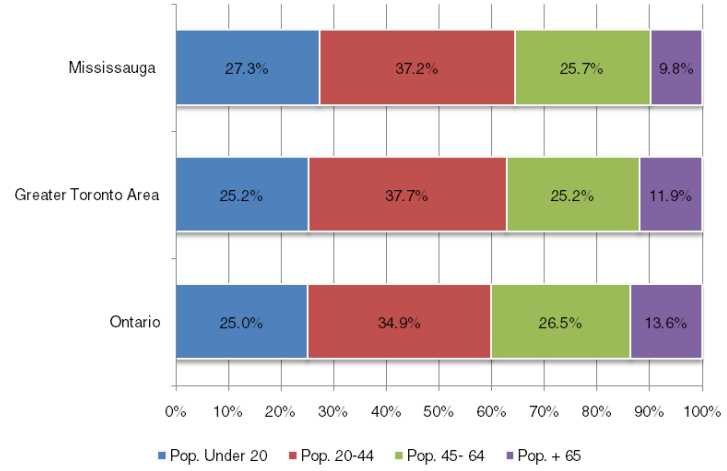
Figure 5: Population by Age, 2001



Source: Statistics Canada Census of Population, 2001

While the age distribution of Mississauga's population is similar to that of the Greater Toronto Area and Ontario in both time periods, it is interesting to note that Mississauga has a slightly higher youth (under 20) and working-age (20-44) population than both comparator geographies. Though the 20-44 age group remains the largest component in all geographies in both time periods, in the 2006 reference year only Mississauga has a higher proportion of under-20 year-olds than 45-64 year-olds (Figure 6).

Figure 6: Population by Age, 2006

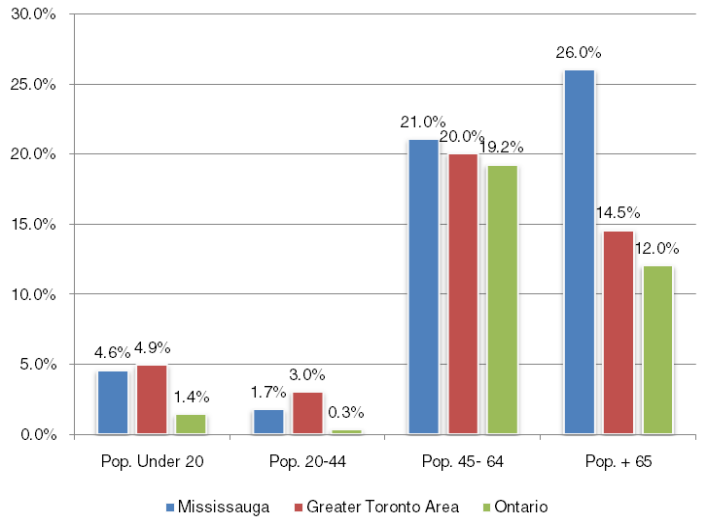


Source: Statistics Canada Census of Population, 2006

On the other hand, as seen in Figure 7, the older segments of the population age distribution (45-64, 65+) have grown faster in Mississauga than either the GTA or Ontario. So, while Mississauga currently remains relatively young as a City, it is aging at a more rapid rate than the broader region and province. This suggests that Mississauga will be faced with the same demographic pressures being experienced by other municipalities in the province, perhaps even to a greater degree. This has significant long-term planning implications for the City, as the needs of an older population must inform its ongoing priorities

and strategy development. Mississauga will increasingly need to consider, among other issues: how to design transit systems to be more accessible; how to compete for a young, skilled labour force in light of the growing competition for talent amongst GTA communities; and, how to ensure effective levels of social service delivery.

Figure 7: Population Growth by Age Group, 2001 to 2006



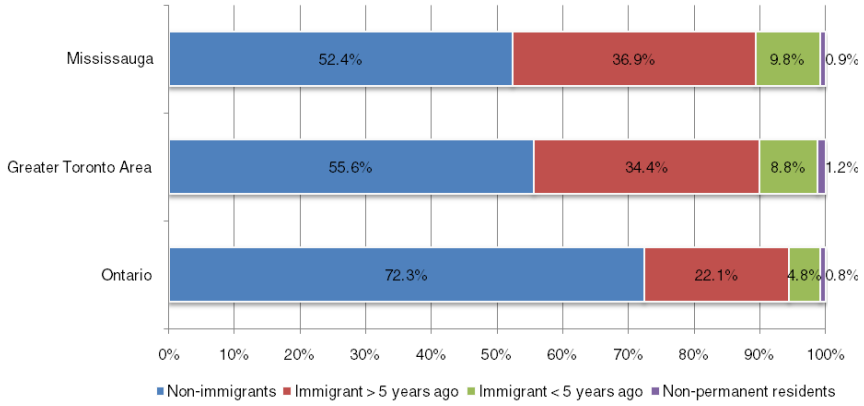
Source: Statistics Canada Census of Population: 2001, 2006

1.2.3 Growth/Change in Immigrant Population

Throughout Canada, immigrants have become a driving force of population and labour force growth in the past few decades. Statistics Canada estimates that all net labour force growth for the country will be attributable to immigration as early as 2011. In 2006, 19.8% of Canada's population was foreign-born; in Ontario, the GTA and Mississauga, those figures were 29.2%, 46.6% and 52.7%, respectively (see Figure 9). This is a likely indication that immigrants are already significant drivers of population and employment growth in those jurisdictions, and none more so than Mississauga, which has the greatest per-capita foreign-born population of the three areas mentioned.

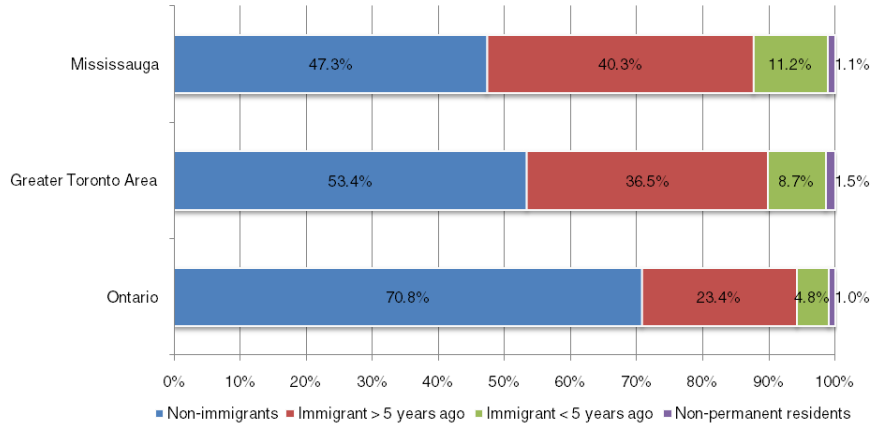
Taken together, Figure 8 and Figure 9 also indicate that this is an increasing trend; in each of the three regions the non-immigrant population decreased from 2001 to 2006. As noted above, over half (52.7%) of Mississauga's population is now foreign-born. Furthermore, it continues to accept new immigrants in greater percentages than the GTA or the province, as its proportion of recent (less than 5 years) immigrants grew from 9.8% to 11.2% between 2001 and 2006 against mostly constant levels for the two comparator geographies.

Figure 8: Immigration Status by Period of Immigration, 2001



Source: Statistics Canada, Census of Population, 2001

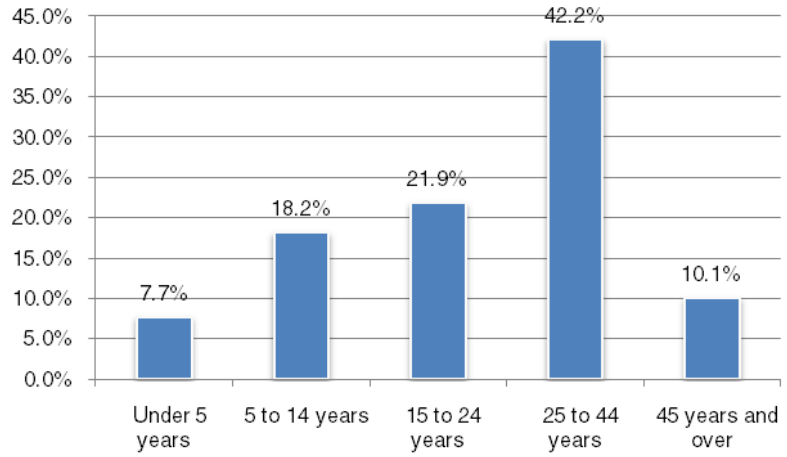
Figure 9: Immigration Status by Period of Immigration, 2006



Source: Statistics Canada, Census of Population, 2006

A more in-depth consideration of the City's efforts in immigrant attraction and integration is useful, given that immigration is such a significant contributor to Mississauga's current and future growth and competitiveness. As seen in Figure 10, 42.2% of immigrants arrive during what can be considered their prime working age of 25 to 44, and a further 21.9% arrive between the ages of 15 and 24. This information speaks to the need for Mississauga to develop programs that can take advantage of the skills and education of its immigrants; options include credential recognition, post-secondary education programming, and transition and retraining initiatives.

Figure 10: Immigration Status by Age at Immigration, Mississauga, 2006



Source: Statistics Canada, Census of Population, 2006

1.2.4 Ethnic Diversity

The ethnic diversity of a community presents further considerations for a city in terms of the community services it offers, the specific focus of potential language and skill training initiatives, as well as its international investment attraction efforts. In examining just the period between 2001 and 2006, Mississauga experienced a significant shift in the cultural background of its residents. Though persons of South Asian and European origin continue to comprise the greatest share of the City's immigrant population (Figure 12), there has been substantial growth in persons of Southeast Asian, Arab and West Asian, Chinese and Korean origin in Mississauga as well.

Mississauga also showed significant growth in its visible minority population during this time period (32.5%), outpacing that of the Greater Toronto Area (26.6%) and Ontario (27.5%). The use of this measure, defined broadly by Statistics Canada as persons that are "non-Caucasian in race or non-white in colour, other than Aboriginal", is helpful in understanding the diversity of a community, despite its limitations in achieving an understanding of cultural values, length of residence in Canada, or specific national origins. Using these broad categories, Mississauga has six distinct visible minority groups with populations of over 10,000; South Asian, Chinese, Black, Filipino, Arab, and Southeast Asian (see Figure 11). Except persons in the visible minority group 'Black', each of these groups showed higher rates of growth in Mississauga than the GTA or Ontario between 2001 and 2006 as well.

Figure 11: Population by Visible Minority Status, 2001-2006

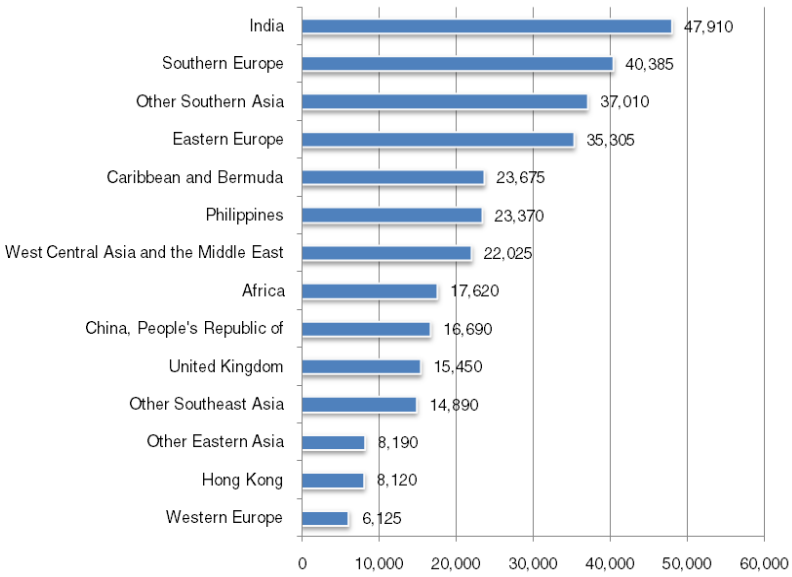
	Mississauga			Greater Toronto Area			Ontario		
	2006	2001	% change	2006	2001	% change	2006	2001	% change
Total	665,655	610,815	9.0%	5,075,310	4,670,940	8.7%	12,028,895	11,285,550	6.6%
Not a visible minority	339,230	364,495	-6.9%	2,912,635	2,962,070	-1.7%	9,283,690	9,132,500	1.7%
Total visible minority population	326,425	246,330	32.5%	2,162,670	1,708,875	26.6%	2,745,200	2,153,045	27.5%
South Asian	134,750	91,150	47.8%	675,835	471,150	43.4%	794,170	554,870	43.1%
Chinese	46,120	35,950	28.3%	483,495	407,805	18.6%	576,980	481,510	19.8%
Black	41,365	37,850	9.3%	358,195	313,470	14.3%	473,760	411,095	15.2%
Filipino	30,705	24,615	24.7%	170,255	132,775	28.2%	203,220	156,515	29.8%
Arab	16,785	11,420	47.0%	52,450	42,485	23.5%	111,405	88,545	25.8%
Southeast Asian	14,160	10,015	41.4%	69,475	53,000	31.1%	110,045	86,410	27.4%
Latin American	12,410	9,270	33.9%	97,960	75,825	29.2%	147,135	106,835	37.7%
Multiple visible minority	9,095	4,750	91.5%	60,020	33,095	81.4%	77,400	42,375	82.7%
Korean	6,865	5,175	32.7%	53,750	42,520	26.4%	69,540	53,955	28.9%
West Asian	6,010	4,205	42.9%	75,160	52,670	42.7%	96,615	67,105	44.0%
Visible minority, n.i.e.	5,720	9,950	-42.5%	47,120	66,960	-29.6%	56,845	78,915	-28.0%
Japanese	2,425	1,980	22.5%	18,940	17,160	10.4%	28,080	24,925	12.7%

Source: Statistics Canada, Census of Population: 2001, 2006

The value of diversity in a community cannot be underestimated. Popular commentary, backed by strong academic research, has confirmed that a diverse community generates social and economic prosperity. Richard Florida and other scholars have noted the important signalling effect of diversity – that is, it reflects that a community is open to and supportive of newcomers, new businesses and new ideas, such that a diverse community is highly correlated with its ability to attract talent and high-technology employment. Furthermore, having citizens from a wide range of ethnic or cultural backgrounds also generates access to new economic opportunities that may otherwise be hidden. Opportunities can include the leveraging of business networks and tying to export markets and client bases.

Figure 12 further highlights the diverse nature of Mississauga's immigrant population. Immigrants from India are the largest group with 47,910 people, followed by Southern Europe (40,385), Other Southern Asia (37,010), Eastern Europe (35,305), and the Caribbean and Bermuda (23,675).

Figure 12: Immigrant Populations by Country/Region of Origin, Mississauga, 2006



Source: Statistics Canada, Census of Population, 2006

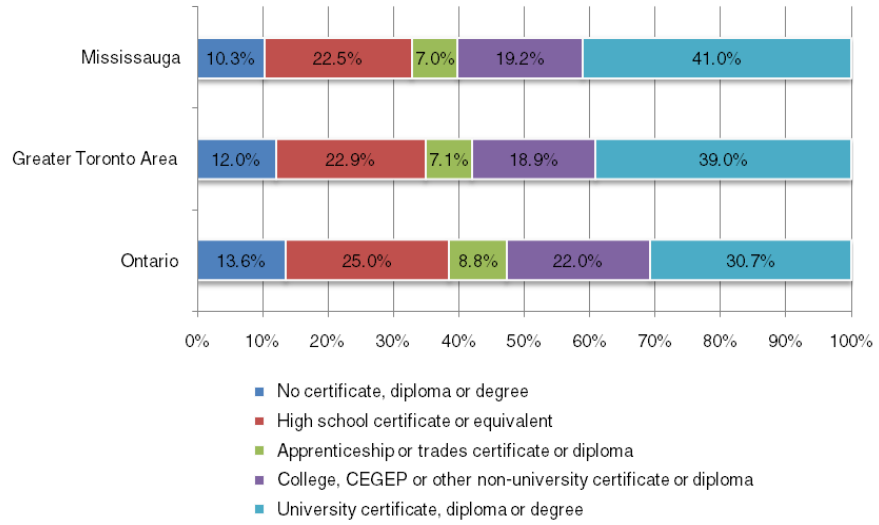
1.2.5 Educational Attainment and Field of Study

Of the major economic shifts occurring in the Canadian economy over the past several years, the transition towards more knowledge-intensive industries is the most relevant. The Mississauga economy is no exception, as discussed further in Section 2.2 of this analysis. This shift foregrounds the importance of the overall level of education in a community. The skill and education levels of Mississauga's population – often understood as 'human capital – are measures that can be used to understand how well the City can support the growth of innovative, knowledge-based industries.

Figure 13 demonstrates the level of educational attainment of Mississauga's population in comparison with the Greater Toronto Area and the province. In 2006, over two-thirds (67.2%) of Mississauga's population had some form of post-secondary education, higher than the Greater Toronto Area (65.0%) and Ontario (61.5%). Those with a university certificate, diploma or degree were the largest component of this group, with Mississauga again outperforming the two comparator regions in the percentage of its population in this category (41.0%, 39.0% and 30.7%, respectively).

The education level of Mississauga's population is of significant value in attracting businesses that rely on access to a talented labour pool for their operations. Mississauga also has a strong educational infrastructure to support continued strength in this area. It is home to the University of Toronto – Mississauga campus, and benefits from its central location within a strong regional network of colleges and universities, including the University of Toronto, University of Waterloo, York University, McMaster University, and Sheridan College. Further consideration should be given to the ways in which Mississauga can leverage these educational strengths to attract investment and jobs, cultivate entrepreneurship, and improve the overall level of education in the City.

Figure 13: Comparative Educational Profile, % of Population Aged 25 to 64, 2006



Source: Statistics Canada, Census of Population, 2006

Figure 14 illustrates the major fields of study of the 251,390 Mississauga residents with postsecondary qualifications. Based on data from 2006, the predominant fields by number of graduates were:

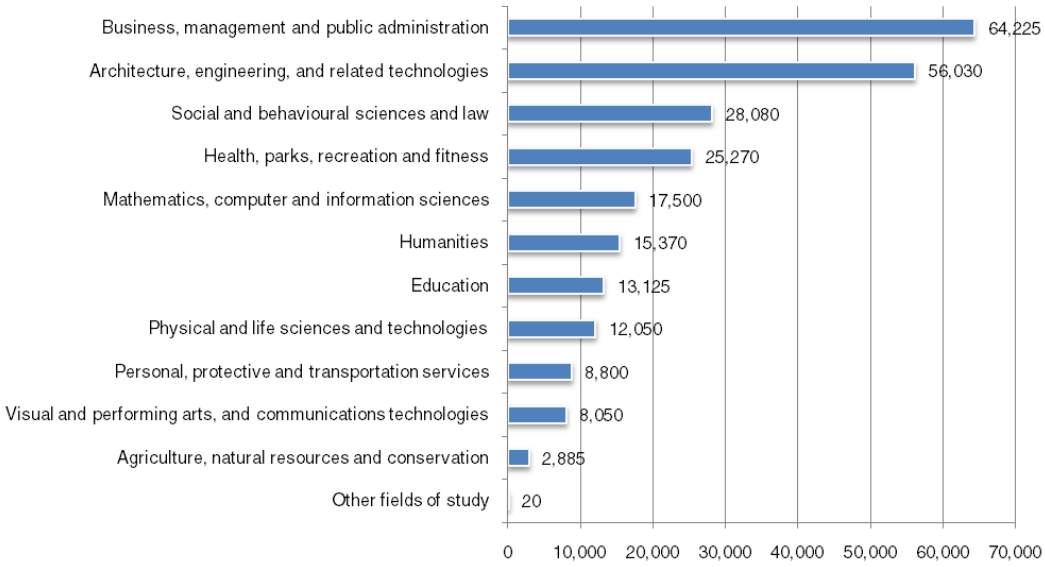
- Business, management and public administration (64,225)
- Architecture, engineering and related technologies (56,030)

Other fields showing strong concentrations include:

- Social and behavioural sciences and law (28,080)
- Health, parks, recreation and fitness (25,270)
- Mathematics, computer and information sciences (17.500)

These five fields comprise over three-quarters (76%) of the postsecondary degrees held in Mississauga. These figures have significant bearing on the kinds of businesses and enterprises that are located in the community, the labour pool that can support the attraction of new industry, and the kinds of services and training programs required to meet labour force needs. Mississauga's particular strengths in business and engineering graduates suggest high levels of competency in both transferable and specific skill sets, and are well-suited to employment in high-technology, knowledge-based industries. A more fulsome exploration of the importance of these trends is explored later in this report.

Figure 14: Educational Profile by Major Field of Study, Mississauga, 2006



Source: Statistics Canada, Census of Population, 2006

1.2.6 Household and Personal Income

An additional determinant of a community's socio-economic composition is the average income of its population. Figures 15 and 16 provide information on private household income for the City, the Greater Toronto Area, and the Province for the years 2000 and 2005. Mississauga's average household income of $88,162 is notably higher than that of Ontario ($66,836), but slightly lags that of the GTA ($89,480).

Figure 15: Comparative Household Income (private households), 2000 and 2005

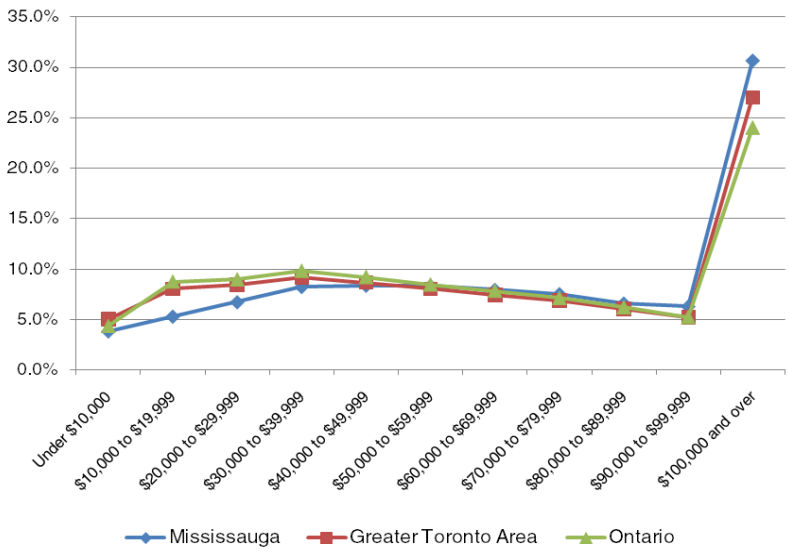
	2005		
Household Income	**Mississauga**	**Greater Toronto Area**	**Ontario**
Under $10,000	3.9%	5.0%	4.4%
$10,000 to $19,999	5.3%	8.1%	8.8%
$20,000 to $29,999	6.7%	8.4%	9.0%
$30,000 to $39,999	8.3%	9.2%	9.8%
$40,000 to $49,999	8.4%	8.7%	9.2%
$50,000 to $59,999	8.3%	8.0%	8.5%
$60,000 to $69,999	8.0%	7.4%	7.8%
$70,000 to $79,999	7.5%	6.9%	7.1%
$80,000 to $89,999	6.6%	6.0%	6.2%
$90,000 to $99,999	6.3%	5.2%	5.2%
$100,000 and over	30.6%	27.0%	24.0%
Average household income $	88,162	89,480	66,836

Source: Statistics Canada, Census of Population, 2006

Beyond simply conveying the income levels of the population, these figures can reveal further insights into the social and economic issues facing a community. A high average household income in turn suggests high levels of disposable income, which has implications for the City's ability to support local goods and services-producing businesses. In addition, the distribution of households across the given

income brackets speaks to the level of income inequality in a community. As seen in Figure 15, Mississauga has a higher proportion of its households making over $100,000 (30.6%) than the GTA (27.0%) or the Province (24.0%); however, its average income is lower than that of the GTA. However, on the other hand, it has a smaller proportion of its population in the lowest income brackets ($10,000 to $39,999) than either of the other two jurisdictions (see Figure 16). In any case, the equitable provision of social services, income support, and employment programs should be reviewed in light of these figures.

Figure 16: Comparative Distribution of Household Income, 2005



Source: Statistics Canada, Census of Population, 2006

1.3 Labour Force Profile

A strong component of Mississauga's overall economic position is its labour force profile, which encompasses a range of important metrics including labour force growth, labour force composition by industry and occupation, places of work, and commuting patterns.

Between 2001 and 2006, Mississauga's labour force grew by 28,930, or 8.3%, to a total of 377,075 persons in the labour force. This growth slightly outpaces that of the province (8.2%), but lags that of the Greater Toronto Area, which had a labour force growth rate of 9.3% over the same period. Labour force data from Manifold Data Mining Inc. indicates that between 2006 and 2009, the City's labour force grew by 38,645 persons – greater than for the whole period between 2001 and 2006 – for a rate of 10.2%. This outpaces the population growth rate of 8.8% over the same time period. This trend suggests the continuing stability and capacity of the local economy.

Unemployment rates for 2006 give greater context to the labour force picture; Mississauga's rate of 6.5% lies between that of the province (6.4%) and the GTA (6.8%), yet both its employment (66.2%) and participation (70.8%) rates surpassed those of both other regions. These gaps are slightly more pronounced in Mississauga's favour when excluding the 15 to 24 age cohort. This is positive in one sense, given that younger workers generally have less disposable income for discretionary spending; however, relatively low rates of youth employment could have undesirable downstream impacts on the skills and experience of Mississauga's future labour force.

More recent figures from 2009 show that Mississauga's unemployment rate rose to 8.5%. This more recent increase is largely a function of the overall decline in the provincial and national economies, particularly as it relates to its manufacturing sector. Though comparable figures are unavailable, the Ontario Ministry of Finance has indicated a 2009 provincial unemployment rate of 9.0%[3]. However, a rising unemployment rate should still be of concern in a strictly local context, as it may point to a re-structuring of the local economy.

Figure 17: Comparative Labour Force Profile, 2001, 2006 and 2009

	Mississauga			Greater Toronto Area		Ontario	
	2009	2006	2001	2006	2001	2006	2001
Total population 15 years and over by labour force activity	585,408	532,560	479,765	4,128,425	3,745,855	9,819,420	9,048,040
In the labour force	415,720	377,075	348,145	2,809,955	2,570,065	6,587,575	6,086,815
Employed	380,293	352,410	329,690	2,618,570	2,415,135	6,164,245	5,713,900
Unemployed	35,427	24,670	18,460	191,380	154,930	423,335	372,915
Not in the labour force	169,688	155,480	131,620	1,318,475	1,175,795	3,231,840	2,961,220
Participation rate	71.0%	70.8%	72.6%	68.1%	68.6%	67.1%	67.3%
Employment rate	65.0%	66.2%	68.7%	63.4%	64.5%	62.8%	63.2%
Unemployment rate	8.5%	6.5%	5.3%	6.8%	6.0%	6.4%	6.1%
Population 15 to 24 years - Labour force activity	103,766	95,295	85,130	685,045	611,540	1,624,835	1,479,675
In the labour force	63,586	57,765	54,305	407,765	379,115	1,059,355	982,185
Employed	53,085	49,260	48,195	344,550	332,585	905,425	855,000
Unemployed	10,501	8,505	6,115	63,215	46,540	153,935	127,185
Not in the labour force	40,179	37,530	30,830	277,285	232,420	565,475	497,495
Participation rate	61.3%	60.6%	63.8%	59.5%	62.0%	65.2%	66.4%
Employment rate	51.2%	51.7%	56.6%	50.3%	54.4%	55.7%	57.8%
Unemployment rate	16.5%	14.7%	11.3%	15.5%	12.3%	14.5%	12.9%
Population 25 years and over - Labour force activity	481,643	437,265	394,635	3,443,380	3,134,320	8,194,585	7,568,360
In the labour force	352,134	319,315	293,840	2,402,190	2,190,940	5,528,220	5,104,635
Employed	327,207	303,145	281,500	2,274,025	2,082,550	5,258,825	4,858,900
Unemployed	24,926	16,165	12,345	128,155	108,395	269,395	245,730
Not in the labour force	129,509	117,955	100,790	1,041,195	943,375	2,666,365	2,463,725
Participation rate	73.1%	73.0%	74.5%	69.8%	69.9%	67.5%	67.4%
Employment rate	67.9%	69.3%	71.3%	66.0%	66.4%	64.2%	64.2%
Unemployment rate	7.1%	5.1%	4.2%	5.3%	4.9%	4.9%	4.8%

Source: Statistics Canada Census of Population, 2001 and 2006, Manifold Data Mining, 2009

1.3.1 Labour Force by Industry

To develop a more detailed understanding of local labour force trends, it is important to look at the diversity of employment across industries in the City. It is estimated that Mississauga had a total labour force of 415,720 people in 2009, of which 408,445 were in a classified industry sector. It is important to note that these figures describe information about the industries in which Mississauga residents are employed, regardless of whether or not those jobs are in the City. Later sections will describe commuting and labour force flow patterns to supplement this broader picture of workforce diversity.

As shown in Figure 18, the industries with the highest proportion of the City's overall labour force in 2009 were manufacturing (13.6%), retail trade (11.1%), and professional, scientific and technical services (9.4%). Further details on the classification and composition of these industries can be found in the appendices at the end of this report. While the retail trade industry's share of employment has remained mostly constant since 2001, the manufacturing industry's share of overall employment among the Mississauga labour force has decreased to 13.6% from 17.8% in that time (see Figure 19). This is

[3] http://www.fin.gov.on.ca/en/economy/ecupdates/factsheet.html

perhaps unsurprising, given the decline of the manufacturing industry throughout Ontario, as the economy shifts towards more service-based output and employment.

Figure 18: Labour Force by Industry, City of Mississauga, 2001, 2006 and 2009

	2009		2006		2001	
	Number	% of total labour force	Number	% of total labour force	Number	% of total labour force
Total - All Industries	408,445	100.0%	352,390	100.0%	329,690	100.0%
11 Agriculture, forestry, fishing and hunting	579	0.1%	690	0.2%	590	0.2%
21 Mining and oil and gas extraction	541	0.1%	650	0.2%	310	0.1%
22 Utilities	2,264	0.6%	1,870	0.5%	1,750	0.5%
23 Construction	21,515	5.3%	17,345	4.9%	14,835	4.5%
31-33 Manufacturing	55,657	13.6%	53,505	15.2%	58,770	17.8%
41 Wholesale trade	31,008	7.6%	27,490	7.8%	26,255	8.0%
44-45 Retail trade	45,340	11.1%	38,765	11.0%	36,765	11.2%
48-49 Transportation and warehousing	30,584	7.5%	26,415	7.5%	23,465	7.1%
51 Information and cultural industries	12,001	2.9%	10,155	2.9%	10,655	3.2%
52 Finance and insurance	30,543	7.5%	25,135	7.1%	21,750	6.6%
53 Real estate and rental and leasing	9,682	2.4%	7,955	2.3%	7,595	2.3%
54 Professional, scientific and technical services	38,562	9.4%	31,785	9.0%	28,345	8.6%
55 Management of companies and enterprises	824	0.2%	695	0.2%	525	0.2%
56 Administrative and support, waste management and remediation services	20,284	5.0%	17,730	5.0%	14,560	4.4%
61 Educational services	21,591	5.3%	17,880	5.1%	15,845	4.8%
62 Health care and social assistance	32,801	8.0%	25,805	7.3%	22,595	6.9%
71 Arts, entertainment and recreation	5,906	1.4%	4,810	1.4%	4,110	1.2%
72 Accommodation and food services	21,495	5.3%	19,330	5.5%	17,220	5.2%
81 Other services (except public administration)	16,193	4.0%	14,155	4.0%	13,400	4.1%
91 Public administration	11,075	2.7%	10,225	2.9%	10,350	3.1%

Source: Manifold Data Mining, 2009; Statistics Canada, Census of Population: 2001, 2006

These trends are illustrated, and further confirmed, in Figure 19. Between 2006 and 2009, the industries showing the greatest employment growth were health care and social assistance (27.1%), construction (24.0%), arts, entertainment and recreation (22.8%), real estate rental and leasing (21.7%) and finance and insurance (21.5%). In terms of net employment growth during the same period, health care and social assistance is followed by professional, scientific and technical services and retail trade, each with growth of nearly 7,000 persons.

The growth in health care and social assistance is but one example of how broader demographic and regional trends affect employment composition by sector in the Mississauga economy. As mentioned above, the City's aging labour force coupled with rising unemployment will place higher demand on health and social service programs; thus, employment in this sector has remained constant or improved in many jurisdictions. In Mississauga, it added 10,206 jobs between 2001 and 2009, second only to professional, scientific and technical services in absolute growth. In addition, the strong network of public research hospitals and post-secondary institutions in the Greater Toronto Area as well as the growth in biotechnology and pharmaceutical sectors in Mississauga provide strong synergies to the health care and social assistance sector, further driving employment in that area.

The concentration of growth in service-based employment, though it is dispersed throughout a number of industries, may be of some concern. Service work is generally less well-paid and more precarious than other classes of work, and requires less education to retain employment. A more detailed understanding of how employment composition within Mississauga has been affected is to follow, with an analysis of occupational trends and labour flows for the City.

Figure 19: Labour Force Growth by Industry, City of Mississauga, 2001, 2006 and 2009

	2001-2009		2006-2009	
	Number	% Increase/ Decrease	Number	% Increase/ Decrease
Total - All Industries	78,755	23.9%	56,055	15.9%
11 Agriculture, forestry, fishing and hunting	-11	-1.8%	-111	-16.1%
21 Mining and oil and gas extraction	231	74.5%	-109	-16.8%
22 Utilities	514	29.4%	394	21.1%
23 Construction	6,680	45.0%	4,170	24.0%
31-33 Manufacturing	-3,113	-5.3%	2,152	4.0%
41 Wholesale trade	4,753	18.1%	3,518	12.8%
44-45 Retail trade	8,575	23.3%	6,575	17.0%
48-49 Transportation and warehousing	7,119	30.3%	4,169	15.8%
51 Information and cultural industries	1,346	12.6%	1,846	18.2%
52 Finance and insurance	8,793	40.4%	5,408	21.5%
53 Real estate and rental and leasing	2,087	27.5%	1,727	21.7%
54 Professional, scientific and technical services	10,217	36.0%	6,777	21.3%
55 Management of companies and enterprises	299	56.9%	129	18.5%
56 Administrative and support, waste management and remediation services	5,724	39.3%	2,554	14.4%
61 Educational services	5,746	36.3%	3,711	20.8%
62 Health care and social assistance	10,206	45.2%	6,996	27.1%
71 Arts, entertainment and recreation	1,796	43.7%	1,096	22.8%
72 Accommodation and food services	4,275	24.8%	2,165	11.2%
81 Other services (except public administration)	2,793	20.8%	2,038	14.4%
91 Public administration	725	7.0%	850	8.3%

Source: Manifold Data Mining, 2009; Statistics Canada, Census of Population: 2001, 2006

1.3.2 Labour Force by Occupations

A useful supplement to the industrial composition of Mississauga's labour force is its occupational composition. Taking an occupational approach allows for a more detailed understanding of the specific tasks, competencies and skills contained and utilized in the labour force, as certain occupations can be employed in a wide range of industries.

Figure 20 illustrates the concentration of occupational categories in Mississauga for 2001, 2006 and 2009, detailed descriptions of which can be found in the appendices of this report. The occupations with the highest employment concentrations in 2006 and 2009 (estimated) were:

- Business, finance and administration occupations (84,990 in 2006, 95,140 in 2009);
- Sales and service occupations (84,120 in 2006, 91,068 in 2009);
- Trades, transport and equipment operators and related occupations (48,520 in 2006, 53,720 in 2009), and;
- Management occupations (41,140 in 2006, 45,058 in 2009).

These four occupational categories also employed the most people in both the GTA and the province, though sales and service occupations were the top category for both of those geographies.

Figure 20: Comparative Labour Force by Occupation, 2001, 2006 and 2009

	Mississauga			Greater Toronto Area		Ontario	
Occupations (NOC-S)	2009	2006	2001	2006	2001	2006	2001
All occupations	408,114	369,730	343,850	2,752,030	2,526,715	6,473,735	5,992,765
Management occupations	45,058	41,140	46,055	308,690	318,595	666,485	685,390
Business, finance and administration occupations	95,140	84,990	78,065	587,255	544,785	1,204,490	1,097,835
Natural and applied sciences and related occupations	36,152	33,805	29,540	221,230	205,640	451,930	422,510
Health occupations	16,620	15,740	13,275	125,765	105,340	340,685	286,310
Occupations in social science, education, government service and religion	26,859	24,135	20,280	229,025	189,510	546,390	455,825
Occupations in art, culture, recreation and sport	9,553	8,805	7,480	106,670	91,975	200,980	171,840
Sales and service occupations	91,068	81,420	73,305	611,850	541,340	1,522,820	1,371,245
Trades, transport and equipment operators and related occupations	53,720	48,520	43,925	335,360	303,380	911,250	845,125
Occupations unique to primary industry	2,829	2,590	2,030	26,205	22,050	165,085	164,360
Occupations unique to processing, manufacturing and utilities	31,114	28,580	29,885	199,990	204,115	463,610	492,320

Source: Manifold Data Mining, 2009; Statistics Canada, Census of Population: 2001, 2006

As shown in Figure 21, the four occupational categories mentioned previously were also the four fastest-growing occupational categories by absolute numbers between 2006 and 2009, with business, finance and administration again leading with growth of 10,150 occupations in the three-year time period. They are also among the five fastest-growing categories in terms of percentage growth, joined by occupations in social science, education, government service, and religion. Overall, all occupational categories showed strong growth in this time period, with no category showing growth of less than 5%, indicating a healthy diversity in the employment composition of Mississauga's residents.

These occupational trends are largely a confirmation of trends in the industrial and educational composition of the labour force, described earlier in this chapter. For instance, there is likely to be significant concentrations of sales and service occupations in the retail trade industry. The business, management and public administration field of study feeds into the high concentrations of business, finance, administration, and management occupations in the City.

Occupations with slower rates of growth in Mississauga from 2006 to 2009 include health occupations (5.6%) and natural and applied science and related occupations (6.9%). This is somewhat of a paradox, given the strong employment growth in the health and social assistance industry. This reveals the utility of an occupational approach; a significant component of the growth in the health care industry is likely due to an increased need for administrative and technical workers, and based on the above data, would not necessarily be front line healthcare occupations.

Figure 21: Labour Force Growth by Occupation, Mississauga, 2001, 2006 and 2009

Occupations (NOC-S)	Mississauga			
	2001-2009		2006 - 2009	
	Number	% Increase/ Decrease	Number	% Increase/ Decrease
All occupations	64,264	18.7%	38,384	10.4%
Management occupations	-997	-2.2%	3,918	9.5%
Business, finance and administration occupations	17,075	21.9%	10,150	11.9%
Natural and applied sciences and related occupations	6,612	22.4%	2,347	6.9%
Health occupations	3,345	25.2%	880	5.6%
Occupations in social science, education, government service and religion	6,579	32.4%	2,724	11.3%
Occupations in art, culture, recreation and sport	2,073	27.7%	748	8.5%
Sales and service occupations	17,763	24.2%	9,648	11.9%
Trades, transport and equipment operators and related occupations	9,795	22.3%	5,200	10.7%
Occupations unique to primary industry	799	39.4%	239	9.2%
Occupations unique to processing, manufacturing and utilities	1,229	4.1%	2,534	8.9%

Source: Manifold Data Mining, 2009; Statistics Canada, Census of Population: 2001, 2006

1.3.3 Labour Force Flow Pattern

Figure 22 provides useful context to the above industry and occupational data in describing the difference between the employment composition of Mississauga's resident labour force and the composition of the jobs occupied within Mississauga. This distinction is important, as planners and policy makers seek to achieve a balance between employment and population growth within their boundaries. Increasing opportunities to retain employment in the community can benefit current and potential residents by decreasing commute times and increasing local consumption, trends that also benefit the City's economy.

The industries in which Mississauga was the greatest net exporter of jobs in 2006 were:

- Construction (7,055 jobs)
- Health care and social assistance (3,520 jobs)
- Finance and insurance (3,025 jobs)
- Arts, entertainment and recreation (1,790 jobs)
- Public administration (1,485 jobs)

These differences can be explained in the context of regional employment markets and sector strengths, especially given the close proximity of Mississauga to Toronto. The City of Toronto houses a dense network of public and private research and care hospitals (Toronto General, St. Michael's, Mount Sinai); indeed, the hospitals sub-sector accounts for 2,110 of the exported jobs in the health care and social

assistance sector. In the finance and insurance sector, 1,740 of the exported jobs are in the credit intermediation and related activities sub-sector; the head offices of major banks and financial institutions (TD Canada Trust, Bank of Nova Scotia) in Toronto do much to explain this trend. In addition, most of the operations of the provincial government are housed at Queen's Park in Toronto. It is likely that the exported labour in public administration can be largely attributed to this factor.

Though these trends have straightforward explanations, they are still somewhat concerning. Excluding construction, these sectors provide a great degree of the core creative, knowledge-intensive, high-value jobs in the economy. Though some spill-over benefits will accrue to the City due to property taxes and local consumption, Mississauga should identify opportunities to retain some of these jobs within the City by focusing on attracting businesses in these sectors. This is particularly relevant as it relates to Healthcare positions. With the announcement of $15.6 million towards the construction of the UTM Medical Academy, this will provide a significant opportunity to attract and retain a greater proportion of healthcare workers in the City.

Figure 22: Labour Flow Analysis, Labour Force 15 Years and Over by Industry, Mississauga, 2006

Industry (NAICS)	Labour Force	Jobs in Mississauga	Net export (-) or import (+)
Total - All Industries*	352,390	383,870	31,480
11 Agriculture, forestry, fishing and hunting	690	620	-70
21 Mining and oil and gas extraction	650	960	310
22 Utilities	1,870	1,575	-295
23 Construction	17,345	10,290	-7,055
31-33 Manufacturing	53,505	65,880	12,375
41 Wholesale trade	27,490	45,005	17,515
44-45 Retail trade	38,765	38,900	135
48-49 Transportation and warehousing	26,415	42,870	16,455
51 Information and cultural industries	10,155	9,325	-830
52 Finance and insurance	25,135	22,110	-3,025
53 Real estate and rental and leasing	7,955	8,520	565
54 Professional, scientific and technical services	31,785	34,285	2,500
55 Management of companies and enterprises	695	655	-40
56 Administrative and support, waste management and remediation services	17,730	17,980	250
61 Educational services	17,880	17,910	30
62 Health care and social assistance	25,805	22,285	-3,520
71 Arts, entertainment and recreation	4,810	3,020	-1,790
72 Accommodation and food services	19,330	18,430	-900
81 Other services (except public administration)	14,155	14,510	355
91 Public administration	10,225	8,740	-1,485

Source: Statistics Canada: REDDI, 2006

*Total labour force calculated as a sum of workers in NAICS 2-digit major groups according to REDDI tabulations. Does not include those in category Industry - not applicable.

More significant however is the fact that Mississauga is a net importer of labour, dispelling the idea that Mississauga is merely a suburb community. In fact, there were 31,480 more jobs than residents in the labour force in the City in 2006 according to Statistics Canada. A 2009 Employment Survey conducted by the City of Mississauga suggests that this number has increased, reporting that Mississauga imports 56,240 workers. These figures indicate that the City has become a major employment centre in the GTA.

Statistics Canada data from 2006 indicates that these imported jobs are highly concentrated in three industries:

- Wholesale trade (17,515 imported jobs)
- Transportation and warehousing (16,455 imported jobs)
- Manufacturing (12,375 imported jobs)

It is likely that these trends, particularly in wholesale trade and transportation and warehousing, can be attributed to Mississauga's strong transport and distribution infrastructure, as mentioned at the beginning of this base analysis. Mississauga's strategic location vis-a-vis the presence of Pearson International Airport and the 400-series highway connections make it a logical home for multi-modal distribution and logistics companies, and the labour flow patterns reflect that.

The high number of manufacturing jobs that Mississauga imports is reflective of its continued strength in the sector relative to the rest of the region, specifically in pharmaceutical and aerospace manufacturing. However, the declining fortunes of the manufacturing sector in Ontario and North America suggest that Mississauga should continue exploring opportunities to diversify its manufacturing base while pursuing growth opportunities as it relates to the supply chain for its target sectors, as well as new and emerging industries that are suited to the local and regional economy.

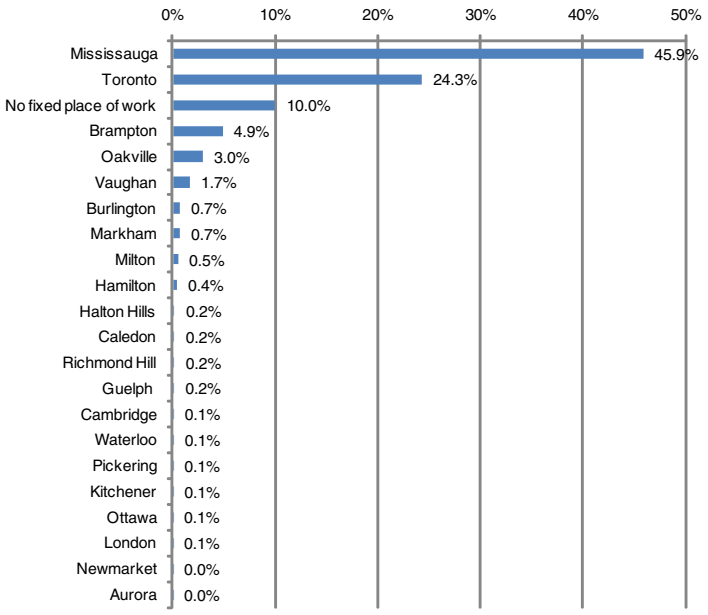
1.3.4 Commuting Flows by Place of Work

Figures 23 and 24 provide a geographic perspective to the in and out-flows of labour through Mississauga. Given the large numbers of workers coming in and out of the community on a daily basis, it is important to understand the commuting patterns affecting the City. The charts below present commuting data by census subdivision for the employed labour force 15 years of age and over, by usual place of work.

In total there are 160,370 residents who both live and work in the City, including those who work from home; this amounts to 45.9% of the employed labour force (see Figure 23). The most significant receiver of Mississauga workers is Toronto, accounting for 24.3% of the workforce. This seems to confirm the suggestion in previous sections, based on information in Figure 20, 21 and 22, that the financial services and health care industries in Toronto are the main target for Mississauga's exported workers. The neighbouring municipalities of Brampton, Oakville, Halton Hills and Milton draw a further 8.6% of Mississauga's workforce, suggesting proximity is a large factor in workforce commuting patterns.

Figure 23: Commuting Flows, Mississauga as a Place of Residence, 2006[4]

Place of Work	Total	% of Commuting Workforce
Total	349,640	100.0%
Mississauga	160,370	45.9%
Toronto	85,010	24.3%
No fixed place of work	35,065	10.0%
Brampton	17,025	4.9%
Oakville	10,405	3.0%
Vaughan	5,945	1.7%
Burlington	2,555	0.7%
Markham	2,505	0.7%
Milton	1,895	0.5%
Hamilton	1,485	0.4%
Halton Hills	790	0.2%
Caledon	765	0.2%
Richmond Hill	695	0.2%
Guelph	630	0.2%
Cambridge	395	0.1%
Waterloo	390	0.1%
Pickering	260	0.1%
Kitchener	225	0.1%
Ottawa	190	0.1%
London	175	0.1%
Newmarket	150	0.0%
Aurora	150	0.0%



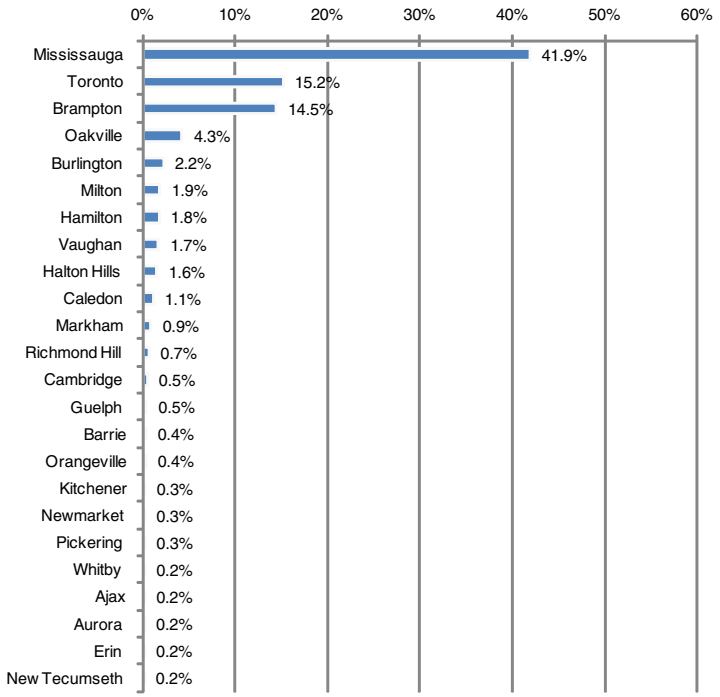
Source: Statistics Canada, Census of Population: 2001, 2006

Despite the loss of workers to the City of Toronto, there is still a strong argument for Mississauga to position itself as a major employment destination within the regional labour pool. As mentioned previously, there are 31,480 more jobs than persons in the labour force in Mississauga. Figure 24, which demonstrates the source census subdivisions of persons working in Mississauga, indicates that a full 58.1% of the City's employed labour force come from outside the City. Toronto is the largest source of workers at 15.2%. Mississauga still exports 26,865 more jobs to Toronto than it imports, but there is nonetheless an indication of a two-way flow of labour. Commuters from municipalities in neighbouring Halton and Peel Regions, including Brampton, Oakville and Burlington, together account for a further 25.6% of Mississauga's jobs. The City also imports workers in smaller numbers from Wellington County, Dufferin County, and York and Durham Regions. Without exploring the specific industries that the imported workers from each are employed in, it can nevertheless be stated that a large portion of the City's workforce is and will continue to come from outside the community. This demonstrated access to a large regional labour pool should inform the business retention, expansion and attraction efforts of the City on an ongoing basis.

[4] Geographies receiving fewer than 150 workers have been suppressed. Differences in total labour force between Figure 22 and 23 are attributable to rounding differences between REDDI and Statistics Canada Commuting Flow tabulations.

Figure 24: Commuting Flows, Mississauga as a Place of Work, 2006[5]

Place of Residence	Total	% of Commuting Workforce
Total	382,500	100.0%
Mississauga	160,370	41.9%
Toronto	58,145	15.2%
Brampton	55,375	14.5%
Oakville	16,460	4.3%
Burlington	8,605	2.2%
Milton	7,210	1.9%
Hamilton	6,810	1.8%
Vaughan	6,675	1.7%
Halton Hills	6,020	1.6%
Caledon	4,360	1.1%
Markham	3,510	0.9%
Richmond Hill	2,645	0.7%
Cambridge	1,930	0.5%
Guelph	1,820	0.5%
Barrie	1,470	0.4%
Orangeville	1,455	0.4%
Kitchener	1,030	0.3%
Newmarket	995	0.3%
Pickering	995	0.3%
Whitby	925	0.2%
Ajax	870	0.2%
Aurora	835	0.2%
Erin	795	0.2%
New Tecumseth	715	0.2%



Source: Statistics Canada, Census of Population: 2001, 2006

1.4 Creative Economy

The profound structural economic changes in the global economy in recent years have only accelerated the importance of work in the knowledge-based, innovative, 'creative' economy. As a result, there is increasing recognition that the primary drivers of economic growth for sub-national regions are no longer natural resources and secondary industrial activities. Industries and activities which rely on the skills, knowledge and innovative capacity of their workforce have emerged as the keys to regional economic growth and long-term prosperity.

The increased importance in highly skilled workers makes them an invaluable asset in this new knowledge-based economy. Though there has been significant popular and academic debate about the degree to which companies and jobs will follow talented workers (or vice versa), it is clear that with the rise of communications technologies and increasing specialization, cities and regions are in increasingly global competition with each other for high-value industries, companies, and employees.

Mississauga is fortunate to have a wide range of assets that enhance its competitive position for these businesses and workers. As mentioned previously, Mississauga benefits from a highly diverse population, a wide range of industry sector strengths, and access to a large skilled labour pool. By effectively leveraging these resources and recognizing and integrating the assets and amenities that are appealing

[5] Geographies with less than 0.2% of the total commuters to Mississauga have been suppressed. Differences in total jobs between Figure 22 and 24 are attributable to rounding differences between REDDI and Statistics Canada Commuting Flow tabulations.

to this 'creative' workforce into Mississauga's planning and development efforts, the City will be primed to succeed in the continued growth of the creative economy.

1.4.1 The Creative Economy Defined

The 'creative economy' is a flexible term that is often used to connote a variety of industries, occupations or types of work. In the broadest sense, it encompasses the interrelationship between the social, environmental, cultural and economic spheres of society, emphasizing the importance of ethnic, spatial and industrial diversity to the growth and success of a region.

The most salient and familiar conception of the creative economy, however, comes from its champion Dr. Richard Florida, who described the creative economy in his 2002 book *The Rise of the Creative Class.* Implicit in the title of his book is an approach that defines the creative economy on the basis of the work people do and the skills they use to do it, as opposed to the aggregation of industrial categories. Thus, an operating definition of the creative economy is better captured by examining occupational data, which can give a closer indication of the kinds of work undertaken by individuals than industrial composition.

1.4.2 Creative Occupations Defined

To define the creative economy, we continue to utilize the work of Dr. Florida. In *The Rise of the Creative Class,* he defines the creative workforce broadly to include people working in the following areas[6]:

- Science and engineering
- Architecture and design
- Education
- Arts, music and entertainment
- Law
- Business and finance
- Health care and related fields

In order to better analyze the creative workforce for local economies, these categories are translated into specific occupations according to the National Occupational Classification system (NOC-S). The NOC occupational categories deemed to fit the criteria of 'Creative occupations' based on Florida's 2002 theoretical classification and 2009 type-of-work description is as follows.

Figure 25: Creative Economy Occupations

Creative Occupations	
Senior management occupations	Specialist managers
Managers in retail trade, food and accommodation services	Other managers, n.e.c.
Professional occupations in business and finance	Finance and insurance administration occupations
Professional occupations in natural and applied sciences	Technical occupations related to natural and applied sciences
Professional occupations in health	Nurse supervisors and registered nurses
Technical and related occupations in health	Judges, lawyers, psychologists, social workers, ministers of religion, and policy and program officers
Teachers and professors	Technical occupations in art, culture, recreation and sport

[6] Richard Florida. The Rise of the Creative Class. 2002.

In the 2009 report *Ontario in the Creative Age,* authored by Dr. Florida and Dean Roger Martin of the Rotman School of Management, an analysis was undertaken to place creative occupations in the context of 4 broad types of work, based on the skills and knowledge utilized in each occupation. The classes identified were[7]:

> ***Creative occupations*** – the growing number of workers who are paid to think. These include scientists and technologists, artists and entertainers, and managers and analysts.
> ***Routine-service occupations*** - where the work involves little autonomy and is focused on the delivery of services, for example, food-service workers, janitors and clerks;
> ***Routine-physical occupations*** - consisting of people who use physical skills and carry out repetitive tasks (for example, tradespersons, mechanics, crane operators and assembly line workers);
> ***Routine-resource occupations*** - including mining and forestry occupations.

According to the definitions above, a distinguishing feature of creative occupations is their ability to cut across industry sector lines in a way that can impact both traditional and emerging industries and the degree to which these occupations translate to a well paid and highly skilled workforce. This is particularly true if one considers the skills needed for creative occupations are more heavily weighted towards analytical[8] and social intelligence[9] skills, both of which play a significant role in a knowledge driven economy.

1.4.3 Creative Occupations vs. Service-Based and Manufacturing Occupations

People engaged in creative occupations comprised 35.2% of the City's workforce in 2009 (143,560 workers; see Figure 25). This proportion stands largely on par with that of the province; in 2006, 34.7% of Ontario's occupations were creative, compared with 35.9% in Mississauga. The City's growth in creative occupations between 2001 and 2009 is 14.5%, trailing overall occupational growth in the City for the same time period, which stands at 18.7%.

The category with the highest concentration of workers is technical occupations related to natural and applied sciences, followed by specialist managers and professional business and finance occupations. The areas with the highest growth between 2001 and 2009 were judges, lawyers, psychologists, social workers, ministers of religion and policy and program officers at 33.8% followed by professional arts and culture occupations (32.2%) and teachers and professors (31.2%).

As mentioned above, creative occupations as a class of work generally require higher levels of education, analytical skills, and social intelligence skills, and are also typically rewarded with higher wages than routine-class occupations. As such, the trends in creative occupational employment should be of high importance in crafting an economic development strategy for the City of Mississauga. The continued concentration and specialization of high value creative occupations and professions has significant implications for the kind of business development trajectory the City is able to pursue.

The goal of attracting creative workers, and the businesses that will employ them, also has broader implications for the kinds of amenities and services the City of Mississauga provides. Creative class theory places high emphasis on the importance of quality of place factors which serve an important

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[7] Ontario in the Creative Age, 2009.
[8] Examples of occupations that require the highest level of analytical thinking skills include surgeons, biomedical engineers, dentists, accountants, plumber, art directors etc.
[9] Examples of occupations that require the highest level of social intelligence skills include psychiatrists, chief executives, marketing managers, lawyers, sports coach, film directors etc.

function in differentiating cities and regions as locations of choice for talented workers. Thus, the quality of a downtown environment, the number and quality of recreational opportunities, arts and culture facilities and related programming, and the quality and accessibility of green space are additional considerations that come into play for Mississauga's economic development planning.

Figure 26: Creative Occupations, City of Mississauga, 2001, 2006 and 2009

	Mississauga			
Occupations (NOC-S)	2009	2006	2001	2001-2009 % Growth
All occupations	408,114	369,730	343,850	18.7%
All Creative occupations	143,560	132,585	125,375	14.5%
A0 Senior management occupations	5,412	4,910	6,565	-17.6%
A1 Specialist managers	16,203	14,810	15,045	7.7%
A2 Managers in retail trade, food and accommodation services	10,447	9,590	10,945	-4.6%
A3 Other managers, n.e.c.	12,996	11,825	13,500	-3.7%
B0 Professional occupations in business and finance	15,408	14,080	12,325	25.0%
B1 Finance and insurance administration occupations	5,377	5,270	4,525	18.8%
C0 Professional occupations in natural and applied sciences	22,893	21,385	18,290	25.2%
C1 Technical occupations related to natural and applied sciences	13,259	12,420	11,255	17.8%
D0 Professional occupations in health	3,688	3,600	3,110	18.6%
D1 Nurse supervisors and registered nurses	5,032	4,835	4,305	16.9%
D2 Technical and related occupations in health	3,628	3,470	3,140	15.5%
E0 Judges, lawyers, psychologists, social workers, ministers of religion, and policy and program officers	6,864	6,215	5,130	33.8%
E1 Teachers and professors	12,800	11,370	9,760	31.2%
F0 Professional occupations in art and culture	3,615	3,230	2,735	32.2%
F1 Technical occupations in art, culture, recreation and sport	5,938	5,575	4,745	25.1%

Source: Manifold Data Mining, 2009; Statistics Canada, Census of Population: 2001, 2006

Further to the review of creative occupation concentrations, specific occupations were examined by age group for the 2006 Census year. The intent of this examination was to identify occupations with higher future retirement proportions measured as the percentage of the total number of people in an occupation with an age 45-64 years and higher retirement concentrations measured as the total number of people age 45-64 years. As Figure 26 indicates, occupations with the highest proportion of the labour force between 45-64 years of age were:

- School principals and administrators of elementary and secondary education (76.8% or 380 residents)
- Ministers of religion (63.9% or 310 residents)
- Senior managers – trade, broadcasting and other services (62.9% or 900 residents)
- Senior managers – financial, communications carriers and other services (56.5% or 895 residents) and
- Senior managers – goods production, utilities, transportation and construction (56.4% or 820 residents).

Comparatively, the proportion of people between the ages of 45-64 years employed in creative occupations was 38.3% (50,785 residents).

As Figure 27 indicates, occupations with the highest concentration of the labour force between 45-64 years of age were:

- Computer and information systems occupations (4,320 residents or 24.4%)
- Retail trade managers (2,805 residents or 39.3%)
- Financial auditors and accountants (2,475 residents or 39.8%)
- Registered nurses (2,395 residents or 51.5%)
- Sales, marketing and advertising managers (2,285 residents or 37.3%).

Registered nurses and manufacturing managers were identified as both having high concentrations and high proportions of people employed in these occupations between the ages of 45-64 years.

Figure 27: Top 10 Creative Occupations by % of Resident Labour Force 45-64 years of age, 2006

No.	Occupation	Total 45-64 years	% of Occupation Group
1	A323 School principals and administrators of elementary and secondary education	380	76.8%
2	E024 Ministers of religion	310	63.9%
3	A015 Senior managers - Trade, broadcasting and other services, n.e.c.	900	62.9%
4	A013 Senior managers - Financial, communications carriers and other business services	895	56.5%
5	A016 Senior managers - Goods production, utilities, transportation and construction	820	56.4%
6	A121 Engineering, science and architecture managers	385	51.7%
7	D112 Registered nurses	2,395	51.5%
8	D012 General practitioners and family physicians	390	51.0%
9	A391 Manufacturing managers	1,060	50.2%
10	A141 Facility operation and maintenance managers	555	50.2%
	Creative Occupations	50,785	38.3%
	Occupations	134,735	36.4%

Source: Statistics Canada, Custom Tabulations, Census, 2006.

Figure 28: Top 10 Creative Occupations by Total Resident Labour Force 45-64 years of age, 2006

No.	Occupation	Total 45-64 years	% of Occupation Group
1	C070 Computer and information systems occupations	4,320	24.4%
2	A211 Retail trade managers	2,805	39.3%
3	B011 Financial auditors and accountants	2,475	39.8%
4	D112 Registered nurses	2,395	51.5%
5	A131 Sales, marketing and advertising managers	2,285	37.3%
6	E132 Elementary school and kindergarten teachers	2,280	42.1%
7	E131 Secondary school teachers	1,240	44.4%
8	A111 Financial managers	1,065	42.1%
9	A391 Manufacturing managers	1,060	50.2%
10	A302 Banking, credit and other investment managers	1,030	44.1%
	Creative Occupations	50,785	38.3%
	Occupations	134,735	36.4%

Source: Statistics Canada, Custom Tabulations, Census, 2006.

As shown in Figure 28, service-based occupations comprised an estimated 41.6% of Mississauga's workforce in 2009 (169,696 workers). This category of occupations grew by 23.7%, or 32,476 workers, between 2001 and 2009. The occupations with the highest growth during this time period were assisting occupations in support of health services (57.3%), retail salespersons and sales clerks (39.3%) and cashiers (38.3%). This mirrors the analysis of labour force data presented earlier which showed that health care and social assistance was the fastest-growing industry by employment between 2001 and 2009, with retail trade being the second-largest industry in the City in terms of absolute employment in 2009.

Service-based occupations are differentiated from creative occupations in that they are more routine-oriented, and require less autonomy. These jobs are also associated with lower wages, and more likely to be part-time. Given that, as a broad class of work, these occupations comprise the fastest-growing segment of Mississauga's workforce (see Figure 28) speaks to the need to make service-based occupations more tenable as full-time, living wage careers. Otherwise, the City will potentially be confronted by growing inequality and polarization of incomes, that may lead to increased demands on social assistance and service-provision agencies as the cost of living in the GTA escalates.

Figure 29: Service-Based Occupations, City of Mississauga, 2001, 2006 and 2009

	Mississauga			
Occupations (NOC-S)	2009	2006	2001	2001-2009 % Growth
All occupations	408,114	369,730	343,850	18.7%
All Service-based occupations	169,696	150,875	137,220	23.7%
B2 Secretaries	5,661	5,085	6,625	-14.6%
B3 Administrative and regulatory occupations	10,388	9,525	8,315	24.9%
B4 Clerical supervisors	2,874	2,975	2,635	9.1%
B5 Clerical occupations	55,433	48,045	43,635	27.0%
D3 Assisting occupations in support of health services	4,272	3,830	2,715	57.3%
G0 Sales and service supervisors	3,197	2,960	2,685	19.1%
G1 Wholesale, technical, insurance, real estate sales specialists, and retail, wholesale and grain buyers	12,132	11,110	10,845	11.9%
G2 Retail salespersons and sales clerks	20,256	17,930	14,545	39.3%
G3 Cashiers	7,814	7,025	5,650	38.3%
G4 Chefs and cooks	3,833	3,655	3,010	27.4%
G5 Occupations in food and beverage service	4,410	3,920	3,935	12.1%
G6 Occupations in protective services	4,653	4,255	4,085	13.9%
G7 Occupations in travel and accommodation, including attendants in recreation and sport	3,743	3,385	3,475	7.7%
G8 Child care and home support workers	4,272	3,945	3,850	11.0%
G9 Sales and service occupations, n.e.c.	26,758	23,230	21,215	26.1%

Source: Manifold Data Mining, 2009; Statistics Canada, Census of Population: 2001, 2006

Further to the review of service based occupation concentrations, specific occupations were examined by age group for the 2006 Census year. The intent of this examination was to identify service based occupations with higher future retirement proportions measured as the percentage of the total number of people in an occupation with an age 45-64 years and higher retirement concentrations measured as the total number of people age 45-64 years. As Figure 29 indicates, occupations with the highest proportion of the labour force between 45-64 years of age were:

- Real estate agents and salespersons (58.8% or 1,190 residents)
- Janitors, caretakers and building superintendents (53.9% or 2,095 residents)

- Light duty cleaners (52.4% or 1,900 residents)
- Mail, postal and related clerks (52.4% or 885 residents) and
- Legal secretaries (52.3% or 335 residents).

Comparatively, the proportion of people between the ages of 45-64 years employed in service based occupations was 33.0% (49,825 residents).

As Figure 30 indicates, occupations with the highest concentration of the labour force between 45-64 years of age were:

- Retail salespersons and sales clerks (4,665 residents or 26.0%)
- General office clerks (2,770 residents or 37.9%)
- Administrative officers (2,105 residents or 46.0%)
- Janitors, caretakers and building superintendents (2,095 residents or 53.9%)
- Accounting and related clerks (2,020 residents or 35.5%).

Janitors, caretakers and building superintendents along with light duty cleaners and administrative officers were identified as having high concentrations and high proportions of people employed in these occupations between the ages of 45-64 years.

Figure 30: Top 10 Service-Based Occupations by % of Resident Labour Force 45-64 years of age, 2006

No.	Occupation	Total 45-64 years	% of Occupation Group
1	G132 Real estate agents and salespersons	1,190	58.8%
2	G933 Janitors, caretakers and building superintendents	2,095	53.9%
3	G931 Light duty cleaners	1,900	52.4%
4	B561 Mail, postal and related clerks	885	52.4%
5	B212 Legal secretaries	335	52.3%
6	D312 Nurse aides and orderlies	1,000	52.2%
7	B562 Letter carriers	360	51.8%
8	B314 Property administrators	500	46.1%
9	B311 Administrative officers	2,105	46.0%
10	B318 Immigration, unemployment insurance and revenue officers	310	45.9%
	Service Based Occupations	49,825	33.0%
	Occupations	134,735	36.4%

Source: Statistics Canada, Custom Tabulations, Census, 2006.

Figure 31: Top 10 Service-Based Occupations by Total Resident Labour Force 45-64 years of age, 2006

No.	Occupation	Total 45-64 years	% of Occupation Group
1	G211 Retail salespersons and sales clerks	4,665	26.0%
2	B510 General office clerks	2,770	37.9%
3	B311 Administrative officers	2,105	46.0%
4	G933 Janitors, caretakers and building superintendents	2,095	53.9%
5	B531 Accounting and related clerks	2,020	35.5%
6	G931 Light duty cleaners	1,900	52.4%
7	B553 Customer service, information and related clerks	1,895	29.3%
8	G111 Sales representatives, wholesale trade (non-technical)	1,780	38.2%
9	B211 Secretaries (except legal and medical)	1,750	45.8%
10	B571 Shippers and receivers	1,565	34.2%
	Service Based Occupations	49,825	33.0%
	Occupations	134,735	36.4%

Source: Statistics Canada, Custom Tabulations, Census, 2006.

Figure 31 demonstrates the role of manufacturing and related occupations in the Mississauga economy. These occupations comprised 21.2% of all occupations in the City in 2009 (86,372 workers), and the category grew by an estimated 15.1% between 2001 and 2009 (11,302 workers). The specific occupations that showed the highest rate of growth during that period are transportation equipment operators and related workers, excluding labourers (40.5%), construction trades occupations (35.7%), and trades helpers, construction and transportation labourers and related occupations (31.3%).

It is well-known that manufacturing as an industry sector has been declining in both Ontario and North America as a result of broader structural shifts in these economies. Mississauga's continued strong performance in this sector is thus particularly notable, growing at a strong rate (15.1%) between 2001 and 2009 at a time when many other communities are losing jobs and workers in manufacturing industries. This suggests a diverse and flexible manufacturing environment in Mississauga that is somewhat shielded from adverse external trends that are impacting supply chain dynamics. It also suggests that Mississauga's manufacturing base is largely concentrated in advanced manufacturing or technology base manufacturing which may have been better positioned to weather a downturn in the provincial and global economy. However, manufacturing occupations often require less education than service-based or creative occupations, and are less well remunerated than creative occupations as well. While it is important to retain a range of employment options in the City moving forward, the growing rates of post-secondary education and knowledge-based employment suggest that manufacturing may also be facing a workforce shortage in the years to come.

Figure 32: Manufacturing and Related Occupations, City of Mississauga, 2001, 2006 and 2009

	Mississauga			
Occupations (NOC-S)	2009	2006	2001	2001-2009 % Growth
All occupations	408,114	369,730	343,850	18.7%
All Manufacturing-related occupations	86,372	78,805	75,070	15.1%
H0 Contractors and supervisors in trades and transportation	2,244	2,190	2,340	-4.1%
H1 Construction trades	7,386	6,610	5,445	35.7%
H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations	3,188	3,000	2,795	14.1%
H3 Machinists, metal forming, shaping and erecting occupations	4,781	4,405	4,655	2.7%
H4 Mechanics	7,089	6,525	6,620	7.1%
H5 Other trades, n.e.c.	2,459	2,440	2,380	3.3%
H6 Heavy equipment and crane operators, including drillers	639	575	675	-5.4%
H7 Transportation equipment operators and related workers, excluding labourers	14,607	12,690	10,395	40.5%
H8 Trades helpers, construction and transportation labourers and related occupations	11,326	10,070	8,625	31.3%
I2 Primary production labourers	1,538	1,720	1,255	22.6%
J0 Supervisors in manufacturing	1,847	1,755	2,425	-23.8%
J1 Machine operators in manufacturing	10,930	10,020	11,220	-2.6%
J2 Assemblers in manufacturing	9,662	8,925	8,505	13.6%
J3 Labourers in processing, manufacturing and utilities	8,675	7,880	7,735	12.2%

Source: Manifold Data Mining, 2009; Statistics Canada, Census of Population: 2001, 2006

Further to the review of manufacturing and related occupation concentrations, specific occupations were examined by age group for the 2006 Census year. The intent of this examination was also to identify occupations with higher future retirement proportions measured as the percentage of the total number of people in an occupation with an age 45-64 years and higher retirement concentrations measured as the total number of people age 45-64 years. As Figure 32 indicates, occupations with the highest proportion of the labour force between 45-64 years of age were:

- Construction millwrights and industrial mechanics (61.8% or 840 residents)
- Industrial electricians (59.7% or 460 residents)
- Aircraft mechanics and aircraft inspectors (54.7% or 260 residents)
- Paper converting machine operators (54.7% or 260 residents) and
- Assemblers and inspectors, electrical appliance, apparatus and equipment manufacturing (54.5% or 365 residents).

Comparatively, the proportion of people between the ages of 45-64 years employed in manufacturing and related occupations was 40.4% (31,820 residents). This proportion is larger than both creative occupations (38.3%) and service based occupations (33.0%)

Figure 33: Top 10 Manufacturing and Related Occupations by % of Resident Labour Force 45-64 years of age, 2006

No.	Occupation	Total 45-64 years	% of Occupation Group
1	H411 Construction millwrights and industrial mechanics (except textile)	840	61.8%
2	H212 Industrial electricians	460	59.7%
3	H415 Aircraft mechanics and aircraft inspectors	260	54.7%
4	J145 Paper converting machine operators	260	54.7%
5	J214 Assemblers and inspectors, electrical appliance, apparatus and equipment manufacturing	365	54.5%
6	J171 Process control and machine operators, food and beverage processing	465	53.1%
7	J213 Electronics assemblers, fabricators, inspectors and testers	655	51.2%
8	H311 Machinists and machining and tooling inspectors	730	49.3%
9	H712 Bus drivers and subway and other transit operators	860	46.0%
10	J161 Sewing machine operators	290	45.3%
	Manufacturing and Related Occupations	31,820	40.4%
	Occupations	134,735	36.4%

Source: Statistics Canada, Custom Tabulations, Census, 2006.

As Figure 33 indicates, occupations with the highest concentration of the labour force between 45-64 years of age were:

- Truck drivers (2,680 residents or 41.7%)
- Material handlers (2,190 residents or 31.6%)
- Other labourers in processing, manufacturing and utilities (1,355 residents or 38.0%)
- Motor vehicle assemblers, inspectors and testers (1,115 residents or 39.1%)
- Motor vehicle mechanics, technicians and mechanical repairers (910 residents or 32.4%).

Construction millwrights and industrial mechanics and bus drivers, subway and other transit operators were identified as both having high concentrations and high proportions of people employed in these occupations between the ages of 45-64 years.

Figure 34: Top 10 Manufacturing and Related Occupations by Total Resident Labour Force 45-64 years of age, 2006

No.	Occupation	Total 45-64 years	% of Occupation Group
1	H711 Truck drivers	2,680	41.7%
2	H812 Material handlers	2,190	31.6%
3	J319 Other labourers in processing, manufacturing and utilities	1,355	38.0%
4	J212 Motor vehicle assemblers, inspectors and testers	1,115	39.1%
5	H421 Motor vehicle mechanics, technicians and mechanical repairers	910	32.4%
6	J317 Labourers in food, beverage and tobacco processing	870	36.9%
7	H712 Bus drivers and subway and other transit operators	860	46.0%
8	H411 Construction millwrights and industrial mechanics (except textile)	840	61.8%
9	H714 Delivery drivers	800	37.7%
10	H821 Construction trades helpers and labourers	775	27.9%
	Manufacturing and Related Occupations	31,820	40.4%
	Occupations	134,735	36.4%

Source: Statistics Canada, Custom Tabulations, Census, 2006.

Figure 34 compares the rates of growth in Mississauga of the three major occupational categories discussed: creative occupations, service-based and manufacturing-related occupations[10]. Creative occupations, of high importance in the Mississauga economy, show estimated growth of 14.5% between 2001 and 2009. However, service-based occupations are a more prominent driver of growth over the same time period, having grown by 23.7% or 32,476 jobs. Manufacturing and related occupations – though it added fewer numbers of absolute jobs than creative occupations – also showed a higher rate of growth between 2001 and 2009, at 15.1%. Similar trends hold for the more recent period of 2006 to 2009. These figures, understood in the context of the other information provided about structural trends, incomes, commuting and industry patterns, suggest the need to closely evaluate the proper mix of jobs that will drive employment growth and community prosperity in the coming years.

Figure 35: Creative, Service-Based & Manufacturing Occupations, City of Mississauga, 2001, 2006 and 2009

	2009	2006	2001	2001-2009 % Growth	2006-2009 % Growth
Creative Occupations	143,560	132,585	125,375	14.5%	8.3%
Service-Based Occupations	169,696	150,875	137,220	23.7%	12.5%
Manufacturing and Related Occupations	86,372	78,805	75,070	15.1%	9.6%

Source: Manifold Data Mining, 2009; Statistics Canada, Census of Population: 2001, 2006

[10] The occupations included in each of these categories are in accordance with the class-of-work definitions from *Ontario in the Creative Age,* 2009. A full list of definitions can be found in Appendix 2.

1.5 Summary of Findings

The City of Mississauga has experienced rapid population growth in the last few decades – a trend that has not abated through 2009, and has outpaced that of the surrounding region and province. This growth has translated into similarly impressive labour force and job growth in the City. In fact, the industrial and occupational growth in Mississauga has been so robust that it is a significant importer of employment from surrounding jurisdictions, despite exporting a number of professional jobs to the City of Toronto.

It is clear that, in recent years, Mississauga has experienced pronounced economic, cultural and demographic shifts. The following findings summarize the key elements of the economic base analysis that will be relevant to crafting an Economic Development Strategy for the City of Mississauga.

- Mississauga's 2009 population is estimated at 727,102, making it the sixth-largest city in Canada. Its population is estimated to have grown 8.8% between 2006 and 2009. This growth has necessarily been accompanied by massive increases in commercial, residential and retail development and infrastructure provision in recent years.
- Mississauga's population will continue to grow; the *Growth Plan for the Greater Golden Horseshoe* projects that the City's population will reach 785,000 by 2031. Provisions must be made to accommodate rising numbers of people and jobs in denser areas.
- Much like the rest of the province, Mississauga's population is aging. The proportion of the population over the age of 45 rose from 31.7% in 2001 to 35.5% in 2006, and the City's *Growth Management Strategy* forecasts that 40% of Mississauga's population will be over the age of 55 by 2031. Though the City is also slightly younger than surrounding jurisdictions, this still suggests that plans must be made to better accommodate and service an aged population while also developing workforce and skill-replacement strategies to address potential labour force skill shortages in the coming years.
- Mississauga is one of the most diverse communities in Canada; 52.7% of its population is foreign born as of 2006. This is being increasingly driven by persons of visible minority status, which grew by 32.5% between 2001 and 2006 populations based largely on increases in the South Asian, Chinese, Black, Filipino, Arab, and Southeast Asian communities. Immigrants are expected to comprise an increasing percentage of population and labour force growth moving forward. As such, a key consideration for Mississauga is the provision of effective programs to ensure the effective integration of new immigrants into the local economy, particularly those with professional qualifications and advanced education. This will have significant impacts on the future competitiveness and prosperity of the Mississauga economy.
- Mississauga's residents have high rates of educational attainment, outperforming the GTA and Ontario. In 67.2% of Mississauga's population had some form of post-secondary education, while those with a university certificate, diploma or degree accounted for 41.0% of the population. Degrees were concentrated in business, management and public administration and architecture, engineering and related technologies fields.
- The average household income in Mississauga $88,162 sits between those of Ontario and the GTA, which suggests relatively even purchasing power and income distribution throughout the region.
- Mississauga's labour force grew by 10.2% between 2006 and 2009, adding more persons than the entire period between 2001 and 2006. The highest proportion of its labour force is employed in manufacturing, retail trade, and professional, scientific and technical services. The industries showing the greatest growth between 2006 and 2009 were health care and social assistance, construction, arts, entertainment and recreation, real estate rental and leasing, and finance and insurance.

- The unemployment rate in Mississauga has increased to 8.5% in 2009 from 5.3% in 2001; however, it still performs better than the provincial unemployment rate which stood at 9.0% in 2009.
- By both absolute numbers and percentage growth between 2001 and 2009, the employment composition in Mississauga is driven by four main occupational categories: business, finance and administration occupations (95,140 in 2009); sales and service occupations (91,068 in 2009); trades, transport and equipment operators and related occupations (53,720 in 2009), and management occupations (41,140 in 2006, 45,058 in 2009). These patterns largely mirror the educational composition of the labour force and the industrial composition of the economy, as well as broader shifts towards service-based work throughout the provincial economy.
- In total there are 181,175 residents who both live and work in the City, amounting to 51.8% of the employed labour force. Mississauga exports more workers to Toronto, than any other area, accounting for 24.3% of the Mississauga workforce. These exported jobs are primarily in construction, health care and social assistance, finance and insurance, arts, entertainment and recreation, and public administration. Yet the City of Mississauga still has 31,480 more jobs than persons in its resident labour force, importing jobs from Toronto and surrounding jurisdictions in wholesale trade, transportation and warehousing and manufacturing. Mississauga should work towards restoring a greater work-live balance, specifically by attracting more employment opportunities for workers in those high-value sectors that commute to work outside of the city.
- Workers employed in creative occupations comprised 35.2% of the City's workforce in 2009, a growth of 14.5% from 2001. This is largely on par with the province as a whole. The creative occupations with the highest rates of growth between 2001 and 2009 were judges, lawyers, psychologists, social workers, ministers of religion and policy and program officers, followed by professional arts and culture occupations, and teachers and professors.
- Though creative occupations are achieving greater importance with the rise of knowledge-based industries and professional services in advanced regional economies, their estimated growth rate in the City between 2001 and 2009 (14.5%) lagged that of both service-based (23.7%) and manufacturing related (15.1%) occupations.

2 INDUSTRY SECTOR ANALYSIS

2.1 Location Quotient Analysis

In order to determine the level and degree of business and industrial specialization, thus the economic diversity that may be developing in the City of Mississauga, location quotients (LQs) have been calculated to identify and measure the concentration of industry/business activity by major sector and/or sub-sectors.

LQs are a commonly used tool in local/regional economic analysis. They assess the concentration of economic activities within a smaller area relative to the overarching region in which it resides. For the purposes of this study we have calculated LQs that compare the City of Mississauga's industry sector employment concentration relative to the Province of Ontario.

An LQ greater than 1.0 for a given sector indicates a local concentration of economic activity as compared to the overarching region (either Ontario or any other region) and may be an indication of competitive advantage with respect to the attraction of that industry sector. An LQ equal to 1.0 for a given sector suggests that the study area has the same concentration of economic activity as the overarching region. Finally, an LQ of less than 1.0 suggests that the community does not have a strong competitive advantage in that sector.

In theory, an industrial or business concentration that is greater than the overarching regional average may also represent the export base of the participating municipality (both in terms of products or services). Businesses that make up this export base may have chosen to locate in the community due to certain local or regional competitive advantages. These competitive advantages can be used to attract additional investment, in the same or complementary industries.

Based on this form of analysis the industry concentration in the City of Mississauga relative to Ontario reveals the highest concentration of labour in the following sectors in 2006:

- Wholesale Trade (LQ 1.63)
- Transportation and Warehousing (LQ 1.55)
- Management of Companies and Enterprises (LQ 1.50)
- Finance and Insurance (LQ 1.43) and
- Professional, Scientific and Technical Services (LQ 1.23)

Four industries exhibit LQs within the 'high' range, with values in excess of 1.25, (see Figure 35). This labour force measurement is the number of residents in the labour force, but who may not be employed in the City.

While the high LQs in the City's Wholesale Trade and Transportation and Warehousing industries can be directly attributed to the presence of the Lester B. Pearson International Airport, CN Rail Intermodal Terminal in Brampton and the developed 400 highway series network. This performance may be reflective of a logistics cluster in the City that is comprised of transportation companies, freight forwarders, and wholesalers. Tracking labour force activity in this sector however, only tells part of the story, as specialized businesses provide a variety of logistics support services.

For the wholesale trade and transportation and warehousing industries, there is significant labour force concentration in:

- Home entertainment equipment and household appliance wholesalers (LQ 3.06)
- Freight transportation arrangement (LQ 2.92)

- Warehousing and storage (LQ 2.56)
- Scheduled air transportation (LQ 2.49)
- Paper, paper product and disposable plastic product wholesalers (LQ 2.32)
- Couriers (LQ 2.21)
- Support activities for air transportation (LQ 2.17) and
- Pharmaceuticals, toiletries, cosmetics and sundries wholesalers (LQ 2.17).

Nearly every one of these industries listed experienced labour force growth during the five year (2001-2006) time period. This finding suggests a local competitive advantage for being located close to the international airport and CN Rail intermodal terminal.

Figure 36: Location Quotients for 2-Digit NAICS Industries, Mississauga Labour Force, 2001 and 2006

LQ Classification	2006	2001
High	Wholesale trade (1.63) Transportation and warehousing (1.55) Management of companies and enterprises (1.50) Finance and insurance (1.43)	Wholesale trade (1.70) Transportation and warehousing (1.51) Finance and insurance (1.33) Real estate and rental and leasing (1.25)
Average	Professional, scientific and technical services (1.23) Real estate and rental and leasing (1.14) Manufacturing (1.10) Information and cultural industries (1.08) Administrative and support, waste management and remediation services (1.08) Retail trade (1.00) Accomodation and food services (0.89) Other services (except public administration) (0.86) Construction (0.84) Health care and social assistance (0.76) Educational services (0.75)	Professional, scientific and technical services (1.20) Management of companies and enterprises (1.18) Information and cultural industries (1.13) Manufacturing (1.09) Administrative and support, waste management and remediation services (1.07) Retail trade (1.00) Other services (except public administration) (0.89) Accomodation and food services (0.85) Construction (0.82) Educational services (0.77) Health care and social assistance (0.76)
Low	Utilities (0.67) Arts, entertainment and recreation (0.65) Public administration (0.53) Mining and oil and gas extraction (0.47) Agriculture, forestry, fishing and hunting (0.11)	Utilities (0.68) Arts, entertainment and recreation (0.62) Public administration (0.60) Mining and oil and gas extraction (0.27) Agriculture, forestry, fishing and hunting (0.09)

Source: Statistics Canada, 2001 and 2006 Census of Population using the Ontario Ministry of Agriculture, Food and Rural Affairs REDDI Labour Flow Analysis Tool.[11]

There is labour force concentration in the Finance and Insurance industry. This is driven by the:

- Activities related to credit intermediation (LQ 1.84)
- Non-depository credit intermediation (LQ 1.59)

[11] Industries in the 'high' range are defined as those having LQs over 1.25; 'average' for LQs between 0.75 and 1.25; and 'low' for those under 0.75.

- Other funds and financial vehicles (LQ 1.57) and
- Depository credit intermediation (LQ 1.54) sub-industries.[12]

The high LQ sub-industries for the Professional, Scientific and Technical Services industry include:

- Computer systems design and related services (LQ 1.50)
- Architectural, engineering and related services (LQ 1.33) and
- Management, scientific and technical consulting services (LQ 1.27).

Overall, the LQ analysis suggests that the City`s growth has been driven by logistics, finance and insurance and design related industries. The remaining industries have average or low labour force concentration relative to the Province.

Figure 36 provides further local economic analysis for the performance of the City`s employment base. These results suggest a strong and consistent concentration of jobs in Transportation and Warehousing and Wholesale Trade over the five year time period. The LQs in the remaining industries were classified as either average or low. The five industries with the highest LQs in 2006 were:

- Transportation and Warehousing (LQ 2.76)
- Wholesale Trade (LQ 2.39)
- Management of Companies and Enterprises (LQ 1.23)
- Professional, Scientific and Technical Services (LQ 1.20) and
- Manufacturing (LQ 1.16).

Employment measures the number of people employed in the City, but who may not be residents of the City. Clearly, industries related to logistics are dominant employment industries. Any further economic development efforts will need to address developing Mississauga as a logistics centre.

For the wholesale trade and transportation and warehousing industries, there were 35 of the 55 sub-industries with high LQs in 2006. The sub-industries with the highest LQs were:

- Scheduled air transportation (LW 9.34)
- Support activities for air transportation (LQ 6.60)
- Freight transportation arrangement (LQ 5.67)
- Home entertainment equipment and household appliance wholesalers (LQ 4.71)
- Paper, paper product and disposable plastics product wholesalers (LQ 3.91)
- Couriers (LQ 3.84)
- Pharmaceuticals, toiletries, cosmetics and sundries wholesalers (LQ 3.84)
- Other machinery, equipment and supplies wholesalers (LQ 3.70)
- Non-scheduled air transportation (LQ 3.67) and
- Warehousing and storage (LQ 3.03).

With the exception of scheduled and non-scheduled air transportation industries, the remaining industries listed above experienced employment growth during the five year time period. This finding indicates that although there may not be employment growth at the international airport, there is employment growth in the support businesses that use the airport's services.

[12] LQs based on 2006 labour force data.

Figure 37: Location Quotients for 2-Digit NAICS Industries, Mississauga Employment Base, 2001 and 2006

LQ Classification	2006	2001
High	Transportation and warehousing (2.76)	Transportation and warehousing (2.85)
	Wholesale trade (2.39)	Wholesale trade (2.56)
Average	Management of companies and enterprises (1.23)	Real estate and rental and leasing (1.17)
	Professional, scientific and technical services (1.20)	Manufacturing (1.16)
	Administrative and support, waste management and remediation services (1.19)	Administrative and support, waste management and remediation services (1.15)
	Manufacturing (1.16)	Professional, scientific and technical services (1.12)
	Real estate and rental and leasing (1.08)	Finance and insurance (0.88)
	Finance and insurance (1.07)	Retail trade (0.87)
	Information and cultural industries (0.89)	Construction (0.82)
	Retail trade (0.86)	Other services (except public administration) (0.81)
	Construction (0.85)	Information and cultural industries (0.78)
	Other services (except public administration) (0.79)	Management of companies and enterprises (0.76)
Low	Accommodation and food service (0.73)	Accommodation and food service (0.73)
	Educational services (0.67)	Educational services (0.70)
	Mining and oil and gas extraction (0.65)	Utilities (0.53)
	Health care and social assistance (0.57)	Health care and social assistance (0.53)
	Utilities (0.52)	Public administration (0.40)
	Public administration (0.38)	Arts, entertainment and recreation (0.39)
	Arts, entertainment and recreation (0.37)	Mining and oil and gas extraction (0.34)
	Agriculture, forestry, fishing and hunting (0.09)	Agriculture, forestry, fishing and hunting (0.07)

For the Professional, Scientific and Technical Services industry, there was high employment concentration in:

- Scientific research and development services (LQ 1.79)
- Computer systems design and related services (LQ 1.66) and
- Architectural, engineering and related services (LQ 1.52).

The people employed in these industries are typically highly educated with specialized knowledge and skill sets and earn above average incomes.

For the Manufacturing industry, there was high employment concentration in many sub-industries. The ones with the highest LQs in 2006 were:

- Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing (LQ 3.53)
- Pharmaceutical and medicine manufacturing (LQ 2.91)
- Aerospace product and parts manufacturing (LQ 2.67)
- Household appliance manufacturing (LQ 2.66) and
- Navigational, measuring, medical and control instruments manufacturing (LQ 2.44).

Despite the high LQs in the five listed manufacturing industries, there were employment losses from 2001 to 2006. This finding suggests that although manufacturing is an important part of the City's economy, it is not an employment driver.

The next section will build on this analysis by assessing the business development patterns that have occurred in the City of Mississauga.

2.2 Business Patterns Assessment

Statistics Canada's Canadian Business Patterns Data provides a record of business establishments by industry and size. This data is collected from the Canada Revenue Agency (CRA). The business data collected for the City of Mississauga includes all local businesses that meet at least one of the three following criteria:

- Have an employee workforce for which they submit payroll remittances to CRA; or
- Have a minimum of $30,000 in annual sales revenue; or
- Are incorporated under a federal or provincial act and have filed a federal corporate income tax form within the past three years.

The Canadian Business Patterns Data records business counts by "Total", "Indeterminate" and "Subtotal" categories. The establishments in the "Indeterminate" category include the self-employed (i.e. those who do not maintain an employee payroll, but may have a workforce consisting of contracted workers, family members or business owners). It should be noted that the Canadian Business Patterns Data uses the CRA as a primary resource in establishment counts; therefore, businesses without a business number or indicating annual sales less than $30,000 are not included. The population of these small, unincorporated businesses is thought to be in the range of 600,000 in all of Canada.

2.2.1 Key Business Characteristics

A detailed review of the business patterns data for the period between 2003 and 2009 for the City of Mississauga provides an understanding of the growth or decline of businesses over the 6-year period and the key characteristics that define Mississauga's business community. When combined with the broader industry analysis, the business patterns information will assist in understanding the key industry opportunities for the City of Mississauga.

Understanding the trends in business growth in the community provides valuable insight into the shape that future growth and investment in the city might take. It also provides an indication of where the priorities of the city should lie, especially with regards to program development and delivery, and strategic planning.

In terms of concentration, the following sectors (identified in Figure 37) exhibit the highest proportion of business establishments in the City of Mississauga in December 2009:

- Professional, Scientific & Technical Services (9,419 businesses, 17.2% of total)
- Construction (5,751 businesses, 10.6% of total)
- Transportation and Warehousing (5,075 businesses, 9.3% of total)
- Real Estate and Rental and Leasing (4,679 businesses, 8.6% of total)

However, when the indeterminate category (self-employed) is removed, the four sectors with the highest business establishment proportions are:

- Professional, Scientific and Technical Services (3,334 businesses, 14.2% of subtotal)

- Wholesale Trade (2,817 businesses, 12.0% of subtotal)
- Other Services (except public administration)[13] (2,602 businesses, 11.1% of subtotal)
- Retail Trade (2,366 businesses, 10.1% of subtotal)

It is also valuable to examine the growth in businesses by industry, so as to better understand areas of emerging opportunity and importance to the Mississauga economy. Figure 37 provides an indication of the growth in business establishments by two digit NAICS codes from 2003 to 2009. Those categories that have experienced the highest rate of growth (exclusive of the self-employed, and those industries with 25 or fewer establishments) include:

- Other Services (except Public Administration) (65.4% growth)
- Transportation and Warehousing (57.4% growth)
- Health Care and Social Assistance (32.0% growth)
- Educational Services (22.6% growth)
- Information and Cultural Industries (22.4% growth)

Figure 38: Number of Business Establishments by Industry, Mississauga, 2003 and 2009

Time Period	December 2003			December 2009			2003 - 2009	
Industry (NAICS)	Total	Indeterminate	Subtotal	Total	Indeterminate	Subtotal	% Increase Total	% Increase Subtotal
All Industries	49,348	29,342	20,006	54,497	30,957	23,540	10.4%	17.7%
11 Agriculture, forestry, fishing and hunting	119	71	48	121	79	42	1.7%	-12.5%
21 Mining and oil and gas extraction	37	24	13	23	12	11	-37.8%	-15.4%
22 Utilities	17	9	8	29	13	16	70.6%	100.0%
23 Construction	5,353	3,818	1,535	5,751	3,971	1,780	7.4%	16.0%
31-33 Manufacturing	3,544	1,245	2,299	3,060	1,028	2,032	-13.7%	-11.6%
41 Wholesale trade	4,951	2,066	2,885	4,578	1,761	2,817	-7.5%	-2.4%
44-45 Retail trade	4,136	2,047	2,089	4,120	1,754	2,366	-0.4%	13.3%
48-49 Transportation and warehousing	3,671	2,582	1,089	5,075	3,361	1,714	38.2%	57.4%
51 Information and cultural industries	626	389	237	698	408	290	11.5%	22.4%
52 Finance and insurance	2,102	1,479	623	2,623	1,877	746	24.8%	19.7%
53 Real estate and rental and leasing	3,577	2,869	708	4,679	3,821	858	30.8%	21.2%
54 Professional, scientific and technical services	8,786	6,043	2,743	9,419	6,085	3,334	7.2%	21.5%
55 Management of companies and enterprises	1,942	1,607	335	2,283	1,885	398	17.6%	18.8%
56 Administrative and support, waste management and remediation services	2,826	1,716	1,110	2,878	1,607	1,271	1.8%	14.5%
61 Educational services	436	246	190	547	314	233	25.5%	22.6%
62 Health care and social assistance	1,427	240	1,187	1,974	407	1,567	38.3%	32.0%
71 Arts, entertainment and recreation	566	390	176	533	341	192	-5.8%	9.1%
72 Accommodation and food services	2,099	944	1,155	1,846	580	1,266	-12.1%	9.6%
81 Other services (except public administration)	3,130	1,557	1,573	4,246	1,644	2,602	35.7%	65.4%
91 Public administration	3	0	3	14	9	5	366.7%	66.7%

Source: Canadian Business Patterns Data, 2003 and 2009

Overall, the number of business establishments (reporting employees) in the City of Mississauga increased by 17.7% from 20,006 in 2003 to 23,450 in 2009. Also notable is the moderate increase of 4.3% in the number of indeterminate or self-employed establishments in the City during the same time period. The strong growth associated with self-employment was concentrated in Real Estate and Rental and Leasing sector (increase of 952 firms), followed by Transportation and Warehousing firms (increase of 779 firms) and Finance and Insurance firms (increase of 398 firms).

Overall, business establishments in Mississauga are overwhelmingly characterized by small companies and enterprises that employ less than 10 people. In 2009, excluding the businesses consisting of the self-employed – which themselves are small enterprises – there were 12,479 businesses, or 53.2% of the

[13] Other Services comprises establishments, not classified to any other sector, primarily engaged in repairing, or performing general or routine maintenance, on motor vehicles, machinery, equipment and other products to ensure that they work efficiently; providing personal care services, funeral services, laundry services and other services to individuals, such as pet care services and photo finishing services; organizing and promoting religious activities; supporting various causes through grant-making, advocating (promoting) various social and political causes, and promoting and defending the interests of their members.

subtotal, that employ 1-4 people. An additional 4,190 businesses, or 17.8% of the subtotal, employ 5-9 people. The five industries with the highest number of establishments employing between 1 and 9 people were:

- Professional, scientific and technical services (2,840 businesses)
- Other services (2,329 businesses)
- Retail trade (1,687 businesses)
- Wholesale trade (1,628 businesses)
- Construction (1,402 businesses)

In supporting future growth and investment in Mississauga, it is essential to understand and support the needs of these small businesses. This is particularly relevant in light of existing research and trends which suggest that an overwhelming percentage of new business investment in a community is derived from companies already located there.

Figure 39: Number of Business Establishments by Industry and Size, Mississauga, 2009

Time Period, December 2009		Employee Size Range							
Industry (NAICS)	Subtotal	1-4	5-9	10-19	20-49	50-99	100-199	200-499	500 +
All Industries	23,540	12,749	4,190	2,772	2,158	869	465	239	98
11 Agriculture, forestry, fishing and hunting	42	23	7	8	3	1	0	0	0
21 Mining and oil and gas extraction	11	4	3	3	0	0	0	0	1
22 Utilities	16	4	1	0	3	5	0	3	0
23 Construction	1,780	1,065	337	188	124	40	16	9	1
31-33 Manufacturing	2,032	626	422	351	331	149	99	43	11
41 Wholesale trade	2,817	1,053	575	509	402	140	82	43	13
44-45 Retail trade	2,366	1,056	631	358	174	79	37	24	7
48-49 Transportation and warehousing	1,714	1,122	198	129	150	52	33	21	9
51 Information and cultural industries	290	161	37	24	40	10	11	5	2
52 Finance and insurance	746	440	113	56	82	18	20	9	8
53 Real estate and rental and leasing	858	523	127	90	67	25	14	8	4
54 Professional, scientific and technical services	3,334	2,485	355	216	164	61	26	20	7
55 Management of companies and enterprises	398	164	44	45	64	40	21	11	9
56 Administrative and support, waste management and remediation services	1,271	613	238	152	121	73	43	23	8
61 Educational services	233	102	50	37	29	8	4	1	2
62 Health care and social assistance	1,567	838	361	176	122	31	22	12	5
71 Arts, entertainment and recreation	192	81	33	44	19	10	5	0	0
72 Accommodation and food services	1,266	435	281	226	193	108	15	3	5
81 Other services (except public administration)	2,602	1,952	377	160	69	19	17	3	5
91 Public administration	5	2	0	0	1	0	0	1	1

Source: Canadian Business Patterns Data, 2009

Conversely, large companies in Mississauga – those that employ over 100 people – have a much different sector composition than small business concentrations. Naturally, different strategies must be employed to support those sectors, such as manufacturing, where a larger share of employment is concentrated in these larger firms. The industries with the highest number of establishments in this category are:

- Manufacturing (153 businesses)
- Wholesale Trade (138 businesses)
- Administrative and Support, Waste Management, & Remediation Services (74 businesses)
- Retail Trade (68 businesses)
- Transportation and Warehousing (63 businesses)

2.2.2 Creative Businesses and Enterprises

Using the same business patterns data, an analysis was undertaken to identify the creative establishments present within the Mississauga economy. In addition to the discussion of creative occupations and industries conducted in sections 4.4 and 4.5 of this report, this analysis helps to measure the impact of the creative economy on the City of Mississauga.

Relying on our review of secondary sources, creative businesses and enterprises are said to include the following:

- Advertising
- Architecture
- Artists
- Business Consulting
- Design
- Education
- Engineering
- Film
- Games
- Heritage
- Marketing
- Museums
- Music
- Performing Arts
- Photographic Services
- Public Relations
- Publishing
- Radio + Television
- Web + Software

The number of creative businesses in Mississauga increased from 8,342 in December 2003 to 8,473 in June 2009 (1.6% growth over six years). As shown in Figure 39, the largest number of creative businesses in 2009 are in web & software (3322 or 39.2% of all creative businesses), business consulting (2022 or 23.9%) and engineering (1178 or 13.9%). The highest rates of business growth during the same six year period, excluding those industries with less than 25 establishments, were in education, (17.1%), web & software (14.9%), engineering (10.1%) and design services (9.0%).

Conversely, many creative industries experienced substantial declines in business establishments between 2003 and 2009. In percentage terms, the greatest losses were felt in gaming (-33.8%), architecture (-19.8%), marketing (-16.7%) and business consulting (-14.4%). These trends, coupled with modest creative business growth (1.6%) especially as compared to overall business growth in Mississauga of 17.7%, suggests that creative businesses have had a more reserved impact on the overall economy over the six-year period.

Figure 40: Creative Business Establishments, Mississauga, 2003 and 2009

	Number of businesses			% of total creative businesses		
	2003	2009	% change	2003	2009	% change
Advertising	400	350	-12.5%	4.8%	4.1%	-13.9%
Architecture	111	89	-19.8%	1.3%	1.1%	-21.1%
Artists	162	163	0.6%	1.9%	1.9%	-0.9%
Business Consulting	2363	2022	-14.4%	28.3%	23.9%	-15.8%
Design	412	449	9.0%	4.9%	5.3%	7.3%
Education	146	171	17.1%	1.8%	2.0%	15.3%
Engineering	1070	1178	10.1%	12.8%	13.9%	8.4%
Film	224	213	-4.9%	2.7%	2.5%	-6.4%
Games	68	45	-33.8%	0.8%	0.5%	-34.8%
Heritage	5	2	-60.0%	0.1%	0.0%	-60.6%
Marketing	54	45	-16.7%	0.6%	0.5%	-18.0%
Museums	42	42	0.0%	0.5%	0.5%	-1.5%
Music	32	30	-6.3%	0.4%	0.4%	-7.7%
Performing Arts	115	102	-11.3%	1.4%	1.2%	-12.7%
Photographic Services	80	77	-3.8%	1.0%	0.9%	-5.2%
Public Relations	28	28	0.0%	0.3%	0.3%	-1.5%
Publishing	127	122	-3.9%	1.5%	1.4%	-5.4%
Radio & Television	13	23	76.9%	0.2%	0.3%	74.2%
Web & Software	2890	3322	14.9%	34.6%	39.2%	13.2%

Source: Canadian Business Patterns Data, 2003 and 2009

The LQ analysis and business patterns assessment indicates a clear concentration of logistics and support activities, specialized, professional design services and finance and insurance expertise. A further analysis needs examine the dynamics of these types of industries, which the next section tries to achieve.

3 TARGETED INDUSTRY ANALYSIS

Building on the results of the economic base analysis and industry sector analysis five targeted sector profiles have been developed that will assist the City in its investment attraction and retention efforts. The information in each profile reflects the range of questions and concerns that business and investors would typically consider when deciding to locate or re-invest in a community and takes into account regional, national and international trends. The profiles also reflect the relevance of the local and regional supply chain, capabilities of the local workforce and key accomplishments within that sector.

This review addressed current sector trends and identified local companies, educational institutions and programs, research and development (R&D) activities and business and professional support. The review also identified the City's competitive advantages and disadvantages for attracting new investment and the City's competing locations for investment. For further detailed information regarding the sector asset review, refer to the individual sector analyses in Section 6.2 below.

The review drew on previous sector studies undertaken by the City of Mississauga in Finance, Insurance and Real Estate (FIRE), Life Sciences, Advanced Manufacturing (Aerospace and Automotive) and Information & Communications Technologies (ICT). The intention was to build on this work, acknowledging the economic events of 2008, important sector trends and best practices. In doing so, we have made recommendations to harness sector strengths, and address barriers to growth. Our overall objective is to provide a foundation for sustainable long-term sector strategies.

3.1 Key Findings

3.1.1 Mississauga is a Technology Driven Economy

The ICT sector was found to have strong overlaps with multi-modal logistics, life sciences, advanced manufacturing technologies and financial services. This is a reflection of future trends where ICT is becoming more and more pervasive not only in business but in every day lives. This sector is instrumental in driving growth. With ICT as a focal point, the City of Mississauga can create a sustainable future not only for the target sectors but the whole local economy.

3.1.2 Mississauga has Strong Global Companies

Mississauga has a significant presence of global companies. Some have been identified as pivotal to multiple target sectors. By their inherent characteristics, they are multi-national with headquarters outside Canada. They are technology driven, research intensive and have strong corporate citizenship values. Examples of such companies are: Siemens; Accenture; Agilent Technologies; Oracle; GE; and Xerox.

The City should leverage its global company base with a view to disseminating further benefits to the City of Mississauga. Within the City, The Xerox Research Centre of Canada is an example. On a smaller scale, Medtronic's Bakken Education Center is a customer resource. In the GTA, Agilent created the Agilent Technologies Institute at Seneca College. This underlines their track record of collaboration with educational institutions and centres of excellence.

A world-class conference facility to showcase thought leadership in business and key growth sectors would help raise the profile of Mississauga on the international stage.

3.1.3 Business Networks need to be Developed

Additional business network should be developed to support the growth of start-ups and small and medium enterprises (SMEs). It should encompass such elements as R&D, commercialization, collaboration, funding and mentoring. There are some outstanding Canadian SME companies in

Mississauga that can be both a focal point and catalyst. Electric car battery manufacturer Electrovaya and UCIT Online, whose founder won the BDC Entrepreneur award, are examples.

Business association networks should be developed to reflect the strengths of the company base at both the sector level and for the business community as a whole.

3.1.4 Selective Investment Attraction for Target Sectors

Economic development activities should focus on filling key technology gaps. These are indicated in the individual target sector profiles.

3.1.5 Facilitate the Expansion of Institutional Research & Development and Programs

The UTM Academy of Medicine is a watershed in local R&D representation. An expansion of R&D activities at Sheridan and UTM would be beneficial in the other target sectors. The idea would be to complement rather than compete with the activities of institutions in the region. Leveraging strengths in the global company base can also facilitate R&D.

The City should work with the local education institutions to provide better program alignment with the target sectors. Computer science, mathematics and engineering are areas that need particular attention for the long-term sustainability of the target sectors and the economy as a whole.

3.2 Target Sector Profiles

The five target sector profiles are:

- Advanced Manufacturing Technologies
- Health & Life Sciences
- Finance and Insurance
- ICT and Design Services and
- Multimodal Logistics.

3.2.1 Advanced Manufacturing Technologies Sector

The City of Mississauga completed an advanced manufacturing study that focused on the automotive and aerospace clusters. The report states that Mississauga is located in the hub of automotive manufacturing. In addition, the Lester B. Pearson International Airport has been the biggest influence on the aerospace manufacturing industry. Companies that rely on a “just-in-time’ manufacturing requirement, choose Mississauga as a location. The report credits its lower business costs and developed road, rail, sea and air transportation infrastructure which allows for easy access to global markets as the reasons for attracting investment in the automotive and aerospace manufacturing industries.

The automotive and aerospace manufacturing industry and the entire manufacturing industry were deconstructed to determine the companies that are at the forefront of new advanced manufacturing technologies. The review covered:

- Advanced manufacturing materials such as composites, nanotechnology, photonics, etc.
- New advanced manufacturing technologies - robotics, electronics, automation, microelectromechanical systems (MEMS)
- Synergy with ICT in new advanced manufacturing processes – Product Life Cycle Management (PLM), Mobile to Machine (M2M) wireless, etc.

The objective was to build an inventory of the companies that are best placed to spearhead the sector, and so contribute to its long-term sustainability. Important sub-sectors were also considered in the light of current opportunities, specifically clean-tech and high end manufacturing verticals - nuclear and aerospace.

There are several trends that are shaping the advanced manufacturing technologies sector. There is a global realignment of manufacturing activity. Production is moving to lower cost regions as higher cost regions such as Canada, the United States, United Kingdom and Western Europe can no longer compete on price. Green manufacturing processes are being adopted by businesses to create greater efficiencies in production and operations. These processes are critical to the sustainability of Canadian manufacturing.

Some of the emerging technologies in manufacturing that are growing are microelectronic mechanical systems (MEMS), robotics, sensors, photonics, wireless applications, nanotechnology and composites.

Mississauga is home to major multinational advanced manufacturing technology companies. Three companies that are driving innovation are DuPont, GE and Siemens. Two organizations that are helping shape this sector are OCETA and the Canadian Manufacturers and Exporters. OCETA's mandate is to provide technical support and business services to Ontario-based entrepreneurs, start-up companies and small to medium-sized enterprises (SMEs) to support the commercialization of new environmental technologies and to accelerate the adoption of clean technology and environmentally sustainable solutions.[14] The Canadian Manufacturers and Exporters have a national mandate to promote the competitiveness of Canadian manufacturers and the success of Canada's goods and services exporters in markets around the world.[15]

Mississauga has great depth in the type of advanced manufacturers. Companies are represented in automotive, energy and clean technologies (clean-tech), aerospace, nuclear, printing, food processing and many others. The technologies that the local companies are developing include robotics, sensors, electronics, and semi-conductors. This local semi-conductor strength is a draw for solar photovoltaic companies.

The City's ability to capitalize on sector growth will depend on the regional resources (i.e. human and financial resources) of R&D and innovation networks.

The sector growth over the short-term (1-3 years) is in clean-tech, new manufacturing technologies and processes and composite materials. The associated challenges that may constrain growth over the short term are the potential of wind and solar products reaching market maturity and off-shoring of clean-tech manufacturing. Over the long term (4-7 years), as clean-tech incentives disappear, the viability and demand for the products may also disappear. In addition, there is a positive growth expectation if AECL is awarded contracts to build new nuclear energy facilities.

The key to developing this sector will be in creating synergies with regional engineering and environmental schools as well as sector-specific research institutes and incubation facilities. If these synergies can be created, Mississauga could become a recognized leader in sustainable high-end technology driven advanced manufacturing. Some of the local champion companies that are driving

[14] OCETA, http://www.oceta.on.ca/overview.htm, viewed on May 4th, 2010.
[15] Canadian Manufacturers and Exporters, http://www.cme-mec.ca/english/about-cme/about-us.html, viewed on May 6th, 2010.

growth in this sector are multi-national enterprises (MNEs) (examples include Siemens, GE, DuPont, Samsung, Agilent) and SMEs (examples include Electrovaya, Nytric, E3 Solutions).

The competitive advantages of this sector being located in Mississauga include the internationally recognized MNEs, ICT overlap in new processes, market access with multi-modal logistics companies, local business support networks and strong post-secondary educational programming in the GTA. The competitive disadvantages that can hold Mississauga back from developing this sector are the lack of a university incubation facility, lack of locally based research, less expensive places for business and locations that provide more enticing financial incentives.

Mississauga competes regionally, nationally and internationally for advanced manufacturing technologies investment. Regionally, the two leading centres competing for investment include Kitchener-Waterloo and Durham Region. Nationally, Mississauga competes for investment in leading centres that include Montreal and Quebec City. Internationally, Mississauga is competing against the southern U.S., which is driven by financial incentives, and the State of Texas.

Key Sector Consideration	**Advanced Manufacturing Technologies**
What are the key trends in this sector	Canadian Manufacturers and Exporters predict the following trends to be significant in 2010 and beyond. • Global realignment of manufacturing activity • Green manufacturing processes • Adoption of emerging technologies materials and processes are key to sustainability • Technologies - microelectronic Mechanical Systems (MEMS) Robotics, Sensors, Photonics, wireless • Materials - nanotechnology, composites, photonics • Processes – Product Life Cycle Management (PLM), RFID, Mobile to Machine (M2M) communications
Sub-Sector Assessment	**Overall** Pivotal multinationals (MNEs) DuPont, GE and Siemens span multiple technologies and materials. Siemens also covers processes. These companies drive innovation. MNE Anchor companies are present in most other sub-sets. Important interest groups– OCETA (cleantech commercialization facility) and Canadian Manufacturers and Exporters.
	Verticals **Auto sector** representation heavily vested in traditional manufacturing processes. Evidence of diversification into other sub-sectors such as Nuclear, aerospace and medical devices, and now wind energy. Electrovaya is a trailblazing company (ION batteries) that could spearhead initiatives around green cars. Key international anchor companies in **Energy and Cleantech** – GE, Siemens,

Key Sector Consideration	Advanced Manufacturing Technologies
	AECL, and Samsung. Broad based representation of SMEs **Aerospace and nuclear** are solid sectors. **Printing** spearheaded by Xerox Research Centre of Canada. Activities align well with ICT/Digital Media. Other companies focus on support to considerable corporate base rather than being forerunners in new technologies. **Food Processing –** investigate waste to energy opportunities
	Manufacturing Technology companies cover robotics, sensors, automation, electronics, semi-conductors. Complementary emerging areas MEMs and photonics are represented by Siemens, and EXFO Photonics (QC) Semi-conductor strength is a draw for Solar PV companies. Industrial or Rugged computing companies are embracing trends in M2M, RFID. Media manufacturing infrastructure is well supported with IMAX at the forefront. Distribution figures heavily in value chain.
	Advanced materials **DuPont** is a key company but R&D is in Kingston. The handful of Composites manufacturing companies could be spearheaded by Plasmatreat (Germany) and Filimat (Mississauga) SME home grown base needs developing Distribution figures significantly in value chain. **Manufacturing processes** provide an excellent overlap with ICT with good mix of larger, SME international and home-grown companies.
What is the City of Mississauga's current ability to capitalize on sector opportunities?	Breadth of MNE company base in key technologies plus key local business support groups provides a good starting point. However, the City alone cannot achieve success. Regional resources in R&D and innovation networks need to be leveraged. Very well placed in sub-sectors such as cleantech and advanced manufacturing processes (ICT related) Substantial company base provides greening of manufacturing opportunities.
Estimated 1-3 year sector growth	Cleantech sector, strong positive through supply chain opportunities but bubble effect may afflict wind and solar. Manufacturing shakeout will continue. Opportunities will emerge through new technologies and processes. Turbulent demand environment could constrain growth. Signs of renaissance in auto but on a reduced scale. Challenges re: off shoring etc will remain. Opportunities will be associated with clean technologies and processes

Key Sector Consideration	Advanced Manufacturing Technologies		
	across the board. Aerospace order book will keep companies busy. A lot of growth is around new materials, particularly composites. Nuclear associated manufacturing will remain flat due to uncertainty over new build.		
Estimated 4-7 year sector growth	Recovery in advanced manufacturing if technology, materials and process opportunities are harnessed. Bleak if they are not. Clean-tech sector, positive growth will continue with possible bubble aftermath. Solar is particularly vulnerable. Questions around viability will come into play as incentives disappear. Flat or negative in Aerospace as broken business model issues come to a head. Strong positive in Nuclear pending new build and award to AECL. Much reduced potential if contract awarded to foreign company.		
Complement to existing local business base	Potential to revitalize the sector if opportunity is harnessed. Benefits can permeate to more traditional companies in the mix. Cleantech presents supply chain opportunities for manufacturing base, even in more traditional areas particularly in wind, solar. Aerospace, nuclear and cleantech present diversification opportunities.		
Synergies with regional capabilities	While in proximity, dependence on regional rather than local engineering and environment schools as well as sector-specific research institutes and incubation facilities that are applicable to all sub-sectors.		
Desired future situation for Mississauga	Recognized leader in sustainable high-end technology driven advanced manufacturing that synergizes sub-sectors in automotive, aerospace, nuclear and growth areas such as energy & environment, and medical devices.		
Local champions	• Siemens • GE • DuPont • Samsung • Filamax	• Exova • Parametric Technology • Agilent	**SMEs** • Electrovaya • Nytric • E3 Solutions • Dynacon
How does this sector align with regional, provincial and national sector initiatives?	• Consistent with regional, provincial and national efforts to improve manufacturing technologies and processes • Provincial and federal incentives and mandates facilitate the deployment of technologies and green infrastructure which is attracting strong global interest		
Capitalizes on these competitive advantages	Innovative internationally regarded company base Excellent ICT overlap in new processes Market access through synergy with Multi-modal logistics		

Key Sector Consideration	Advanced Manufacturing Technologies
	Local business support through OCETA and CME, strong professional services support Central to significant university graduate base in Hamilton and Toronto. Tailored Masters programming available
Be aware of these competitive disadvantages	No University incubation facilities Lack of locally based research activities No undergraduate engineering programs available locally Competing locations are less expensive Specific regional financial incentives.
Who is the competition?	**Regionally:** Kitchener-Waterloo has significant strengths in advanced manufacturing technologies with an internationally renowned university. Durham Region has a strong energy offering **Nationally:** FIT program keeps main competition in Ontario. Montreal/Quebec has strengths in advanced materials **Internationally:** Southern U.S. has highly competitive sub-sectors that can be driven by financial incentives
Best Practice	There are few practical examples of success since efforts have typically concentrated on diversifying from manufacturing as opposed to sector development. Technology has enabled the resurgence theme to become a viable option. Key themes centre around renaissance and resurgence: • Success depends on a focused and collaborative approach between the private, public, and education stakeholders within regional innovation framework. • A more targeted and specific approach to providing industry support • Educational institutions (e.g., high schools, community colleges, and universities) should be encouraged to play active roles in promoting the advanced manufacturing knowledge-economy • Industry collaboration, continuous learning (PWC Study for New England) The Waterloo Region has established a Manufacturing Innovation Network, an online manufacturing portal community –to improve communication and productivity in the manufacturing sector. The State of Texas has pinpointed key technology areas that synergize with its current asset capabilities. E.g. Nanotechnology, MEMs

3.2.2 Health and Life Sciences Sector

The City of Mississauga completed a Life Sciences Sector study. This sector was defined as "core life sciences" (which included bio-pharmaceuticals and pharmaceuticals, biotechnology, diagnostics and nutraceuticals), equipment and devices, health care, laboratories and suppliers. The study set out the economic context for Mississauga's life sciences sector. Written more as a marketing material, it identified:

- Educational attainment and fields of study of the labour force;
- Regional post-secondary institutions providing life sciences programming;
- Locational advantages of Mississauga;
- Available financial resources; and
- Mapped the cluster in terms of core companies and supporting organizations.

The Health and Life Sciences Sector continues to evolve since the completion of the study. As part of this sector profile, biotechnology/pharmaceuticals, bio-informatics and medical devices (bio-engineering) were examined as sub-sets of Health and Life Sciences due to their strategic importance in the future of the sector.

Significant issues in this sector are funding and access to capital. This sector has not been immune to the turbulent global financial markets over the previous three years as available credit tightened from the banking and lending institutions. However, this sector is undergoing a significant shift despite tighter access to capital. Key trends reshaping this sector include the soaring burden of chronic diseases, increasing demand in emerging economies, increasing government focus on disease prevention rather than treatment and increasing caution by regulators in approving innovative medicines.

Technology will drive future health care productivity and the need to get products to market faster. Sector technologies include semantics and computer-aided molecule designs. Biomarkers for diagnosis and treatment will also become more widely available and accurate. In addition, pervasive monitoring will enable patients to be tracked in real-time, irrespective of their location. Unfortunately, this sector is not immune to outsourcing as R&D is shifting to Asia instead of the advanced countries.

Mississauga's sector is directly exposed to these global trends and challenges since there are many MNEs and SMEs in the City. In biotechnology/pharmaceuticals, there is a good company mix through the value chain, which provides opportunities for sector synergies and collaboration. Mississauga has diagnostics laboratories and leading MNEs that include Agilent Technologies and Abbott Labs. Generic pharmaceutical manufacturers are also represented with Ratiopharm. Mississauga companies involved in drug development and R&D include Biovail, Amorfix and Microbix. In addition, the sector has company business support with compliance services, support services and specialist logistics services.

For bio-informatics, Mississauga companies like Xwave Healthcare are involved in mainstream applications such as EMR (electronic medical record) and Oracle and Emergis are developing semantic technologies.

For medical devices, Mississauga is home to global leaders that support leading edge technology (i.e. BD Biosciences, GE, and Siemens). The home grown companies include Novadaq Technologies and Nytric.

The City has the necessary company base to capitalize on sector opportunities. The University of Toronto Mississauga (UTM) Academy of Medicine has the potential to elevate this sector by creating complementary synergies with Mississauga based companies.

The prospect for sector growth over the short term is strong. Growth will be driven by technology and bio-informatics and medical devices will benefit from technological advancements. With R&D outsourcing to Asia, it is expected that employment in MNEs will contract. The prospect for sector growth over the long term remains positive. As the advanced economies age, this will place pressure on governments to fund health care.

This sector complements the existing sector base as there is the potential to develop synergies with local ICT, logistics and advanced manufacturing technology companies. Mississauga's competitive advantages include the large number of internationally recognized sector companies, logistics & ICT companies and regional post-secondary education and research capabilities.

While this sector demonstrates considerable depth and capacity at a regional and national level, more investment is required if the sector and the City is to emerge as a national or international hub for life sciences investment. This includes expanding post secondary programming opportunities and creating a distinctive identity for the City through the creation of a life sciences sector council and a higher profile within regionally and provincial support networks such as The Biotechnology Initiative (TBI).

Mississauga is competing regionally and internationally for investment. The cities of Toronto and Montreal are the most successful in attracting investment in this sector in Canada. Internationally, cities such as Boston, Raleigh-Durham and Minneapolis are leading centres for R&D. Asian countries such as China have received investment in contract manufacturing and research.

Key Sector Consideration	**Health and Life Sciences**
What are the key trends in this sector	Funding and access to capital remain significant issues in the Canadian sector. (Canadian Life Sciences Industry Forecast 2009 PWC/Biotech Canada) The entire global health care system is undergoing a seismic shift. According to PWC (Global Health care series) there are seven major trends that are reshaping the health care sector: • Soaring chronic disease burden • Policy-makers are increasingly mandating what can be prescribed • Performance measurement of medicines • Blurring boundaries in healthcare: clinical advances are rendering previously fatal diseases chronic. Self-medication sector is expanding • Demand in emerging economies growing faster than industrialized economies. Set to continue for the next decade. • Governments focus on prevention rather than treatment, • Regulators more cautious about approving innovative medicines. The key trends in this environment will be: Overall, technology will drive healthcare productivity and the need to get products to market faster. **The virtualization of R&D** • Semantic technologies and computer-aided molecule design. • Wider availability and accuracy of biomarkers for diagnosis and treatment. The number and size of the clinical studies will contract.

Key Sector Consideration	Health and Life Sciences
	• More iterative development process • Pervasive monitoring will enable real-time tracking of patients irrespective of their location • Approval of new medicines will be a cumulative process, based on the gradual accretion of data **The need for new business models to succeed:** • Collaboration to bring treatments to the market • Pay for performance • Research base is shifting to Asia Source - PWC (Global Health care series)
Sub-Sector Assessment	**Biotechnology/Pharmaceuticals** Exceptional presence of MNEs is a double-edged sword – prestige value but also direct exposure to global challenges and downsizing Good company mix through the value chain, which provides opportunities for synergy and collaboration. Mix of Canadian and global companies but home grown entities tend to be SMEs The Biotechnology Initiative represents and promotes the research and commercialization of life sciences technologies in the region Presence of diagnostic labs and Contract Research companies lends itself to an agile sector environment. Key players are Agilent, Abbott Generic manufacturing companies include RatioPharm Home-grown companies involved in **drug development and R&D** – Canadian leader, Biovail, Amorfix, Microbix. Pipeline activity. Flexible and risk mitigating business models are being deployed by local companies e.g. out-licensing/in-licensing – YM Biosciences, Cipher Pharmaceuticals, Cervelo Pharmaceuticals – Red Herring Canada 50 Candidate – semi-virtual drug development **Contract manufacturing** companies provide local resources but not to the extent of sector detriment (low cost jurisdiction outsourcing). Showcase companies include Patheon (US-SC) and Contract Pharmaceuticals Limited HQ- Mississauga **Good company business support** with compliance services, support services and specialist logistics services (McKesson) **Bio-informatics** SMEs are involved in mainstream applications - EMR, budgeting, pharmacies not leading edge technologies The UTM Masters of Biotechnology and Masters of Innovation Management support companies with new talent and collaborate with existing companies and

Key Sector Consideration	Health and Life Sciences
	research institutions in the City. Xwave Canadian is a market leader in EMR Oracle and Emergis are the only companies that address semantic technologies. **Medical Devices** Global leaders that support leading edge technology e.g. BD Biosicences, GE, Siemens. Significant proportion of MNE presence is in distribution only. Innovative home grown companies such as Novadaq and Nytric play into current "smart device' trends Industry product meets highly complex to everyday health needs
What is the City of Mississauga's current ability to capitalize on sector opportunities?	The city has the necessary company base. The UTM Academy of Medicine can be a starting point to develop an innovation infrastructure that will take the sector to the next level.
Estimated 1-3 year sector growth	Positive to strong positive. Growth will be driven by technology - bio-informatics and medical devices will benefit. Research outsourcing to Asia could impact MNEs causing employment contraction.
Estimated 4-7 year sector growth	Positive (cautious). Budget pressures will drive performance-based criteria. Ability of governments to fund healthcare could become an issue and may constrain growth, particularly in innovative areas. Demographic pressures will begin to take hold in developed economies. Escalating demand in emerging economies and developing world may mitigate some of the negative trends elsewhere
Complement to existing local business base	Very strong complement to existing sector base. Excellent synergy with ICT, Logistics and advanced manufacturing (medical devices)
Synergies with regional capabilities	The GTA is a globally recognized health sciences sectors with a very significant research and development base with sophisticated resources. The UTM Academy of Medicine is major step forward in the City's position in this cluster.
Desired future situation for Mississauga	Mississauga will have a technology driven Life Science cluster with a comprehensive breadth of products and services and significant presence of leading edge technology bio-informatics and medical devices companies.

Key Sector Consideration	Health and Life Sciences
Local champions	• **Biotechnology –** GSK, Amgen, Astra-Zeneca all have demonstrated commitment to R&D in Ontario. • **Medical Devices** - Abbott, GE, Siemens, BD Bio-sciences, Medtronic • **Bio-informatics** – Merge Healthcare, Emergis, Oracle, Xwave • **SMEs** – YM Biosciences, Cervelo, Amorfix, Space Labs,
How does this sector align with regional, provincial and national sector initiatives?	Strong synergies exist: • GTA – identified as one of GTMA's seven key sectors • Ontario – a key investment sector that is strongly supported by investments in health care and medical research • Canada – biotechnology, medical devices and pharmaceutical are all individually identified in DFAIT's 14 sectors of concentration
Capitalizes on these competitive advantages	• Strength in numbers, internationally recognized companies Canadian HQ location • Comprehensive and deep company products and services that are building blocks for collaboration • Synergies with other target sectors, - logistics, ICT growing sustainable sub-sectors, • Exceptional regional education/research capabilities – GTA is home to one of North America's largest life science complexes.
Be aware of these competitive disadvantages	• No local post-secondary programs in bioengineering. Lack of programming breadth and depth at local institutions. Relatively few related local post-secondary programs at Sheridan compared to other community colleges in region. • Elements of sector support structure such as TBI are outside City • Lack of Life Science specific local venture funding network • No world class conference facility to stage thought leadership events
Who is the competition?	**Regionally/Nationally:** Toronto is at the epicenter of provincial and national sector strength. Guelph is very strong in Ag-Bio. Montreal, and to a lesser extent Ottawa, are competitors on a greater regional and national level. **Internationally:** US – Boston (closest), Raleigh-Durham, Minneapolis, China – Contract Manufacturing/Research
Best Practice	**International View – Collaborative Networks** The Netherlands, South Korea, Australia, Israel and the U.S. are known to use collaborative networks effectively by encouraging the formation of centres of excellence and organizations whose mandate is to promote cooperation, sharing of resources and bringing together innovators and investors. By leveraging collaborative networks, these jurisdictions are leaders in commercialization of innovation, as measured by gross expenditure on research and development per capita and number of triadic patent families. Collaborative networks in these jurisdictions appear to add value and represent a model for Canada to replicate. (Canadian Life Sciences Industry Forecast 2009 PWC/Biotech Canada) **Boston/MA – Too much of a good thing – the need to provide cohesive sector focus.**

Key Sector Consideration	Health and Life Sciences
	Factors for success - Massachusetts has: • A myriad of public and private programs and initiatives that are supporting the growth of individual sectors • Vigorous and effective trade associations in biotechnology, medical devices and pharmaceuticals and • Other organizations that include teaching and community hospitals and health care research. But there is still a need for an overarching strategy that: • Integrates the disparate elements of the cluster, • Identifies the obstacles to full economic and competitive potential, creates a path and direction that will ensure that Massachusetts maintains and builds upon its pre-eminence in life sciences research, development and commercialization, and • That supports the effort with an administrative, financial and staff structure that can insure sustainability and results. The goal of the Massachusetts *Life Sciences Collaborative* is to create a cross-sector collaboration that can both sustain dialogue among life sciences leaders in academia, industry and government and also over time develop a comprehensive, integrated strategy to grow the life sciences mega-cluster in Massachusetts.

3.2.3 Finance and Insurance Sector

The Finance, Insurance and Real Estate (FIRE) sector was identified as a key business sector for the City. A FIRE Sector study was initiated to gain a better understanding and analyze the changes within this sector. The study states that this sector has become more integrated. Economies of scale, cost reduction and the need to increase profits are the driving forces behind the mergers and acquisitions (M&A) of these businesses. M&As and technology innovations have enabled these businesses to sell a greater variety of products and services. Although the industry trends at the national, provincial and regional level are dated, the sector has shown strength in terms of production and employment. The study evaluates the size (production and employment) of Mississauga's FIRE sector and identifies four City advantages. They are technological advances and proximity to Canada's financial capital, business diversity, cultural diversity and transportation and telecommunications infrastructure network. The report continues to identify the important regional factors for continued growth in this sector.

Since the FIRE sector study was completed, the global finance industry has gone through turbulent times. Particularly in the U.S., the economic recession has eliminated some banking and financial institutions and the federal government has helped salvage some of the larger companies. Canada has not been immune to the economic recession that has affected the national finance and insurance industry; however, the World Economic Forum has rated Canada the world's soundest banking system and a model for risk management and capital adequacy practices. With this new attention directed towards Canada's finance industry, the Ontario government wants to make Toronto a top ten global financial services centre.

Some of the key trends in the finance industry are continued innovations in mobile banking and mobile payments and simplifying consumer finances. In the insurance industry, the key trends include industry consolidation, globalized back office functions and transformations in interaction with customers via e-business and technology.

Mississauga's banking/finance industry serves key back office functions for national institutions and global companies, which include TD Canada Trust, Symcor, First Data and outsourcing providers Broadridge Financial Solutions. There are major North American consumer and business finance institutions such as GE Capital and CitiFinancial. There is a foreign bank branch presence to reflect the needs of the diverse community. These banks include HSBC, Bank of East Asia and Korea Exchange Bank.

There is a limited amount of investment banking activity; however, the Edward Jones headquarters is located in the City.

The alternative financial sector is present with the Cash Money headquarters alongside the debt counselling organization In-charge Debt Solutions.

Among the local insurance companies, RBC insurance is the largest employer. Other employers include Kingsway Financial Services, Euler Hermes Canada and ESI Canada. The Co-operators operate back office functions in the city. There are niche players in healthcare, marine insurance and environmental remediation. In addition, there is a local ICT sector available to support finance and insurance companies.

Mississauga's desired future for the Finance and Insurance Sector is to provide key office functions for national and international companies. In addition, there would be niche companies that support this sector and other target sectors. The City has competitive advantages that make it well positioned for investment. The multinational and niche companies stated earlier indicate the emergence of a cluster. The insurance centre of excellence at the University of Toronto, two business schools in proximity (i.e. York University's Schulich School of Business and U of T's Rotman School of Management) and specific business and finance programming at local institutions, such as the Li Koon Chung Finance Learning Centre provide a supply of skilled labour to support the sector. The proximity and sector complement of Toronto's finance and insurance industry bring added value to Mississauga's sector.

Given the turbulent international economic environment over the previous three years, it is expected that growth in traditional global finance and insurance operations will be slow. However, significant new opportunities will continue to emerge in e-business and technology, as well as security and risk management. Consideration should be given on how best the City and by extension the EDO can capitalize on these trends.

Mississauga is competing for sector investment regionally and internationally. It is the industry complement that has made the GTA the third largest financial and insurance cluster in North America. The Province's commitment to create an Ontario Centre of Excellence for Education in Financial Services will strengthen the GTA as a location for sector investment.

Internationally, Mississauga is competing against established financial centres such as New York and Philadelphia and emerging centres such as Singapore and Dubai. For back office functions, Mississauga is competing against Indian centres.

A best practice region that has used technological change to drive investment and growth is the Tampa Bay area. Termed "Wall Street South", Tampa's financial and insurance services companies include MetLife, Citicorp, Chase Manhattan, Salomon Brothers and Raymond James Financial.

Key Sector Considerations	Financial Services and Insurance
Key trends in this sector	**Banking** The World Economic Forum has rated Canada the world's soundest banking system and it remains a model for risk management and capital adequacy practices. Canada is receiving international attention in this regard and investment could follow: The Ontario government wants to make Toronto a top ten global financial services centre. **Trends for 2010** • The New Frugal - fewer belongings and simpler finances. • Convergence -is a major trend across financial services sectors • Innovations in mobile banking and mobile payments • Banking 2.0 – footloose consumers • Rebuilding Trust consumer trust major concerns (not so serious in Canada) (Source – Mintel) **Insurance** KPMG Canada identified six key trends (2006) • Consolidation • Convergence • International Focus and Globalization – back office functions • E-Business and Technology - transforming interaction with customers. • Privacy • Risk management
Sector Assessment	**Banking/Finance** • Key back office location for national institutions and global companies – TD Bank, Symcor, First Data and outsourcing providers Broadridge Financial Solutions • Consumer and Business Finance - Major North American institutions such as GE, LaFarge, Citi • Foreign bank branch presence to reflect needs of diverse community – HSBC, Bank of East Asia, Korea Exchange Bank etc. • A limited amount of investment banking activity but significant representation in consumer sector through Edward Jones HQ. • Alternate financial sector presence through Cash Money HQ alongside debt counselling organization In-charge debt solutions • Significant proportion of employment is accounted for by consumer facilities. • A huge representation of branches, brokerages, agents etc. • Absence of smaller mobile payment/e-commerce solutions companies –

Key Sector Considerations	Financial Services and Insurance	
	this is addressed by First Data – a world leader and the larger ICT companies. **Insurance** By far the strongest sector. • RBC is by far the largest employer • Back office functions – e.g. Co-operators • Consumer providers - Personal Insurance, RSA, HB • Niche players in healthcare, marine insurance. Environmental remediation • Limited foreign representation – Allianz The sector has a strong ICT support system available	
What is the City of Mississauga's current ability to capitalize on the sector?	Mississauga demonstrates classic attributes of a financial services location that complements a major national financial centre. It is therefore well placed to capitalize on traditional elements of the industry. However, it is not as well placed to capitalize on opportunities associated with e-business and mobile payments especially those created by entrepreneurs.	
Estimated 1-3 year sector growth	Flat. Turbulent economic environment could cause downsizing in the sector. Threat of off shoring to lower cost locations. Advent of digital money will render some functions obsolete and create new opportunities	
Estimated 4-7 year sector growth	Trends in 1-3 timeline will continue	
Complement to existing local business base	Stronger complement to Toronto financial services sector than existing business base. Complement exists in consumer services provision.	
Synergies with regional capabilities	• Integral in GTA's position as third largest cluster in North America • New OCE for *Education* in *Financial Services*	
Desired future situation	Key office functions for national and international financial services/insurance functions in Canada. Includes a cluster of niche players that supports other target sectors	
Local champions	**Financial Services -** GE Money/Capital TD Bank	**Insurance** Kingsway Financial Services RBC

Key Sector Considerations	Financial Services and Insurance	
	First Data	HB Insurance Services Euler Hermes (Allianz) – international champion ESI Canada
How does this sector capitalize on regional, provincial and national sector initiatives?	Strong synergies at regional, provincial and Federal level: • GTA – identified as one of GTMA's seven key sectors • Ontario – a key investment sector – Global perspective - The Toronto Financial Services Alliance and the Ontario government have set their sights on moving Toronto into the Top Ten of global financial services centres. • 2010 provincial budget set out policies to achieve this. • This will have spin-off benefits for Mississauga • Canada –identified in DFAIT's 14 sectors of concentration	
Capitalizes on these competitive advantages	• Cluster of big-name companies in financial service and particularly insurance, • Insurance centre of excellence at University of Toronto • Two business schools in proximity • Specific programming at local institutions • Availability of skilled labour at all levels • Proximity and complementary to Toronto Financial centre.	
Be aware of these competitive disadvantages	• Lack of smaller, entrepreneurial companies involved in technology specific applications to respond to industry technology changes	
Who is the competition?	**Regionally:** Burlington/Oakville provide a similar office environment but on a smaller scale. In financial services Toronto will always be strong but can have a complementary role in access to trading and international markets. **Internationally:** U.S., - New York, Philadelphia Dubai, Singapore are emerging locations India - outsourcing	
Best Practice	**Tampa, Florida – 'Wall Street South'** **Using technological change to drive investment and growth** The financial services is a new sector of the Florida High Tech Corridor The Tampa Bay area contains the most financial services companies in the state, and it ranks 20th in the nation in terms of domestic financial services employment. The sector's presence began in 1969 when MetLife built an office in Tampa, followed by other financial services powerhouses such as Citicorp, Chase Manhattan, Salomon Brothers and Raymond James Financial.	

3.2.4 ICT and Design Services Sector

ICT and Design Services sector is in a constant state of change as new technologies continue to be developed. Businesses in the immediate term are focusing on operations and maintenance of existing technology applications as opposed to implementing new software solutions.

The key technologies are greatest amount of interest are semantic web technologies, quantum computing, IT enabled social networks, online media, online storage and processing and cloud computing.

The boundaries between this sector and others are blurring. ICT and Design Services businesses are consolidating through mergers and alliances. Outsourcing and off-shoring of business functions to lower cost regions is continuing, but at a slower pace. These businesses are continually being challenged to be innovative in their products and services and add further value to consumers.

In Mississauga, there is a large representation of MNE and SME companies in this sector. The City has the highest proportion of MNE IT companies than any other city in Canada, including Toronto. The most notable MNE in Mississauga is Microsoft. There is a strong wireless sub-sector. These companies include Redknee, a global wireless company, UCIT Online, Opalix Software, Esprida Corporation and LComm Wireless.

There are relatively few entrepreneurs in the digital media industry. However, Glass Box Television is a notable start-up company in the City. The SME digital media sector is mostly represented by mainstream web design/internet services.

The design companies support the corporate base and the other target sectors as opposed to being a showcase sector driving innovation.

This sector is very well placed to capitalize on MNE expansion, particularly on emerging technologies. The large company base guarantees that skills are available, but there is not an abundance of entrepreneurs in this industry who are fostering innovation.

The sector's growth prospect over the short-term and long-term is very positive. The blurring of sector boundaries will continue and there will be a need for entrepreneurs to drive innovation.

Synergies need to be developed with Mississauga's larger MNEs. The GTA has emerged as the third largest cluster in North America. Educational and research institutions are in proximity and institutional research activities align with current technology trends. Mississauga's desired future of this sector is continued strength through driving innovation in all target sectors. In addition, there needs to be an increase in entrepreneurial activity.

Mississauga has competitive advantages that it can capitalize on. There is a highly skilled labour pool in the GTA. In terms of ICT expertise, there is great breadth and depth in the skilled labour, which is pivotal if the GTA wants to remain or improve its position as the third largest North American ICT cluster.

Mississauga's competitive disadvantages are the few entrepreneurs in the sector. There is also relatively low representation of SME digital media and niche players.

Regionally, Mississauga is competing against Markham and Waterloo Region for investment in this sector. Markham has strong MNE representation and provides a similar office environment as Mississauga. The Waterloo Region has proven industry collaboration with Communitech, an industry led

organization supporting the sector through connections and promotion. Internationally, Mississauga is competing against well respected ICT and Design centres such as Silicon Valley, Boston and New York.

Key Sector Considerations	ICT
Key trends in this sector	Short term: **Emphasis on status quo** - budgets in 2010 will focus on operations and maintenance of existing applications as opposed to implementing new software solutions, (Forrester Research, Inc.) **Key technologies** • **Semantic web** – shift from information management to knowledge management. • **Quantum computing -** Exponential growth in computing power and networking capability and storage capacity • IT enabled social networks and - **more consumer rather than technology drive**n • **Media** – continued shift from traditional to online • Growth of **online storage and processing** • Commoditized products and services • **Cloud computing** - Software provided 'on demand' via Internet **Business Trends** • Boundaries between ICT and other industries blurring • Rationalization and consolidation of ICT businesses • Intra-firm linkages by mergers and alliances and extensive global networks of niche players • Out-sourcing and Off-shoring continue but growth declines. • Innovation or low cost is the key to growth • Polarization of ICT skills markets into design, management of business processes and less skilled operators • Rapid development and adoption of micro-processor driven sensors in all walks of life (Adapted from McKinsey & Company)
Sector Assessment	• Heavy representation of Enterprise software companies with significant MNE component. - 8/25 - highest proportion of multinational IT companies than any other city - including Toronto. • 9 home grown companies in Branham 300 • Sector specific applications enhance other target sector capabilities. • Strong Wireless sub-sector good showcase companies at MNE, Canadian and entrepreneur level. Covers consumer and industrial segments. • Home-grown role models include - Redknee, global wireless company, leading the way and UCIT online whose 31 yr old founder won BDC. Entrepreneur Award. Others in synch with current trends include Opalis Software, Esprida Corporation. , LComm Wireless • Digital Media is represented through MNEs e.g. Microsoft. • A smattering of innovative SME digital media companies in both established and emerging areas – but relatively few entrepreneurs. • Notable start-up companies include Glass Box • Numerically, SME digital media sector is mostly accounted for by mainstream web design/internet services. • Design companies feed off corporate base as opposed to being a

Key Sector Considerations	ICT	
	showcase sector driving innovation. Xerox Research Centre provides best potential to leverage this sector • Advanced Manufacturing Technology sector has an important role in digital media infrastructure.	
What is the City of Mississauga's current ability to capitalize on the sector?	Very well placed to capitalize on MNE expansion, particularly in emerging technologies. Short-term emphasis on existing software solutions will play into Mississauga's corporate base. Company base guarantees skills availability but not necessarily entrepreneurs Significant proportion of smaller company base feeds off corporate sector. A readily available market (low hanging fruit) does not necessarily foster innovation	
Estimated 1-3 year sector growth	Strong positive. The sector will become more pervasive and will blur into other industries and daily life. Inherent entrepreneurship will continue but low cost/low skill functions will become increasingly apparent. It is attractive to private capital in next-generation infrastructure and services.	
Estimated 4-7 year sector growth	Trends in 1-3 timeline will continue	
Complement to existing local business base	Synergy with corporate enterprise software sector with a few large players. Much weaker in digital media and niche players With low representation of start-ups and emerging companies. Other target sectors provide synergies and reflect the pervasiveness of this sector.	
Synergies with regional capabilities	Pivotal to Canada's well established ICT sector and GTA's position as third largest cluster in North America. Educational and research institutions are in proximity. Institutional research activities align with current technology trends. Capitalizing on future growth expectation in Ontario's will require a stronger entrepreneurial effort and position to take advantage of future growth opportunities without	
Desired future situation	Continued strength in ICT. Pivotal role in local economy through driving innovation in all target sectors. Increase in entrepreneur activity Better representation of digital media and niche companies.	
Local champions	**SMEs** • UCIT Online	• Oracle • RIM • Siemens

Key Sector Considerations	ICT	
	• Opalis Software, • Esprida, • LComm Wireless • Glass Box	• Tata Consultancy • CGI • Certicom • Microsoft • Accenture • Redknee
How does this sector capitalize on regional, provincial and national sector initiatives?	Strong synergies at regional, provincial and Federal level: • GTA – identified as one of GTMA's seven key sectors • Ontario – a key investment sector with specific support. • Canada –identified in DFAIT's 14 sectors of concentration	
Capitalizes on these competitive advantages	• Pool of highly skilled labour • Attraction for Toronto commute adverse • Breadth and depth of ICT expertise that plays into all sectors • Strong wireless sector • Pivotal in GTA's position as 3rd largest NA cluster	
Be aware of these competitive disadvantages	• Few entrepreneurs • Relatively low representation of SME digital media and niche players. • MTA has a lower profile than its regional counterparts	
Who is the competition?	**Regionally – Markham** also has strong MNE representation and provides a similar office environment. Unmatched in Canada outside GTA Silicon Valley, Boston, New York in US (taken as part of GTA cluster)	
Best Practice	**Local champions** - Terry Mathews in Ottawa is an example of how effective this can be. **Communitech** in Waterloo region shows how an interest group can play into ICT branding but with a much inferior product than Mississauga. It is also a key influencer in the local community at a business level and social level – recently sponsored Venture4Change conference aimed at community groups **National Digital Strategy -** Nordicity cites Digital Britain – a national integrated strategy (UK creative sector's percentage of GDP is 8%) - Germany, New Zealand, France and Australia also have national digital strategies. **Silicon Valley Key Success Factors -** entrepreneurial spirit in academia and venture capital funding that is willing to take - and therefore understands - risk. There is a more pragmatic approach One 30 minute meeting can be enough for a decision. In Silicon Valley, Stanford University has had a **catalytic role.** Since the 1890s it has seen its job as enabling the area to be a centre for economic development and industry. Many professors have their own capital stakes in young entrepreneurs who were their own students. There are parallels with the University of Waterloo in this regard.	

3.2.5 Multimodal Logistics Sector

The multimodal logistics sector is experiencing structural shifts by global supply chain organizations. The sector is driven by cost pressures and access to new markets. Logistics companies are improving their processes and consolidating to drive down costs. Advanced supply chain practices and total solution firms China and India are major target countries for this sector to develop into, while Eastern Europe is becoming a more open market for trade.

Mississauga has MNE and SME global logistics companies throughout the value chain. A significant contributing factor to the current depth of the multi-modal logistics companies is the immediate access to Lester B. Pearson International Airport, CN Rail Terminal and 400 series highway network. Mississauga is also in proximity to the Toronto Port for marine transportation.

Fourth party logistics (4PL) and fifth party logistics (5PL) providers are present in the City. A global outsourcing leader is Accenture. Major global supply chain companies include Ceva, Exel, and YRC Logistics. Smaller niche players providing integrated services include Nulogx and Sherway Group.

Third-party logistics (3PL) leaders include Kuehne + Nagel, Damco Canada and Ryder. There are sector specific 3PL providers in food and medical industries. All of the major global couriers (i.e. FedEx, UPS) are in Mississauga and provide services through the value chain. In addition there is a huge presence of smaller multi-modal transportation companies, freight forwarders, customs brokers and warehousing facilities.

With the great depth in Mississauga`s multimodal logistics sector synergies can be created with other sectors to enhance their strengths. All of the necessary components are present to capitalize on globalization expansion and trade corridor initiatives for the good of the City`s economy.

Over the short term, the prospect for sector growth is positive as MNE will continue to drive growth. However, SMEs will consolidate through business acquisitions or failures resulting in contraction of the company base. Over the long term, the threat of escalating oil prices could cause retrenchment in global trade,

Mississauga`s multimodal logistics economy is a key component of the Canadian economy. The Toronto Port Authority offers a complement to the sector which is of strategic importance.

The desired future situation is Mississauga is a key supply chain logistics hub for global trade. This sector aligns with federal government policies to strengthen Canada`s position in international commerce. The Province of Ontario joined North America`s SuperCorridor Coalition (NASCO). This tri-national trade and transportation coalition intends on making international and domestic trade more efficient and secure.

Mississauga is in an excellent position to capitalize on its competitive advantages. They include the multi-modal capabilities (i.e. airport, rail, road and marine), depth in companies providing logistics services, leading edge companies (i.e. Accenture) driving technological innovations and the presence of key interest groups (i.e. Canadian Supply Chain Sector Council).

The competitive disadvantages for Mississauga are labour recruitment and retention difficulties and cost pressures to remain viable.

Regionally, Mississauga is competing against lower cost locations like Brantford; however, Brantford cannot compete on multi-modal infrastructure. Nationally, Calgary and Edmonton are establishing themselves as inland ports. Other Canadian cities with water access include Vancouver, Halifax and

Montreal. U.S. cities that have established themselves as multi-modal logistics hubs are Chicago, Dallas and Atlanta. Internationally, key logistics centres are Singapore and Rotterdam, the Netherlands.

Key Sector Considerations	Multi-Modal Logistics
Key trends in this sector	• Accelerating Globalization - structural shifts for global supply chain organizations and new challenges to manage supply chain performance. Driven by cost pressures and new market access. • China and India major targets for globalization, while Eastern Europe is catching up as a top off shoring destination. • Environmental sustainability is a key consideration in the development of future globalization strategies. Sustainability is mainly driven by the need for regulatory compliance and satisfaction of customer demand. It is not yet considered a strategic differentiator. - Only One in 10 Companies Actively Manage Their Supply Chain Carbon Footprints, (Accenture Study) • Greater supply chain flexibility will drive process improvements • Acceleration of supply chain maturity, enabled by advanced supply chain practices and total solution firms – 4PL/5PL • Consolidation of intermediaries Source: PRTM - sixth annual survey of global supply chain trends • More emphasis placed by large 3PLs on alliances with other 3PLs, carriers and middlemen • Failures among small/medium size 3PLs in all regions • Slow recovery (Annual survey of 3PL CEOs – Northeastern University, Boston for Penske Logistics)
Sector Assessment	Geared up to global environment Global players throughout the value chain • 4PL/5PL capabilities led by global outsourcing pioneer Accenture. Presence of major global supply chain players such as Ceva, Exel, YRC Logistics. Plus smaller niche players providing integrated services - Nulogx, Sherway Group • 3PL leaders include Kuehne + Nagel, Damco Canada, Ryder • All global couriers are here– provide services through the value chain • Sector specific 3PL providers in Food, Medical, Trade Shows etc. • Huge presence of smaller multi-modal transportation companies, freight forwarders, customs brokers, warehousing facilities to feed into full service 3PL/4PL/5PL activities • Full range of multi-modal service companies – road, rail, air, marine – in proximity to Toronto Port • Excellent synergy with ICT sector • In-house supply chain capabilities in other sectors enhance strength
What is the City of Mississauga's current ability to capitalize on the sector?	Mississauga has all the components to capitalize on globalization expansion, trade corridor initiatives to the good of the City's economy.
Estimated 1-3 year sector growth	Positive for MNE companies which will continue to dominate. Global trade will drive growth.

Key Sector Considerations	Multi-Modal Logistics	
	Negative - Consolidation among SMEs will continue through acquisition or failure. This will result in a contraction of the company base. Overall growth will be offset by strength in global companies.	
Estimated 4-7 year sector growth	Threats to global scenario include escalating oil prices, which could cause retrenchment in global trade.	
Complement to existing local business base	Very strong complement: • Global capabilities. • ICT support structure • Strategic importance – market access Canada's largest airport, Pearson International Airport, is located in Mississauga, and the Greater Toronto Airports Authority is a key strategic partner driving the cargo/goods movement industry in the City Capabilities are key to many businesses with in house supply chain functions. Key enabler in Mississauga economy.	
Synergies with regional capabilities	• Toronto Port Authority is a key strategic asset • Mississauga's sector is a key component of the Canadian economy and North America.	
Desired future situation	Key supply chain logistics hub on global trade map, which facilitates Mississauga's international profile.	
Local champions	• Accenture • Canadian Supply Chain Sector Council (CSCSC) • Greater Toronto Airports Authority (GTAA), Pearson Int'l Airport	• CN/CP • McKesson • Transcore Link Logistics • Canada Post • Exel
How does this sector capitalize on regional, provincial and national sector initiatives?	• The sector aligns with National policies to position to strengthen Canada's position in international commerce. • National Policy Framework for Strategic Gateways and Trade Corridors. Ontario-Quebec Continental Gateway and Trade Corridor has been established. • Ontario joined Quebec North America's Super Corridor Coalition (NASCO), a tri-national trade and transportation coalition working to make international and domestic trade more efficient and secure. • Industry Canada Initiatives include the Lean Logistics Technology Roadmap, the Canadian Supply Chain Efficiency Smart Border Study and the Strategic HR Study of the Canadian Supply Chain Sector. • Sustainability through consumer preferences - Provincial government financial assistance for logistics to supply local food to hospitals, schools and food service companies.	
Capitalizes on these competitive advantages	• Excellent multi-modal (air, rail) capabilities • Strength throughout the value chain • Leading edge companies facilitated by technology – Accenture is a pioneer in the industry • Presence and proximity of key interest groups	
Be aware of these competitive disadvantages	• Labour recruitment and retention problems in some skill areas (first hand evidence SCL events) • Relative cost	

Key Sector Considerations	Multi-Modal Logistics
	• Land locked issues for expansion
Who is the competition?	• Lower cost locations like **Brantford** are gaining momentum – but can't compete on multi-modal factors. • Toronto has a port facility • Nationally – Calgary and Edmonton are establishing themselves as inland ports • Vancouver, Halifax, Montreal • Chicago, Dallas, Atlanta • International – Singapore, Rotterdam • Canada ranks 14th in The World Bank's Global Logistics Performance Index.
Best Practice	**Atlanta** Metro-Atlanta created the Supply Chain Leadership Council. Their vision is to drive economic expansion through supply chain leadership. Provides a focal point to mobilize and connect the business community. Globally focused Logistics Institute (TLI) at Georgia Tech. Hosted 3PL Summit for 3rd consecutive year. Their site serves as a sector resource. **Chicago** • Global positioning - World Business Chicago (WBC) is the City's not-for-profit economic development corporation is chaired by Mayor Daley • Logistics capabilities are key drivers in positioning • WBC's vast network of ambassadors includes leaders from academia, business schools, prominent companies, and local & state government. **Calgary** – Western Canada's Inter-modal Distribution Centre Dallas Logistics Hub - **THE CENTER FOR WORLDWIDE TRADE**

4 REVIEW OF MARKETING EFFORTS

An effective marketing strategy is one that delivers the right message to right audience in a timely and relevant fashion. In today's competitive environment, this requires the use of a wide range of marketing tools including print material, website content and social media. The discussion that follows contains a review and gap analysis of the City's current economic development marketing efforts as it relates to available print material and economic development website. Based on this effort, the economic development strategy contains a number of recommendations on how the City can further improve its economic development marketing efforts in the future.

4.1 Economic Development Website

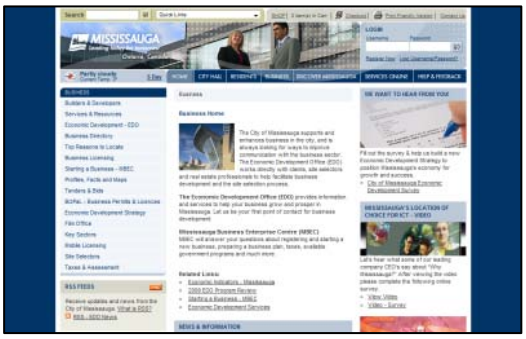
4.1.1 Outline

The goal of the website benchmarking is to see where Mississauga's economic development website stands in comparison to those of similar sized or situated municipalities across Canada and the USA. This includes determining in which areas Mississauga's website needs improvement and which other municipalities' websites can the City look to as an example of excellence in these areas.

Specific recommendations are made for Mississauga to implement in order to improve its economic development website. The goal of these recommendations is not to simply reach the level of other organizations' websites, but to surpass these organizations and position Mississauga as the leading location for businesses in North America with a leading website.

4.1.2 Comparison Websites

Six municipalities from across North America were chosen to be compared to Mississauga. Cities were chosen on the basis of being similar to Mississauga in population and/or similarly situated in terms of their industrial makeup or proximity to a larger economic area like the GTA. The following seven municipalities' websites were evaluated:

1. 

Mississauga, Ontario

http://www.mississauga.ca/portal/business

2. 

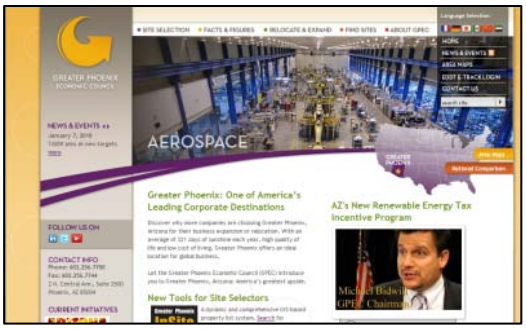
San Jose, California

http://www.sjeconomy.com/

3. 

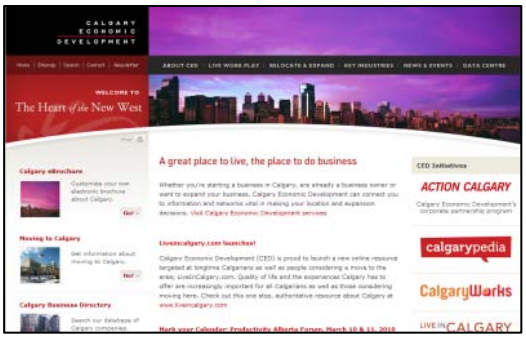
Portland, Oregon

http://www.pdc.us/

4. 

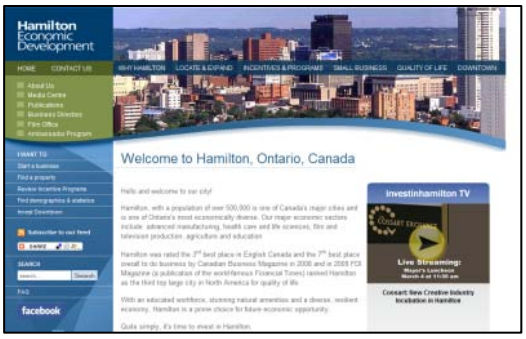
Phoenix, Arizona

http://www.gpec.org/

5. 

Calgary, Alberta

http://www.calgaryeconomicdevelopment.com/

6. 

Hamilton, Ontario

http://www.investinhamilton.ca/

7. 

Greater Oklahoma City, Oklahoma

http://www.greateroklahomacity.com/

4.1.3 Criteria

To effectively compare the selected three websites, each site was reviewed and evaluated using matrices based on three critical website criteria categories:

1. **Content**: This parameter refers to all web content that is directly related to the municipality: about the economic development organisation, facts and statistics, location, history, largest employers, etc.
2. **Functional elements**: This parameter refers to functions and tools of the website: business directory, search, GIS mapping, email sign-ups, etc.
3. **General website elements**: This parameter refers to aspects of the website that are standard across all types of sites: load time, ease of navigation, use of colour and photography, etc.
4. **Search engine optimization**: This parameter refers to SEO aspects: meta tag usage, validated code, Google ranking, image alt tags, etc.
5. **Social media utilisation**: This parameter refers to social media and sharing aspects: Twitter integration, RSS feeds, blogs with comments, YouTube videos, etc.
6. **Specialised information**: This parameter rates how easy to find and complete information is from two viewpoints: a site selector researching for industrial/commercial facilities, and a solo entrepreneur researching for a potential move.
7. **Overall impression**: This parameter refers to overall aspects of the website: look and feel, sense of trust, professionalism, etc.

Criteria are weighted on a scale from 1 to 3, with 3 being more important.

Ratings from 0 to 4 are given for each criterion. The meaning of the ratings is explained in each section. If a rating of 4 is given for a criterion, an explanation is included as a footnote.

Each criterion's score is multiplied by its weighting to give a weighted score. The weighted scores are summed by organisation to give total weighted scores for each category.

4.1.4 Comparison Matrices

Content

This parameter refers to all web content that is directly related to the municipality. A lower number signifies great difficulty in finding the information or not having the information at all. A higher number signifies ease in finding the information and that it is comprehensive and complete.

Ratings:

0	1	2	3	4
Not present at all	Incomplete/poor	Satisfactory	Very good	Excellent

Evaluation matrix:

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
About the organisation	1	0	3	3	3	4	3	3
Available land/properties	3	2	1	3	4	0	3	2
Awards/special recognition	1	3	2	2	1	1	0	2
Business associations	1	3	4	2	0	1	1	1
Business incentives	2	1	3	1	2	2	3	3
Business parks	2	2	0	0	0	0	3	4
Business success stories	2	1	1	0	0	0	2	3
Business/industry events	1	2	0	0	0	0	3	0
Charts/graphs	2	0	2	0	3	2	0	2
Communications plan	1	0	2	0	0	0	0	0
Community/strategic planning	1	2	0	1	1	1	2	1
Contact us	2	3	4	3	4	4	4	3
Demographics	1	4	3	0	2	4	3	3
Downtown development	1	3	2	1	0	2	4	1
Facts and statistics: income	1	3	4	3	2	2	0	2
Facts and statistics: labour force by industry sectors	2	1	1	2	1	2	2	3
Facts and statistics: labour force characteristics	1	1	1	0	3	3	0	3
Facts and statistics: language	1	0	1	2	2	0	0	0
Facts and statistics: population by age	1	3	2	0	2	4	0	3
Facts and statistics: population by education	2	1	0	1	2	1	0	0
Financial assistance	1	2	3	3	0	1	2	3
History	1	2	3	2	0	4	0	0

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Internet connectivity	1	0	0	1	0	3	1	2
Largest employers	2	0	2	2	4	2	0	2
License information	3	4	2	3	0	0	0	0
Link to main city website	1	4	4	0	0	0	0	3
Location (maps)	2	3	2	1	3	2	2	4
Major industries/sector profiles	3	4	0	2	2	4	2	2
Marketing materials for download (profiles/brochures)	2	0	0	3	0	0	0	1
News	1	2	2	4	3	3	3	2
Partnerships	1	3	3	3	3	3	1	2
Quality of life	1	0	2	0	3	4	4	2
Reports/plans	2	3	2	2	2	1	2	2
Research	2	1	2	2	2	2	3	2
Sustainability	1	0	0	4	3	1	0	2
Taxes	2	3	3	3	3	3	3	3
Transportation infrastructure	2	2	0	2	3	3	3	1
Vision/mission statement	1	0	0	3	0	3	1	2
Water/sewage infrastructure	1	0	0	1	0	4	0	0
Weighted total (out of 236)		**109**	**94**	**103**	**104**	**108**	**97**	**115**

Functional Elements

This parameter refers to functions and tools of the website. A lower number signifies that the functional element is not available or in a poor state. A higher number signifies that functional element is easy to find and works well.

Ratings:

0	1	2	3	4
Not present at all	Incomplete/poor	Satisfactory	Very good	Excellent

Evaluation matrix:

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Available land search	3	2	2	3	4	3	2	4
Business directory	3	3	0	2	0	3	3	0

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Email page tool	1	0	0	0	0	0	4	1
Events calendar	1	4	3	2	0	2	0	0
Financial calculators/estimators	1	0	2	1	0	0	0	0
GIS mapping	2	3	3	3	2	0	0	2
Newsletter sign-up	1	2	2	3	1	4	3	2
Poll/survey	1	3	1	3	0	0	0	0
Printable page tool	1	4	0	3	2	3	3	0
Site search	3	4	2	2	1	2	2	2
Social media tools	2	3	0	1	3	0	4	0
Suggestions/feedback form	1	3	3	2	1	0	2	2
Videos	1	2	2	0	3	0	3	0
Weighted total (out of 84)		**57**	**31**	**43**	**32**	**33**	**44**	**27**

General Website Elements

This parameter refers to aspects of the website that are standard across all types of sites. A lower number signifies that the criterion is met poorly. A higher number signifies that the criterion is met very well.

Ratings:

0	1	2	3	4
Very poor	Poor	Satisfactory	Very good	Excellent

Evaluation matrix:

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Accessibility (via achecker.ca)	1	3	3	2	2	2	3	2
Clear, consistent branding	2	3	2	3	2	3	3	2
Completeness of information	2	3	3	2	2	3	3	3
Consistency of page layouts	1	3	2	3	1	4	3	2
Cross-browser compatibility	2	4	4	4	4	4	4	4
Ease of navigation	1	2	2	2	1	3	3	2
First impression	3	2	2	2	2	3	4	2

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Freshness of content	2	3	3	3	2	3	3	2
Language (grammar, spelling, etc.)	2	3	3	3	3	3	3	3
Links back to homepage	1	2	2	2	3	4	4	3
Load time	1	2	3	3	2	3	3	3
Mobile version	1	1	2	2	1	3	3	2
Quality of graphics	2	2	2	3	3	3	4	2
Readability	2	2	2	2	3	3	4	2
Use of colour	2	2	2	3	3	3	3	2
Use of photography	2	2	1	2	3	2	3	3
Weighted total (out of 108)		**67**	**64**	**70**	**66**	**82**	**91**	**66**

Search Engine Optimization

This parameter refers to aspects of the website that affect or are indications of its search engine optimization. A lower number signifies that the criterion is met poorly. A higher number signifies that the criterion is met very well.

Ratings:

0	1	2	3	4
Very poor	Poor	Satisfactory	Very good	Excellent

Evaluation matrix:

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Alt tags	1	3	4	2	1	2	2	1
No broken links	1	3	4	4	4	4	4	4
Google rank for “[city] economic development”	3	4	4	4	4	4	4	3
Google rank for “[city] site selection”	2	3	2	3	3	0	0	0
Google rank for “business in [city]”	2	3	1	2	0	1	0	0
Inbound links (using Google’s link: tool)	2	4	2	4	3	3	4	2
Keyword in domain or URL (economic development, business, etc)	2	2	3	0	0	4	4	0
Meta description	1	0	4	3	0	4	2	3
Meta keywords	1	0	3	3	0	4	3	3

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Relevant page titles	2	4	4	4	3	4	4	4
Valid HTML + CSS (W3C standards)	1	1	2	1	0	2	2	1
Weighted total (out of 72)		**51**	**53**	**51**	**35**	**52**	**49**	**33**

Social Media Utilisation

This parameter refers to the use and integration of social media tools on the website. A lower number signifies that the criterion is met poorly. A higher number signifies that the criterion is met very well.

Ratings:

0	1	2	3	4
Very poor	Poor	Satisfactory	Very good	Excellent

Evaluation matrix:

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
'Economy' section of city's Wikipedia article	1	1	3	4	3	4	4	4
Blog comments	1	0	0	3	0	0	0	0
Blogs	2	0	0	3	0	0	0	0
Facebook page and integration	1	2	0	3	0	0	3	3
Flickr account and integration	1	0	0	0	0	0	1	3
LinkedIn profile and integration	2	0	0	0	3	0	3	3
RSS feeds	1	2	0	2	2	0	2	3
Social bookmarking links: Digg, Reddit, etc.	1	0	0	0	0	0	4	0
Twitter account and integration	2	2	0	3	3	0	3	3
Regularly updated social media profiles	1	3	0	3	3	0	3	3
YouTube account and integration	1	2	0	3	3	0	3	0
Weighted total (out of 56)		**14**	**3**	**30**	**23**	**4**	**32**	**28**

Specialised Information

This parameter rates how easy to find and complete information is from two viewpoints:

A. A site selector researching for industrial/commercial facilities; and
B. A solo entrepreneur researching for a potential move.

A higher number signifies ease in finding relevant information and that it is comprehensive and complete.

Ratings:

0	1	2	3	4
Not present at all	Incomplete/poor	Satisfactory	Very good	Excellent

Scenario A: Site selector researching locations for industrial/commercial facilities

Evaluation matrix:

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Sector specialisation	1	3	3	3	3	3	3	3
Labour availability	3	2	2	3	3	3	2	3
Transportation	3	3	2	0	0	2	3	0
Available land search tool	3	3	0	0	4	3	2	2
Overall relevance of site	2	3	2	3	3	2	3	3
Profile with more information	2	4	3	3	3	4	4	4
Specialist contact information	1	2	0	0	0	3	0	3
Tax	1	3	3	3	3	3	3	3
Utilities	1	3	3	3	3	3	3	3
Weighted total (out of 68)		**49**	**31**	**30**	**42**	**48**	**44**	**41**

Scenario B: A solo entrepreneur researching for a potential move.

Evaluation matrix:

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Business start-up support	3	2	3	4	3	3	4	3
Community/events/networking	1	4	3	2	0	4	2	0
Overall relevance of site	2	3	3	3	3	3	3	3
Profile with more information	2	3	3	3	1	3	3	2

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Resources	1	3	2	3	2	3	2	3
Sector specialisation	1	4	0	3	3	4	4	3
Specialist contact information	1	2	0	0	0	2	2	4
Tax	1	3	3	3	3	3	3	3
Transportation	1	3	2	0	0	2	3	0
Weighted total (out of 52)		**37**	**31**	**35**	**25**	**39**	**40**	**32**

4.1.5 Overall Impression

This parameter refers to subjective aspects of the website that may rely on multiple factors. A lower number signifies that the criterion is met poorly. A higher number signifies that the criterion is met very well.

Ratings:

0	1	2	3	4
Very poor	Poor	Satisfactory	Very good	Excellent

Evaluation matrix:

Criterion	Weighting	Rating						
		Mississauga	San Jose	Portland	Phoenix	Calgary	Hamilton	Oklahoma
Architecture	3	2	1	2	2	3	3	4
Design impression	2	2	2	2	3	3	4	4
Ease of use	3	3	1	2	2	3	3	4
Look and feel	2	2	2	2	2	4	4	4
Appeal/flashiness	2	2	2	2	2	3	4	4
Professionalism (language, tone)	2	3	2	3	3	2	2	3
Sense of trust imbued	3	4	3	3	3	3	4	3
Weighted total (out of 68)		**45**	**31**	**39**	**41**	**51**	**58**	**63**

4.1.6 Summary of Scores

Content

Municipality	Score (out of 236)
Oklahoma	115
Mississauga	109
Calgary	108
Phoenix	104
Portland	103
Hamilton	97
San Jose	94

Functional Elements

Municipality	Score (out of 84)
Mississauga	57
Hamilton	44
Portland	43
Calgary	33
Phoenix	32
San Jose	31
Oklahoma	27

General Website Elements

Municipality	Score (out of 108)
Hamilton	91
Calgary	82
Portland	70
Mississauga	67
Phoenix	66
Oklahoma	66
San Jose	64

Search Engine Optimizations

Municipality	Score (out of 72)
San Jose	53
Calgary	52
Portland	51
Mississauga	51
Hamilton	49
Phoenix	35
Oklahoma	33

Social Media Utilisation

Municipality	Score (out of 56)
Hamilton	32
Portland	30
Oklahoma	28
Phoenix	23
Mississauga	14
Calgary	4
San Jose	3

Specialised Information

Scenario A

Municipality	Score (out of 68)
Mississauga	49
Calgary	48
Hamilton	44
Phoenix	42
Oklahoma	41
San Jose	31
Portland	30

Scenario B

Municipality	Score (out of 52)
Hamilton	40
Calgary	39
Mississauga	37
Portland	35
Oklahoma	32
San Jose	31
Phoenix	25

Overall Impression

Municipality	Score (out of 68)
Oklahoma	63
Hamilton	58
Calgary	51
Mississauga	45
Phoenix	41
Portland	39
San Jose	31

Summary

Category	Mississauga Rank (out of 7)
1. Content	2
2. Functional Elements	1
3. General Website Elements	4
4. Search Engine Optimization	3 (tie)
5. Social Media Utilisation	5
6. Specialised Information: Scenario A	1
6. Specialised Information: Scenario B	3
7. Overall Impression	4

4.1.7 Summary of Findings

Content

Mississauga's economic development website is strong in terms of its content, ranking third out of the cities studied.

Mississauga's site is strong in the areas of:

- demographics;
- licensing information;
- major industries and sectors; and
- reports and plans.

Some areas that Mississauga could enhance include the availability and ease of accessing:

- information about the economic development organization or department;
- business incentives;
- graphs and charts to help illustrate key data insights; and
- quality of life information.

The top-scoring economic development website in terms of content is that of Greater Oklahoma City. Although Oklahoma didn't rank highest in many categories, its site has very little content missing and serves as a good example of a comprehensive economic development website.

Functional Elements

Mississauga has the top economic development website studies in terms of functional elements. Particularly strong are its

- business directory;
- events calendar; and
- site search capabilities.

The only significant gaps in the functionality of Mississauga's website are the inclusion of an 'email page' tool and financial calculators or estimators; the best examples of these can be seen on Hamilton's and San Jose's website respectively.

General Website Elements

This category is the one in which Mississauga ranks the lowest with a rank of fifth. Areas of concern include:

- first impression;
- ease of navigating the site;
- mobile site version; and
- use of graphics, colour, and photography.

The Mississauga website's score on visual criteria indicate that the site is currently perceived to be drab and would benefit from an infusion of colour and imagery.

Hamilton's economic development website scored very well in this category, with ratings of 3 or 4 in every category. To improve its website, Mississauga would be well served by using Hamilton's website as a model of success, especially in its use of colour and images.

Search Engine Optimization

In the SEO category, Mississauga scored among the top municipalities, which are on the whole are doing a decent job at search engine optimization.

One area that has room for improvement for Mississauga is meta tags. The meta description and meta keywords fields are useful for some search engines in determining what a page is about and thus where to rank it for search queries. Calgary's meta tags are very well utilised and Mississauga's meta tags could be modeled off of theirs.

Mississauga would also benefit from a more keyword-focussed domain, such as mississaugaeconomicdevelopment.com or investinmississauga.com.

Another area of concern is the Mississauga website's W3C standard validity[16]. This may indicate that the website doesn't appear and perform properly on some browsers, possibly including mobile browsers.

Social Media Utilisation

Social Media Utilisation is a hit-or-miss category for the municipalities under study. There are those municipalities who 'get it:'

- Hamilton
- Portland
- Oklahoma
- Phoenix
- Mississauga (to a lesser extent)

And there are those who don't:

- Calgary
- San Jose

Mississauga could clearly benefit from a focussed social media strategy with a sustained push. Significant opportunities exist for Mississauga to:

- start a blog;
- enable commenting on blog posts;
- a Flickr account;
- start and integrate a LinkedIn profile; and
- fully utilise and integrate Twitter, YouTube, and Facebook accounts.

[16] The World Wide Web Consortium (W3C) is an international organization that develops web standards to ensure consistent usability. W3C validity refers to a web site or document's performance against certain technical specifications in the use of HTML and XHTML programming languages. This can help to recognize and address errors in a web site's display according to the newest Web standards.

Specialised Information

Mississauga's website has the most comprehensive and easiest-to-find for Scenario A (a site selector researching for industrial/commercial facilities); but is the third highest-ranked for Scenario B (a solo entrepreneur researching for a potential move). This could reflect a stronger focus on large business than small business and entrepreneurs.

In terms of specific improvement opportunities, Mississauga should improve its online resources for business start-up support. On this criterion, all other municipalities surveyed rate better. As well, it would be beneficial for website visitors in both scenarios to have specialist contact information easily accessible, i.e. a business development representative in the large corporate and small business sectors.

Hamilton and Oklahoma's economic development websites are strong in the areas in which Mississauga is lacking and should be used for reference for improving the Mississauga website.

Overall Impression

The ratings in this category are more subjective and thus produce fewer specific recommendations for improvement; however, there are some insights that can be used to improve the Mississauga website. Overall, Mississauga provides a good impression to website visitors, but with some obvious room for improvement.

The website architecture needs to be improved. It's unclear to what extent this can be done while the economic development portal remains a section of the larger municipal website. Only one other city studied, San Jose, has their economic development website integrated with the main municipal website. Giving the economic development department its own website (and thus URL as well) is something Mississauga should consider.

The 'look and feel' and design impression need improvement as well. These are difficult qualities on which to nail down specifics; the Hamilton and Oklahoma website have very strong overall impressions and should be held up as examples of well-designed economic development websites. Improvements in criteria in the General Website Elements category, such as "clear, consistent branding" and "use of photography," will result in improvements in overall impression.

4.1.8 Gap Analysis and Recommendations

4.1.8.1 Architecture

This benchmarking process has revealed some areas in which Mississauga's website is missing key information that would be useful and helpful for site visitors, including site selectors. It's recommended that Mississauga use the ratings in the Content category of this report as a guide to ensure that no information is missing from the website by developing a new content architecture.

The process of developing a new website architecture involves:

- inventorying all content currently on the website;
- ensuring content is easily accessible and logically placed; and
- filling gaps discovered with new content.

A clean, coherent website architecture is critical for economic development organizations who need to reach out to and engage with site selectors online. A thorough architecture process will produce a website

that is replete with valuable information yet makes it easy for visitors to find exactly what they're looking for with minimal effort.

There is not a single website in this study that rated well in the Content category; all have scores under half of the possible total. This indicates that there is a considerable opportunity for Mississauga to stand above other municipalities with the best-organized and easiest-to-use economic development website. The first step in this process is the creation of a logical and intuitive website architecture.

4.1.8.2 Setup

A large gap and one of the most straightforward to fill for Mississauga is in the setup of the economic development website. Currently, the site is a section of the larger municipal website, mississauga.ca. It's recommended that to improve ease-of-use and benefit SEO, the website be moved to its own domain (e.g. mississaugaeconomicdevelopment.com or investinmississauga.com) and have separate navigation from the municipal website. This recommendation should be completed in concert with the content architecture.

All other municipalities studied have their own domain name. As an intermediate step, Mississauga could purchase a domain name and serve its current economic development website from there. For example, the San Jose website is located at sjeconomy.com even though it's part of the main municipal website. However, it's recommended that Mississauga take a further step and move the website to its own domain entirely with separate navigation and design than the Mississauga municipal website.

4.1.8.3 Redesign

It's recommended that Mississauga redesign its economic development website. Using well-designed websites such as that of Hamilton and Oklahoma as a guide, Mississauga should develop a new design that is more appealing and engaging, and provides a better first impression to website visitors.

A website's homepage design is critical – if it doesn't impress immediately, the visitor will form a poor impression of the website and may move on to another site. Right now, the Mississauga economic development website does not impress. To reach out to site selectors and other researchers online, Mississauga needs a more dynamic and impressive web design.

4.1.8.4 Finishing Touches

'Finishing touches' means taking a closer look at the finer issues of the website from the point of view of a website visitor who knows nothing about Mississauga and its economic development information. This includes asking and answering questions such as:

- Is the website easy to skim?
- Can I recall what the website looks like after closing the browser window?
- Do the graphics on the website enhance the content?
- Can I easily find specific pages from other related pages?
- Are page layouts consistent so I intuitively know where page elements are?

Using the General Website Elements category of these benchmarking results as a guide, Mississauga should review the website and make improvements based on the answers to these questions. It's also recommended that these questions be kept in mind when new pages are created. This step should be executed after the site's architecture is reviewed.

Finishing touches are aspects that are common to all websites and help set a site apart from others. By focussing on aspects of the website like consistent branding, inter-linking, loading speed, and readability, Mississauga can set its website apart from the rest without significantly changing the content.

4.1.8.5 Search Engine Optimization

There are two specific improvements to search engine optimization that are simple and straightforward to carry out:

- Include an economic development keyword such as 'business' or 'invest' in the domain name (discussed in the 'setup' recommendation above); and
- Add meta descriptions and meta keywords tags to each page to better describe content to search engines and to provide keyword guidance for the rest of the page's content.

Meta tags can be written as part of a content architecture. This process will involve researching keywords and their popularity in search queries, and then logically applying popular keywords to existing pages or creating new ones to fill gaps that are found. Meta descriptions should only be written for top-level pages in the architecture to allow excerpts to continue to appear for deep search results. Calgary's website can be used as an example of good meta tag utilisation.

There's little benefit to having a quality economic development website if it's difficult to find from a search engine. Fortunately, Mississauga is already fairly well-positioned in terms of SEO. The changes recommended above will help cement this status.

4.1.8.6 Social Media Strategy

One of the only rating categories in which Mississauga did not fare well, social media has increasingly become a means of site evaluation for investors.

It's recommended that Mississauga prepare a cohesive social media strategy that encompasses all of the major social channels, including blogs, Facebook, LinkedIn, Flickr, Twitter, and YouTube. Content produced for one of these channels can often easily be applied to others; this is where having an integrated social media strategy can save time and effort while producing results.

The goal of a social media strategy is to make web content more highly visible to users of social media websites and increase links from these sites back to the Mississauga economic development website. By developing and executing a comprehensive and effective social media strategy, Mississauga will be able to catch up with and surpass other municipalities that are already well-established in this area such as Hamilton and Portland.

It's also recommended that Mississauga add social bookmarking links to its website, and update the Economy section of the city's profile on Wikipedia to be more comprehensive. There are some social bookmarking tools that also have 'email page' functionality, which would fill another of the gaps identified in this benchmarking survey. By adding these tools to its website, Mississauga can ensure it is connected with the growing social dimension of site selection.

4.2 Economic Development Information Package Benchmarking

4.2.1 Outline

The goal of the economic development information package benchmarking is to see where Mississauga's economic development info package stands in comparison to those of similar sized or situated municipalities across Canada and the USA. This includes determining in which areas Mississauga's

package needs improvement, and which other municipalities' materials can the City look to as an example of excellence in these areas.

Specific recommendations are made for Mississauga to implement in order to improve its economic development information packages. The goal of these recommendations is not to simply reach the level of other organizations' packages, but to surpass these organizations and position Mississauga as the leading location for businesses in North America with a leading information package.

4.2.2 Comparison Packages

Seven municipalities from across North American were chosen to be compared to Mississauga. Cities were chosen on the basis of being similar to Mississauga in population and/or similarly situated in terms of their industrial makeup or proximity to a larger economic area like the GTA. The following eight municipalities' economic development information packages were requested:

1. Mississauga, Ontario
2. San Jose, California
3. Portland, Oregon
4. Raleigh, North Carolina
5. Phoenix, Arizona
6. Calgary, Alberta
7. Hamilton, Ontario
8. Greater Oklahoma City, Oklahoma

Out of the municipalities on this list, Portland, Raleigh, and Calgary don't have printed, hard-copy packages but rather refer to their website for PDF or other electronic information. Thus, the following five municipalities' information packages were assessed:

1. Mississauga, Ontario
2. San Jose, California
3. Phoenix, Arizona
4. Hamilton, Ontario
5. Greater Oklahoma City, Oklahoma

4.2.3 Criteria

To effectively compare the packages received, each was reviewed and evaluated using matrices based on four criteria categories:

1. **Content**: This parameter refers to all content that is directly related to the municipality: about the economic development organization, facts and statistics, location, history, largest employers, etc.
2. **General elements**: This parameter refers to aspects of the package that are standard across most printed materials: layout, use of colour and photography, readability, etc.
3. **Specialized information**: This parameter rates how easy to find and how relevant information is from two viewpoints: a site selector researching for industrial/commercial facilities, and a solo entrepreneur researching for a potential move.
4. **Overall impression**: This parameter refers to overall aspects of the package: look and feel, sense of trust, professionalism, etc.

Criteria are weighted on a scale from 1 to 3, with 3 being more important.

Ratings from 0 to 4 are given for each criterion. The meaning of the ratings is explained in each section. If a rating of 4 is given for a criterion, an explanation is included as a footnote.

Each criterion's score is multiplied by its weighting to give a weighted score. The weighted scores are summed by organization to give total weighted scores for each category.

4.2.4 Package Contents

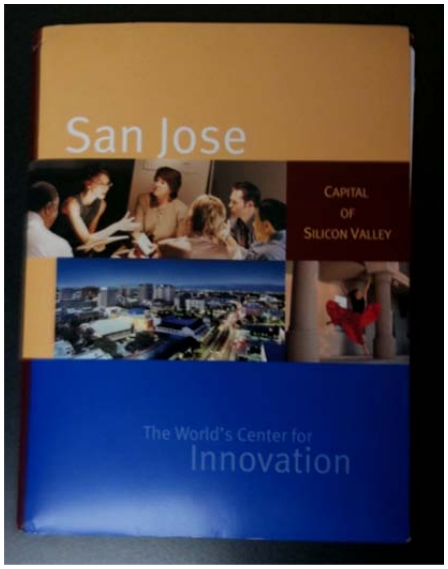
4.2.4.1 Mississauga, Ontario

- Sector profile packages:
  - Life sciences
  - Financial services
  - Automotive and aerospace
  - Information and communications technologies

- Small pocket folder: Business location advantages mini-pamphlet
  - New business mini-pamphlet
  - Welcome from City Council info card
  - City of Fortune info card
  - Sector profile mini-pamphlets: life sciences, financial services, automotive and aerospace, information and communications technologies, knowledge sectors

- Maps (fold-out)
- 2009 EDO program review booklet
- Info packages:
    - Taxes & assessment
    - Utilities & operational services
    - Market conditions
    - Transportation
    - A great place to live
    - Population, demographics & housing
    - Leading businesses in our community
    - Economic indicators
    - Labour & employment
    - Top employers

4.2.4.2 San Jose, California



- Business card
- Info booklet: San Jose's green vision
- Info package: Index of Silicon Valley 2010
- Pamphlet: Enterprise Zone
- Pamphlet: city facts
- Pamphlet: advancing the bioscience revolution
- Maps: enterprise zone and industrial project areas
- Economic development strategy 2010-2015 executive summary

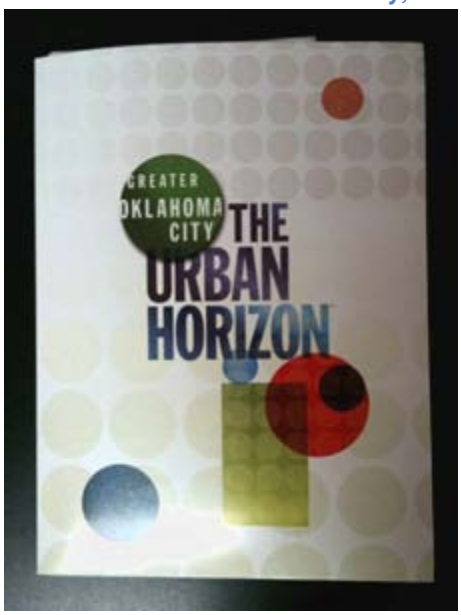
4.2.4.3 Phoenix, Arizona

- Info booklet: infrastructure
- Info booklet: demographics and labour force
- Info booklet: financing, incentives and taxes
- Sector profile booklet: nanotechnology
- Phoenix info sheet
- Info sheet: GPEC
- Info sheet: GPEC services
- Map

4.2.4.4 Hamilton, Ontario

- Business card
- Perspective magazine 2009
- Momentum booklet

4.2.4.5 Greater Oklahoma City, Oklahoma



- Info package: Oklahoma City retail & development
- Info booklet: Oklahoma City at a glance
- Info booklet: relocation guide (includes CD)
- Oklahoma City economic development news
- Info package: introduction to Oklahoma City
- Visitors guide

4.2.5 Comparison Matrices

Content

This parameter refers to all content that is directly related to the municipality. A lower number signifies great difficulty in finding the information or not having the information at all. A higher number signifies ease in finding the information and that it is comprehensive and complete.

Ratings:

0	1	2	3	4
Not present at all	Incomplete/poor	Satisfactory	Very good	Excellent

Evaluation matrix:

Criterion	Weighting	Rating				
		Mississauga	San Jose	Phoenix	Hamilton	Oklahoma
About the organization	1	3	1	4	2	0
Available land/properties	2	2	2	0	3	3
Awards/special recognition	1	3	0	0	4	2
Business associations	1	4	1	0	2	1
Business card included	1	0	4	0	3	0
Business incentives	2	4	2	4	1	4
Business parks	2	3	4	0	4	3
Business success stories	2	4	0	0	4	3
Business/industry events	1	1	0	0	2	1
Charts/graphs	2	4	4	2	1	3
Communications plan	1	2	2	0	1	0
Community/strategic planning	1	2	4	0	1	1
Contact information	2	3	4	4	3	3
Demographics	1	4	4	3	0	4
Downtown development	1	1	4	0	3	4
Facts and statistics: income	1	4	4	3	0	4
Facts and statistics: labour force by industry sectors	2	2	4	3	0	4
Facts and statistics: labour force characteristics	1	4	4	3	0	3
Facts and statistics: language	1	4	4	4	0	0
Facts and statistics: population by age	1	4	0	0	0	0
Facts and statistics: population by education	2	4	4	4	0	4
Financial assistance	1	4	0	4	1	2
History	1	0	2	0	0	2
Internet connectivity	1	4	0	1	0	0
Largest employers	2	4	4	1	0	4
License information	2	1	1	1	1	2
Location (maps)	2	4	4	3	0	4
Major industries/sector profiles	3	4	3	3	3	4
Municipal contact info	1	3	4	0	3	2
News	1	3	1	0	4	4
Partnerships	1	2	2	2	4	2
Quality of life	1	4	4	2	1	4
Reports/plans	1	4	4	1	1	3
Research	1	3	4	1	1	3
Sustainability	1	0	4	0	0	1
Taxes	2	4	2	4	0	4

Criterion	Weighting	Rating				
		Mississauga	San Jose	Phoenix	Hamilton	Oklahoma
Transportation infrastructure	2	4	3	4	1	4
Vision/mission statement	1	3	0	4	0	1
Water/sewage infrastructure	1	3	1	2	0	2
Weighted total (out of 216)		**167**	**143**	**103**	**78**	**148**

General Elements

This parameter refers to qualitative aspects of the package that are common to most printed materials. A lower number signifies that the criterion is met poorly. A higher number signifies that the criterion is met very well.

Ratings:

0	1	2	3	4
Very poor	Poor	Satisfactory	Very good	Excellent

Evaluation matrix:

Criterion	Weighting	Rating				
		Mississauga	San Jose	Phoenix	Hamilton	Oklahoma
Call to action	2	1	1	1	2	2
Clear, consistent branding	2	3	1	3	1	3
Completeness of information	2	4	4	2	1	3
Consistency of page layouts	1	3	1	3	3	2
First impression	3	4	2	3	3	3
Freshness of content	2	3	4	2	3	2
Language (grammar, spelling, etc.)	2	3	4	3	4	4
Quality of graphics	2	4	3	2	3	3
Quality of packaging	1	4	3	2	2	3
Quality of photos	3	4	2	3	4	4
Readability	2	3	3	3	3	3
Size	1	3	3	4	3	3
Use of colour	2	4	3	3	4	4
Weighted total (out of 100)		**84**	**65**	**65**	**71**	**77**

Specialized Information

This parameter rates how easy to find and complete information is from two viewpoints:

A. A site selector researching for industrial/commercial facilities; and
B. A solo entrepreneur researching for a potential move.

A higher number signifies ease in finding relevant information and that it is comprehensive and complete.

Ratings:

0	1	2	3	4
Not present at all	Incomplete/poor	Satisfactory	Very good	Excellent

Scenario A: Site selector researching locations for industrial/commercial facilities

Evaluation matrix:

Criterion	Weighting	Rating				
		Mississauga	San Jose	Phoenix	Hamilton	Oklahoma
Sector specialization	1	4	2	4	3	4
Labour availability	3	3	3	3	0	2
Transportation	3	4	2	4	0	3
Overall relevance	2	4	3	3	2	3
Profile with more information	2	3	2	3	1	4
Specialist contact information	1	1	1	3	1	4
Tax	1	4	1	4	0	3
Utilities	1	4	2	3	0	3
Weighted total (out of 56)		**48**	**31**	**47**	**10**	**43**

Scenario B: A solo entrepreneur researching for a potential move

Evaluation matrix:

Criterion	Weighting	Rating				
		Mississauga	San Jose	Phoenix	Hamilton	Oklahoma
Business start-up support	3	2	1	2	3	1
Community/events/networking	1	1	0	0	2	1
Overall relevance	2	2	1	2	2	2

Criterion	Weighting	Rating				
		Mississauga	San Jose	Phoenix	Hamilton	Oklahoma
Profile with more information	2	3	2	3	1	4
Resources	1	2	1	1	1	3
Sector specialization	1	4	2	4	3	4
Specialist contact information	1	1	1	2	1	0
Tax	1	4	1	3	0	3
Transportation	1	3	2	4	0	3
Weighted total (out of 52)		**31**	**16**	**30**	**22**	**29**

Overall Impression

This parameter refers to subjective aspects of the info package that may rely on multiple factors. A lower number signifies that the criterion is met poorly. A higher number signifies that the criterion is met very well.

Ratings:

0	1	2	3	4
Very poor	Poor	Satisfactory	Very good	Excellent

Evaluation matrix:

Criterion	Weighting	Rating				
		Mississauga	San Jose	Phoenix	Hamilton	Oklahoma
Design impression	2	3	2	3	3	4
Ease of use	3	3	3	2	1	3
Information hierarchy	3	3	2	2	2	2
Look and feel	2	3	2	3	2	3
Appeal/flashiness	2	4	1	3	3	4
Professionalism (language, tone)	2	3	4	3	3	4
Sense of trust imbued	3	3	3	2	3	3
Weighted total (out of 68)		**53**	**42**	**42**	**40**	**54**

Summary of Scores

Content

Municipality	Score (out of 216)
Mississauga	167
Oklahoma	148
San Jose	143
Phoenix	103
Hamilton	78

General Elements

Municipality	Score (out of 100)
Mississauga	84
Oklahoma	77
Hamilton	71
San Jose	65
Phoenix	65

Specialized Information

Scenario A

Municipality	Score (out of 56)
Mississauga	48
Phoenix	47
Oklahoma	43
San Jose	31
Hamilton	10

Scenario B

Municipality	Score (out of 52)
Mississauga	31
Phoenix	30
Oklahoma	29
Hamilton	22
San Jose	16

Overall Impression

Municipality	Score (out of 68)
Oklahoma	54
Mississauga	53
San Jose	42
Phoenix	42
Hamilton	40

Summary

Category	Mississauga Rank (out of 5)
1. Content	1
2. General Elements	1
3. Specialised Information: Scenario A	1
3. Specialised Information: Scenario B	1
4. Overall Impression	2

4.2.6 Summary of Findings

Content

Overall, Mississauga's economic development information package has by far the most comprehensive information of the cities evaluated. Nearly every content area studied is covered well. Still, there exist some gaps where information is not available or incomplete:

- Downtown development: the area is identified but not much detail is given
- History of the city
- Labour force by sector: this information is in the 'leading businesses in our community' info package; should also be available in the 'labour & employment package
- Business licensing information
- Partnerships with other economic development or business organizations
- Sustainability and environmental concerns

Mississauga should reference San Jose or Oklahoma for ideas on robust content for downtown development information. Hamilton's materials are good to reference for partnerships. San Jose includes a standalone booklet on sustainability that sets the bar for other municipalities.

General Elements

In the qualitative aspects of the package that are common to most printed materials, Mississauga rates the highest out of the cities surveyed. For all aspects studied, Mississauga's info package rated very well, indicating that the package is an effect marketing tool in terms of its presentation and quality.

The one area in which Mississauga and all other municipalities struggled is in the call to action. No package had a clear, consistently sponsored call to action such as "for more information on Mississauga's life sciences location advantages, please contact..." This is one area of improvement for Mississauga.

Specialized Information

For a Scenario A, a site selector researching for industrial/commercial facilities, Mississauga's info package is the most relevant and comprehensive of the cities studied. Phoenix and Oklahoma's materials are also very strong, and could be reviewed as part of any redevelopment of Mississauga's package.

The only gap in Mississauga's materials is the lack of specialist contact information. No municipality rated particularly well on this criterion, with the exception of Phoenix. Phoenix has contact information for

individual consultants with their sectors of expertise listed alongside. Mississauga would be well-served to follow Phoenix's example.

In Scenario B, a solo entrepreneur researching for a potential move, most municipalities surveyed do not have as much relevant information as for Scenario A. Mississauga's materials are the most relevant, but with gaps in certain areas that are common to most municipalities:

- Business start-up support information
- Community events and networking opportunities
- Resources for small businesses and entrepreneurs
- Specialist contact information

Like Scenario A, Phoenix and Oklahoma's materials are comparable to Mississauga's and could be reviewed for input for future materials.

Overall Impression

The ratings in this category are more subjective and thus produce fewer specific recommendations for improvement; however, there are some insights that can be used to improve Mississauga's marketing materials. Overall, all packages provided a positive first impression; however, the packages of Mississauga and Oklahoma really stood out from the others.

There are no areas in which Mississauga's economic development info packages need significant improvement. To improve ratings in this category, the only enhancements that can be made are fine attention to detail and minor improvements in broad areas:

- Design and branding consistency across all materials: different logos and fonts are used for different packages
- Organization of information such as different lengths of sector profiles; it may be worth it to reduce the amount of separate materials to produce an easier-to-use package
- Information hierarchy so the site selector or entrepreneur opening the package knows exactly what to look at first

Oklahoma's marketing package is very well-designed, has a high degree of professionalism, and is very consistent from a branding perspective. It would be good to reference as an example of a strong information package in the areas of improvement specified for Mississauga above.

4.2.7 Gap Analysis and Recommendations

4.2.7.1 Plug Content Gaps

Overall, Mississauga's economic development marketing content is very comprehensive, and doesn't need to be rewritten or reviewed. However, there are some gaps in content that should be filled for future versions of the info package according to the ratings and findings herein, including:

- Downtown development
- History of the city
- Labour force by sector
- Business licensing information
- Partnerships with other economic development or business organizations
- Sustainability and environmental concerns

Providing packages that are the most comprehensive and contain the most useful information will allow Mississauga to maintain its position above other municipalities.

4.2.7.2 Add Calls to Action

It's recommended that for each sector profile and info package, an obvious call to action be made at or near the end of the material. It would be best to provide the contact information of an EDO staff member who would be most knowledgeable in that specific sector or aspect of Mississauga's business advantages. As an example of relevant contacts, the Greater Phoenix Economic Council has contact information for individual consultants with sectors of expertise for each.

Calls to action tell the user of the information what to do next. The end goal of the informational packages is to promote Mississauga as a location for business; calls to action fit in this process as the pieces that connect the user of the information with Mississauga officials. They invite two-way communication rather than one-way, and this added dimension will help 'make the sale' of Mississauga as the place for business.

4.2.7.3 Consider Going Electronic

Out of the eight municipalities from which economic development info packages were requested, three did not have printed information to send but rather referred to electronic materials available on their website. While Mississauga has all its brochures available electronically, it should consider a customized functionality whereby a user can create their own brochure based on unique information requirements. Electronic materials have the advantage of being much less expensive to produce and easier to update with timely information.

One city that provides an example of effective online publication of marketing materials is Calgary. Calgary's economic development website provides a PDF presentation that is updated monthly with the latest economic development data and statistics. Along with this are reports and profiles in PDF format. This allows prospects to choose what information to view based on what's relevant to them, and also ensures that they're getting the most up-to-date information.

Mississauga should investigate the advantages and disadvantages to going web-only for economic development marketing materials. Some disadvantages could be mitigated through proper planning; for example, PDF versions of materials could be written to USB drives or CDs for dissemination at conferences and in response to in-person inquiries.

4.2.7.4 Integrate Printed and Electronic Content

An alternative to going completely electronic would be to better integrate printed materials with online content. This could be accomplished by preparing the package contents and website content in concert with each other so that the website can be quickly and easily updated with the latest data while the printed material is updated periodically, but refers to the website for the up-to-date information. For example, the 'Market conditions' info package could direct viewers to visit a specific webpage with more current data on business activity, real estate activity, and vacancy rates.

No municipality studied has strong linkages between its printed and electronic materials. This means there is an opportunity for Mississauga to set the standard for other municipalities.

5 BEST PRACTICE RESEARCH

In addition to the extensive background review that has been undertaken in preparation of the City's economic development strategy, consideration has also been given to a range of best practices as it relates to the implementation of the strategy moving forward. This includes the need to develop a set of performance measures that will assist the City's Economic Development Office in tracking the progress of the strategy and inform any adjustments to the action plan, as appropriate. While there is no consensus in the economic development community on the approach to performance monitoring, the City may wish to consider a range of community and economic indicators. The discussion provided in section 8.1 outlines the approach taken by a select number of U.S. and Canadian jurisdictions.

The second consideration for the City of Mississauga is the organizational structure used by the City in its delivery of economic development programming and implications that this economic development strategy may have on that operation. While the current operation of the Economic Development Office is seen as working effectively, thoughtful consideration should be given to the most efficient and effective means to deliver the City's economic development function. Section 8.2 provides a high level understanding of the approach taken by several organizations in both the U.S. and Canada. This should not be seen as advocating for one structure over another, as a more detailed review is required before any informed decision can be reached.

5.1 Performance Monitoring

Though economic development is at its core concerned with the economic growth of a community, how this is achieved can vary greatly from place to place. There is a broad scope and variety of programs and projects that are considered to be "economic development". These include delivering services for small businesses and entrepreneurs, business investment attraction, business retention and expansion, tourism marketing, workforce training, physician recruitment, community beautification, brownfield redevelopment, downtown revitalization, shop local programs, and special events.

As economic development is most commonly funded through municipal resources, a key consideration for any economic development office is demonstrating that they are meeting the goals set for them and the broader community. Economic development departments must have an effective means of measuring their performance and demonstrating delivery on the goals and objectives for the community.

Performance measurement is a tool to determine how well this job has been done, using both qualitative and quantitative information and activities. A lack of clear measurements (or the communication of them) is one of the key reasons why economic development practices fail. Some of the key reasons for tracking activity and performance are:

- Providing public accountability
- Assisting with human resources management
- Using results to improve performance
- Identifying the return on investment

Unfortunately, performance measurement in economic development is not consistent across municipalities. To date, it has been unaffected by the Government of Ontario's Municipal Performance Measurement Program, which has set guidelines for almost all other aspects of municipal service delivery including road maintenance, emergency services and governance. In 2008 the City of Hamilton, in preparing their economic development performance measures for 2008, conducted a short survey of performance measures used by municipalities in Ontario. The measures being used are outlined in the table below.

Barrie	• Industrial land absorption • Number of new companies and start ups	• Employment growth by cluster • Number of new patents by cluster
Brantford	• Industrial land sales • New investment ($)	• Number of projects completed • Number of major initiatives
Burlington	• Balanced budget • New industrial and commercial assessment	• Number of Corporate calls • External revenue generated
Chatham-Kent	• New non-residential assessment*	• New non-residential jobs[17]*
London	• Number of company visits • Number of new jobs created • Number of square feet leased (non-residential)	• Number of new projects • Number of external sales calls • Building permits (non-residential)
Mississauga	• Number of corporate calls • Number of files/clients serviced	• Number of new files and projects
Niagara	• Completion of action items in strategy • Number of closed files	• Report on program activities
Oakville	• Number of company visitations • Number of new jobs created	• Completion of action items in the strategy
Windsor	• Number of company visits • Number of projects/files started	• Number of projects/files completed

From this assessment, the City of Hamilton identified a range of performance measures for their own economic development activities. These were:

City of Hamilton

- Taxable assessment growth to exceed 1.5% per year (net of appeals, demolition, write-offs, etc) by 2011
- Meet the established growth targets for 2011 of 540,000 people and 230,000 for GRIDS and Places to Growth
- Increase the number of community-redevelopment projects and economic development-related initiatives
- Increase the employment rate by 3% by the next Census

Planning and Economic Development Department

- Triple the amount of shovel-ready land by 2011 resulting in 850 acres
- Increase the value of non-residential building permits by 5% by 2011
- Annual Customer Satisfaction Survey - 90% Approval rating
- Prepare the new Urban Official Plan by June 2009 and new comprehensive commercial and industrial zoning by the end of 2009
- Prepare detailed secondary plans for new employment areas and identified nodes and corridors by January 2011
- Celebration of Successes - Annual Report to the Community
- Increase the number of positive media reporting on a year over year basis

[17] *If they touch it - they claim it

Downtown and Community Renewal Division

- Decrease the office vacancy rate by 25% in Downtown Core based on 2008 baseline by January 2011
- Increase the # residential units Downtown by 150 (per year) starting in 2009
- Complete two (2) significant waterfront developments per year starting in 2009
- Increase in downtown property taxes by $1.45 million (per year) based on a 2008 baseline

Economic Development and Real Estate Division

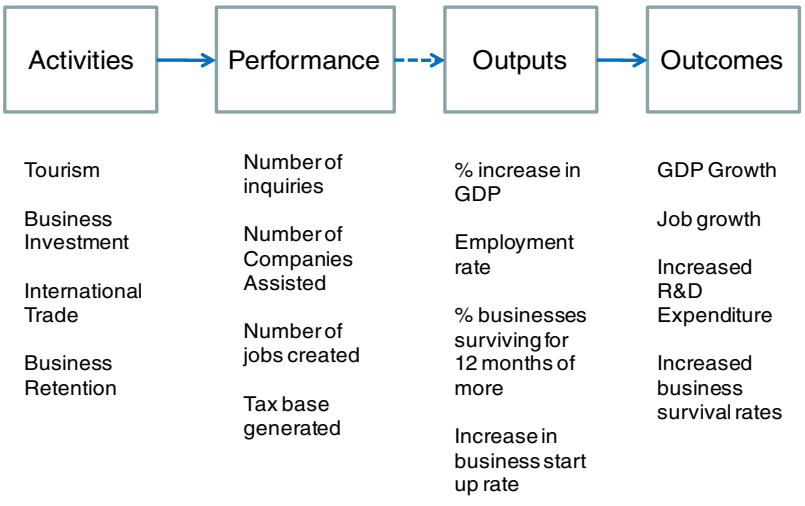
- Increase the # of Brownfields redeveloped by two (2) per year based on a 2008 baseline
- Increase the number of new businesses (net of closures) by 5% per year based on 2008
- Increase the # of new jobs in Hamilton by 10% year based on 2008 baseline
- Increase the # of small business jobs** by 50 per year based on 2007 baseline
- Increase direct economic impact of film by $1M (per year) on 2008 baseline
- Increase total Gross Farm Receipts by Commodity types and Percentage Total by 2% per year based on 2008 baseline
- Increase the number of Corporate Calls by 10% per year based on the new Business Retention and Expansion Program with a 2008 baseline
- Completion of multi-year Economic Development Strategy by December 2009

This lack of consistency in economic development performance measurement can also contribute to a lack of appreciation for the real impact economic development efforts can have on a community. In an effort to provide an understanding in this regard, the following discussion defines the theoretical basis for performance measurement, as well as identifying examples of how other communities have applied this in defining their performance management in economic development.

5.1.1 The Logic Model of Performance Management

In developing performance measures for economic development it is important to understand how economic development activities contribute to the overall goals and objectives of the community. This is best illustrated through a logic model of performance management, as illustrated below.

Performance Management Logic Model



In this model, the ultimate results the community looks to achieve are defined as *outcomes*, which can be understood as bottom line conditions deemed to be important by the government and/or community. They tend to be high level statements that capture the comprehensive needs that must be met to achieve success, and require a concerted effort by the whole community. To identify progress towards these high level goals, *outputs* or indicators (for which data is available) are defined that help quantify the achievement of a desired result. These *outputs* can be "hard data", such as rates of business start-up or business survival rates; or they can be "soft" indicators requiring data collection, such as people's attitudes and perceptions and are usually related to key characteristics of a "successful" community.

One of the biggest challenges in performance management is the terminology used. Often the terms outputs, outcomes are interchanged or used differently between communities. In addition sometimes these are referred to as goals, or objectives. Whatever terms are used there are four parts to the logic chain:

1. A high level statement outlining the expectations of the community
2. An indicator of how the community will know if it is achieving this high level expectation
3. Identification of specific activities that will be undertaken by economic development
4. A measure of what that activity will achieve

These *outcomes* and *outputs* define the expectations and growth plans for the community as a whole and are not usually the responsibility of any one individual or group, often requiring a range of community stakeholders to achieve them. The activities of the economic development office operate within this overall plan for growth. Economic development activities can range widely from community to community, but for each of these activities it is important to set out performance measures that identify how well an agency's programs are working. Typically, these are quantifiable measures of the success or matters of timeliness, cost effectiveness and compliance with standards. For example, for business retention and expansion activities, an economic development office may measure the number of companies that were assisted in expansion plan development, and the number of jobs created as a result. Importantly, these measures are within the direct control of the economic development office and are not the high level targets that are set for the community, over which the economic development office may have little influence.

Ideally, these economic development performance measures have a strong connection to the *output* measures and *outcomes* that the community have defined. Demonstrating the link between an economic development department's performance measures and the broader community *outputs and outcomes* measures is often challenging, but is necessary to provide evidence that economic development activity is delivering on the goals of the community.

In short, *outcomes and outputs* have to do with the ends the community are trying to achieve; performance measures have to do with the means by which the economic development offices are seeking to achieve them.

Almost all economic development functions, whether municipal or regional, need to measure their performance across a range of functions. The following section identifies three communities that have established performance measures for their economic development functions. These communities are: the City of Phoenix, Arizona; the City of Durham, North Carolina; and the City of Edinburgh, Scotland.

5.1.2 City of Phoenix, Arizona

Phoenix is the capital city of Arizona, home to approximately 1.5 million people, and the centre of a larger metropolitan area. It currently has a diverse economy, centred primarily on high-technology industries and tourism.

To report on their performance, the City has developed the City Manager's Performance Report (CMPR) which provides performance information to the mayor, City Council, city management and the public on city programs and activities. In developing the CMPR, staff from the City Auditor's Office, City Clerk, Finance, Public Transit, Budget and Research and the Public Information Office worked to:

- Define the goals and objectives of the new CMPR;
- Identify and meet with department stakeholders and management;
- Select appropriate performance measures for each department/function; and
- Test the new CMPR with department/function representatives.

The CMPR includes all 29 City departments and 7 city functions. Departments are asked to identify and report only key measures. Where possible, performance is reported monthly to Council and City management. A separate annual performance report has been developed to provide meaningful information to the public on city services, programs and progress.

For all performance indicators included in the CMPR, historical data is presented in addition to the current year data. Where historical data is not presented, the measures was either not previous tracked or not previously tracked in the same manner as it is presented.

The Community and Economic Development Department (CEDD) is one of the City Departments that complete a performance report. This department's mission, services delivered, and performance measures are[18]:

Mission Statement: The CEDD's mission is to stimulate economic activity by offering a diverse range of value-added business and workforce solutions to build, revitalize, and sustain a quality community for Phoenix businesses and residents.

Key Services: Business financial assistance, business attraction, development assistance, international business attraction, retail business development, sports development, business retention and expansion, workforce development and small business technical assistance.

Performance Measures: There are six key performance measures captured as part of the City Managers December 2009 Performance Report for Community and Economic Development:

Capital Investment – Existing Businesses
Goal: Retain existing businesses that strengthen the local economy through capital investment
Significance: Capital investments by existing businesses signify commitment to growth through expansion. Actual results vary significantly one year to the next. Target reflects a downturn in the economy and budget reductions. Monthly data is self reported by companies.
Target: $10 million
YTD: $139.1 million

Capital Investment – New Businesses

[18] City of Phoenix, City Manager's Office, 2010. www.phoenix.gov

Goal: Attract new businesses that strengthen local economy through capital investment
Significance: Capital investment by new businesses signifies commitment to new growth through relocation. Actual results vary significantly one year to the next. Despite poor economic conditions, the estimate for FY09-10 is $150 million. Staff project that SB1403 will result in high capital investments in solar and other renewable energy projects in Phoenix.
Target: $150 million
YTD: $6.6 million

Estimated Jobs Retained
Goal: Maximize employment and sustain a strong economy by maintaining existing jobs
Significance: It is in the city's best interest to keep existing businesses strong and growing. Dislocated workers many times need re-training, and re-hire salaries are usually lower than previous ones. Target reflects a downturn in the economy and budget reductions.
Target: 500 jobs
YTD Retained: 513

Projected New Jobs Created
Goal: Attract new employers that generate quality jobs
Significance: Quality jobs lead to a more sustainable regional economy. Actual results vary significantly one year to the next. With the addition of Downtown Development, FY 09/10 will be significantly higher than FY 08/09.
Target: 4,150 jobs
YTD Created: 1,669

Average Salary for new Jobs
Goal: To illustrate the quality of jobs generated by new companies directly assisted by CEDD staff
Significance: High wages increase the quality of life and create a strong economy. Data is self reported by companies. Staff estimates that the average salary may decline from the FY08-09 actuals. FY08-09 was unique due to three data centers, which pay salaries that are nearly twice the median income, and other high-wage companies relocating/expanding to Phoenix.
Target: $40,000 average annual salary
YTD Average: $36,233

Training by Industry
Goal: Provide training programs focused on the city's six targeted clusters
Significance: Training is offered by third party providers approved by the local Workforce Board and the State Department of Education. FY 09/10 includes both Annual Formula funded (625) and ARRA projections (770) for occupational training and work experience. Does not include ARRA "summer only" work experience.
Target: 1,165 people trained
YTD Trained: 814

New Residential Units Created
Goal: Create residential units downtown
Significance: Housing is a vital part of the downtown renaissance. The Downtown Strategic Plan calls for the development of 10,000 additional housing units over the ten year period. Taylor dorms were completed in July 2008 which resulted in an increase in units created. Smaller residential construction projects remain under construction.

Target: 300 units
YTD Average: 926

While Phoenix has established a mission statement and specific targets which are measuring their specific activities they have not made a clear link back to the City's overall strategy and the long-term objectives of the community.

5.1.3 City of Durham, North Carolina

The City of Durham is located in North Carolina and is part of the Research Triangle, which includes the cities of Raleigh, Durham and Chapel Hill, The area has significant research and educational infrastructure, and is home to innovative, multi-national, high-technology companies including IBM and GlaxoSmithKline.

The City of Durham has developed a very well structured performance management system, linked back to the overall outcomes and goals of the community. Within the Office of Economic and Employment Development, they have identified that their activities contribute towards the City's Outcome of "Durham Enjoys a Prosperous Economy". They have set a range of Goals, Objectives and Strategies, as well as specific indicators to measure their achievement of these. These are[19]:

GOAL: Durham enjoys a prosperous economy.

OBJECTIVE 1: Redevelopment

To promote long-term economic growth through ongoing downtown and neighbourhood redevelopment efforts.

STRATEGIES: DOWNTOWN

- Implement five major projects: Durham Performing Arts Center, West Village II, Parrish Street, Durham Station and Durham Athletic Park.
- Expand Special Events.
- Enhance the Downtown Loan Program to attract more eligible clients.
- Maintain the Merchandise-Based Incentive Program.

STRATEGIES: NEIGHBORHOOD REVITALIZATION

- Continue and energize the Façade Program.
- Maintain the Merchandise-Based Incentive Program.
- Enhance the Opportunity Loan Program to attract more eligible clients.
- Continue to develop the small business agenda.
- Implement development/redevelopment projects in major neighbourhood retail project areas according to the RKG Assessment/Plan:
    - Angier & Driver
    - Main & Alston
    - Old Five Points
    - East Durham Retail
    - Fayetteville Street
    - Ninth Street

[19] City of Durham Budget and Management Services. 2010. www.ci.durham.nc.us/departments/bms

- West Chapel Hill Street

Measure	Actual (FY 2005)	Adopted (FY 2006)	Estimated (FY 2006)	Adopted (FY 2006)
Per capita growth*				
Assist in increasing per capita income of Durham residents above current levels	$30,494	$30,813	$31,129	$31,129
Tax Base growth**				
Assist in increasing the tax base in the following geographic categories:				
Northeast Central Durham	$187 M	$188.6 M	$188 M	$188 M
Downtown	$455 M	$455 M	$464 M	$464 M
State Economic Dev. Zone (excluding Downtown)	$3.1 B	$3.6 B	$3.7 B	$3.7 B
Citywide (commercial/industrial only)	$4.6 B	$4.8 B	$5.0 B	$5.0 B

* Figure is only available on an annual basis.
** These are broad community measures that OEED can have a positive impact on by carrying out its goals and objectives. There are, however, a number of outside factors that can affect these measures that are outside the control of OEED.

OBJECTIVE 2: Business Growth

To increase employment opportunities and maximize immediate economic growth by supporting the formation, retention, expansion and relocation of businesses, and by partnering with the three local colleges and universities, Duke, North Carolina Central University and Durham Technical Community College.

STRATEGIES: BUSINESS AND WORKFORCE

- Assist new companies in the start-up stage.
- Assist small and medium to large businesses to retain, expand or relocate jobs to
- Durham.
- Continue a minority outreach strategy with EOEA.
- Continue the Back Streets Company program.
- Market the Merchandise-Based Incentive Program.
- Expand the workforce development initiative, putting Durham residents to work: Strategic Plan, Joblink, Connecting to emerging jobs, youth.

STRATEGIES: UNIVERSITY-LED DEVELOPMENT

- Capture spin-off opportunities from Duke and NCCU research, especially in biotechnology.
- Collaborate on workforce development issues.
- Collaborate on small business assistance.
- Collaborate on redevelopment priorities.

Measure	Actual (FY 2005)	Adopted (FY 2006)	Estimated (FY 2006)	Adopted (FY 2006)
New Job Growth Assist in creation of new jobs for Durham residents	980	700	700	700
Joblink Visibility Job orders received through Joblink Job orders filled through Joblink Individuals placed in employment	 2,601 1,489 2,283	 3,613 1,445 N/A	 2,861 1,638 2,511	 2,861 1,638 2,511
% of Ex-Offender Program participants still employed 9 months after start date	N/A	N/A	N/A	75%

The City of Durham has developed a very clear logical structure, linking high level outcomes to specific goals and objectives for economic development. They have also defined specific measures which relate back to the goals and objectives, some of which relate to the overall economic performance, such as increasing per capita income, for which there will be many factors influencing, not just the performance of economic development. Other measures may be more relevant to economic development performance, such as job orders filled through Joblink. The strategies they have defined are more closely aligned to activities or actions that they are going to undertake. Ideally the measures that they would define should relate to these activities; for example, they have defined "Assist new companies in the start up stage" as a key strategy, and it would have been helpful to have defined a measure which indicated how many companies they are going to assist.

5.1.4 City of Edinburgh, Scotland

Edinburgh is the capital city of Scotland and the seventh-most populous city in the United Kingdom. Edinburgh has the strongest economy of any city in the UK outside of London and has been recognized as one of the fastest growing city regions in Europe. The economy is largely based around the services sector, driven by banking, financial services, higher education, and tourism.

The City of Edinburgh, in developing its economic development plan (2009 – 2012), has devised a number of key performance indicators that they are using to measure their progress. The Strategy was based on the City's vision for Edinburgh and was aligned to the Outcomes that the City had agreed on with the Scottish Government. Within these broad Outcomes the City's economic development has identified specific objectives, as well as activities it will undertake and for some of these activities specific measures. These are[20]:

Vision:

The City of Edinburgh Council's vision is that by 2015 Edinburgh will lead the most successful and sustainable city region in Northern Europe.

Mission:

[20] City of Edinburgh. 2010. www.edinburgh.gov.uk

The Unit's mission is to make a significant, sustainable and measurable contribution to closing Edinburgh's productivity gap with its international competitors.

Single Outcome Agreements (SOA):

The Economic Development Unit supports a number of high level outcomes agreed with the Scottish Government and the City's senior management. These include:

1	We live in a Scotland that is the most attractive place for doing business in Europe.
2	We realise our full economic potential with more and better employment opportunities for our people.
7	We have tackled the significant inequalities in Scottish society.
10	We live in well-designed, sustainable places where we are able to access the amenities and services we need.
12	We value and enjoy our built and natural environment and protect it and enhance it for future generations.
15	Our public services are high quality, continually improving, efficient and responsive to our local people's needs.

Economic Development Objectives:

By 2012 the ED Unit will have worked with public and private partners to help steer Edinburgh through the difficult economic climate and enabled it to have:

1. Attracted £500m of new private sector investment into physical regeneration.
2. Attracted an additional £100m in new commercial investment.
3. Increased the GVA of its domestic businesses by 1 % p.a. above the average.
4. Increased visitor spend in the city by 15%.
5. Brought 3,000 underprivileged people into sustainable employment, education or training.
6. Strengthen the connectivity of the city region nationally and internationally. Specifically, we will have produced a robust case for Tram Line 3, for the Forth Crossing and for the development of West Edinburgh in support of the airport.

For each objective they have then define the rationale for establishing the objective, the lead team within the economic development team, what other departments with the City Council will be needed and the external partners that they will need to collaborate with. They then define a number of specific project or activities they will undertake and the measure or time scale in which the activity will be completed. An example of Objective 2 is set out below.

Objective 1:	**Attract £500 m of new private sector investment into Edinburgh's physical regeneration by 2012**		
Rationale:	A realistic but still challenging target of £500m over three years has been set (supports Strategic Objective 1, 10, 12 and 15)		
Lead ED Team:	Physical Regeneration Support		
Internal Collaboration	Council, External Relations Team, Planning and transport teams, Services for the communities Department		
External Collaboration	Scottish Development International, Scottish Enterprise, Edinburgh Chamber of Commerce, Edinburgh Science Triangle		
Ref:	**Projects/Activities**	**ED Team Responsible**	**When/Measure**
1.1	Promote and manage investment in the development 07.- the Stmg of Pearls programme and the Waterfront	Physical Regeneration Support	April 2010
1.2	Rationalise and focus the arms length companies on physical regeneration objectives at West Edinburgh, the City Centre, the Waterfront and the Bioquarter.	Physical Regeneration Support	April 2009
1.3	Develop and implement, in tandem with community services a new 'affordable housing' strategy.	Physical Regeneration Support	April 2009
1.4	Establish a cross departmental, inter-disciplinary team made up of planning, skills, property, investment and transport expertise to develop joined up services for the city's key business investors.	Physical Regeneration Support	April 2009
1.5	Develop new research capabilities and robust business cases for transport, land	Strategy & Research	Ongoing

	use, sector skills, investment and tourism to strengthen our ability to influence investment.		
1.6	Package and then put out to international tender, new regeneration and property development opportunities.	Physical Regeneration Support	One major investment opportunity per year

Objective 2:	**Attract £100m of new commercial investment into Edinburgh by 2012.**		
Rationale:	New commercial investment revitalizes the economy (Supports SOA 1, 2 and 15)		
Lead ED Team:	Investor Support		
Internal Collaboration	External Relations Team, Planning and Transport Teams and Festivals and Events Team		
External Collaboration	Scottish Development International, Scottish Enterprise, Edinburgh Chamber of Commerce, Edinburgh Science Triangle and the city`s universities		
Ref:	**Projects/Activities**	**ED Team Responsible**	**When/Measure**
2.1	Develop new research on customers, on potential customers and to inform customer investment decisions and prioritise key sectors and in international markets	Strategy & Research	Ongoing
2.2	Build engagement in international markets by developing business and civic marketing campaigns through soft business, alumni and cultural networks.	Destination Promotion	One campaign per year
2.3	Organise and implement a series of investor events.	Investor Support	3 events per annum
2.4	Establish an account management system within the Council to ensure effective communication and support of major investors	Investor Support	April 2009
2.5	Continue to develop investment support for new and established Edinburgh companies.	Enterprise & Innovation	Ongoing

Objective 3:	**Increase the GVA of Edinburgh's domestic business by 1% p.a. above the average by 2012.**		
Rationale:	More work need to be done to establish a baseline for this objective (Support SOA 1 and 15)		
Lead ED Team:	Enterprise & Innovation		
External Collaboration	Scottish Enterprise, Edinburgh Chamber of Commerce, Edinburgh Science Triangle and the city`s universities		
Ref:	**Projects/Activities**	**ED Team Responsible**	**When/Measure**
3.1	Expand the remit of the Business Gateway to include medium-sized businesses and	Enterprise & Innovation	

	high growth start-ups (which are outside the current Gateway or Pipeline markets).		
3.2	Develop a city-wide innovation team for sectors and clusters which are not priorities for Scottish Enterprise.	Enterprise & Innovation	
3.3	Continue to support business forums such as the Edinburgh Business Assembly (EBA) particularly in the development of business sustainability programmes.	Strategy & Research	
3.4	Develop a new knowledge transfer forum.	Enterprise & Innovation	
3.5	Support and develop new and existing BIDS for the City Centre, West End and Leith	Enterprise & Innovation	

Objective 4:	**Increase visitor spending in the city by 15% by 2012**		
Rationale:	Supports SOA 1, 2 and 15		
Lead ED Team:	Destination Promotion		
Internal Collaboration	Festivals Team, Culture and Sport		
External Collaboration	ETAG, Edinburgh Hospitality Association, The Council's Corporate Communications Team		
Ref:	**Projects/Activities**	**ED Team Responsible**	**When/Measure**
4.1	Develop a new destination marketing strategy.	Destination Promotion	April 2009
4.2	Continue to develop the Edinburgh brand with a focus on talent, trade and tourism.	Destination Promotion	Ongoing
4.3	Run a targeted series of campaigns to increase investment	Destination Promotion	1 major and tourism. campaign p.a.
4.4	Provide support for Essential Edinburgh and other town centre bids and develop tram preparation business support. BIDS in place for Leith and West End by April 2010.	Enterprise & Innovation	April 2010
4.5	Provide support for Waterfront Edinburgh.	Destination Promotion	Ongoing
4,6	Provide support for the business tourism sector including convention business.	Destination Promotion	Ongoing
4.7	Deepen the cultural offer and create a year round programme of cultural events.	Destination Promotion	April 2010
4.8	Develop new internal press management and DP April 2009 communications strategy	Destination Promotion	April 2009

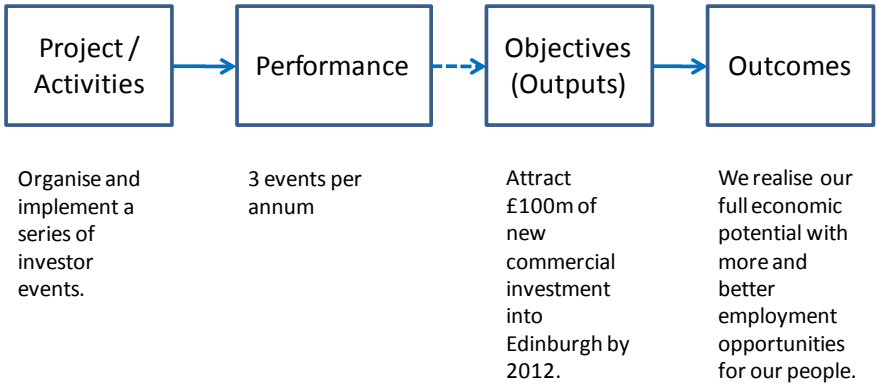
Objective 5:	**Bring 3,000 underprivileged people into sustainable employment, education or training by 2012.**
Rationale:	Target assumes an increase of 25% over current achievement levels and takes into account expected increases in economic

	activity. (Supports SOA 2 and 7)		
Lead ED Team:	Regeneration & Employment		
Internal Collaboration	Services for the Community, Corporate Services		
External Collaboration	Edinburgh and Capital City Partnerships, JobCentre Plus, and other teams in the Council involved in tackling poverty, current supplies and support services for the city.		
Ref:	**Projects/Activities**	**ED Team Responsible**	**When/Measure**
5.1	Continue and develop the Working for Families programme	Employment & Skills	Ongoing
5.2	Continue and develop Capital Skills	Employment & Skills	Ongoing
5.3	Support city Academies	Employment & Skills	Ongoing
5.4	Develop a new enterprise development programme for young people in underperforming areas	Enterprise & Innovation	September 2009
5.5	Continue to develop the social enterprise programme	Enterprise & Innovation	Ongoing
5.6	Develop a cross-departmental anti-poverty unit	Regeneration & Employment	April 2010

Objective 6:	**Strengthen the connectivity of the city region nationally and internationally**		
Rationale:	International competitiveness is increasingly about time, scale, access and connectivity. (Supports SOA 1)		
Lead ED Team:	Strategy and Research		
Internal Collaboration	Sustainability team, Transport team		
External Collaboration	Eight local authorities in the city region. Glasgow-Edinburgh collaboration		
Ref:	**Projects/Activities**	**ED Team Responsible**	**When/Measure**
6.1	Continue to encourage the alignment of sustainability and productivity by encouraging integrated public transport systems and home working.	Strategy and Research	Ongoing
6.2	Make a strong, research-backed case at various forums for strong city regions.	Strategy and Research	Ongoing
6.3	Continue lobbying, research and support for Edinburgh Airport and the West Edinburgh project.	Strategy and Research	Ongoing
6.4	Continue to support the Glasgow-Edinburgh collaboration.	Strategy and Research	Ongoing
6.5	Develop a city region strategy, regional leaders group and Economic Forum.	Strategy and Research	Ongoing
6.6	Continue to support tram preparation	Enterprise &	Project ends

		Innovation	2011

The City of Edinburgh has developed a strong logic model for their economic development strategy, with a number of actions which have very good measurable performance indicators for the department. For example the logic model for activity 2.3 would look like:



There are however a number of other projects which only have timescales attributable to them. Ideally these should have some quantifiable measure attached to them. For example, "Expand the remit of the Business Gateway to include medium-sized businesses and high growth start-ups (which are outside the current Gateway or Pipeline markets)", would be improved if it was to identify how many medium-sized and high growth start-ups it was going to deliver services to.

5.1.5 Relevance to Mississauga

In developing the City of Mississauga's Economic Development Strategy, the Economic Development Office will need to develop a logic model to illustrate how the activities that they are going to undertake will fit within the community's wider Strategic Plan. In this way, they will be able to demonstrate how their programming will impact both departmental goals, and the progress towards achieving the objectives of the overall Strategic Plan. They will also need to specifically identify what they will achieve with the activities and programs that they will undertake, and devise meaningful measures that allow them to illustrate how well they are performing. There are no specific sets of measures should be used to define their performance; rather the measures used must reflect the activities and projects that they are going to be running.

5.1.6 List of Commonly Used Performance Measures

The California Association for Local Economic Development has created a list of economic development performance measures (outputs) which are commonly used:

- **Community Development**
  - Percent of organizations that have adopted sustainable development goals
  - Government subsidies as percent of gross income
  - Annual capital dollars invested in municipal infrastructure
  - Percent of sustainable development compatible legislation
  - Number % of projects meeting objectives
  - Number of communities aided
  - Number aided water/wastewater systems achieving goals
  - Number of communities improving their telecommunications connectivity
  - Percent of cities desiring industrial development that have marketable industrial sites
  - Investments in community facilities by type of facility
  - Number of communities with strategic plans
  - Percent of department investment in distressed areas
  - Change in distress level of aided communities
  - Percent of department investments in rural communities
  - Percent of small businesses assisted
  - Percent of minority and women owned businesses assisted

- **Real Estate**
  - Industrial space used
  - Office vacancy rate
  - Number of building permits issued
  - Value of industrial and commercial property
  - Percent of new residential lots

- **Economic Measures**
  - Capital investments per job
  - Commercial investment
  - Amount/% of tax collected by industry
  - Number and value of business loans
  - Per capita debt
  - GDP per capita
  - Total dollars and dollars per capita deposited in local banks annually
  - Dollars spent in locally-owned businesses
  - Retail sales per capita
  - Tourism/bed tax revenues
  - Retail sales as a percent of personal income
  - Amount of private sector investment in EDA projects as a result of grants
  - Amount of state and local funds committed for EDA projects

- **Labour & Workforce**
  - Total wage and salary jobs per employed resident
  - Number of jobs in value-added manufacturing
  - Net job growth

- Percent of jobs created/retained above county average wage
- Average Salaries
- Manufacturing wage and salary jobs as a percent of total jobs
- Wages/benefits as compared to state levels or area with similar industry mix
- Number of job candidates with certifiable skills or college degrees
- Occupational distribution of women and minorities
- Unemployment rate
- Average earning per job
- Employment in hotel and lodging industry
- Employment by sector
- Jobs created/retained per FTE
- Number of commitments per FTE
- Average weekly initial claims for unemployment insurance

- **Business Measures**
  - Number of companies who export
  - Percent of GDP spent on research & development
  - Business participation in school and civic events
  - Percent of companies developing new products or services
  - State rank in telecommunications technology
  - New business started/New business licenses
  - Number of environmental services, products, and technologies exported
  - Percent of GDP from secondary production and business services
  - Number of business establishments
  - Manufacturing productivity
  - Value of business personal property per worker
  - Value of goods exported internationally
  - Farm Acreage
  - Values of key natural resources
  - Value added in hotel and lodging industry
  - Areas of Cropland that have been converted to developed land
  - Number of commercial crop varieties
  - Number of cluster identified
  - Growth in number of clusters identified in comparison to previous year
  - Growth of clusters compared to state growth of same cluster
  - Job growth in identified clusters
  - New sales of assisted exporters
  - Amount of freight transported by air, water, and land
  - New car inventories--US dealers' day's supply