Mississauga Office Strategy Study

Final Report

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City of Mississauga
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MISSISSAUGA PLAN REVIEW

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The Mississauga Office Strategy Study has been prepared for the City of Mississauga

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MISSISSAUGA DOMINATES THE GTA OFFICE MARKET, BUT ACTION IS NEEDED TO MAINTAIN ITS COMPETITIVE ADVANTAGE

Over the past 25 years, the City of Mississauga has become the dominant player in the Greater Toronto Area (GTA) office market outside Toronto, having added an average of 1 million sq. ft. (92,900m^2) of office space a year – despite two severe recessions and economic restructuring following the introduction of free trade. With 28 million sq. ft. (2,600,000m^2) of office development, the City now contains almost one third of all the office space in the 905 and in the past five years Mississauga has captured almost half (46%) of new office growth in the 905.

To put this into perspective in terms of municipal performance, Mississauga has significantly outperformed its neighbours over this period. Milton, Burlington and Oakville combined have a total of 7.4 million sq. ft. (687,000m^2); Vaughan has 1.5 million sq. ft. (140,000m^2); and the Don Valley/404/Markham corridor, despite having begun its growth somewhat earlier, has reached only 17 million sq. ft. (1,579,000m^2). Within the former Metro Toronto, the Etobicoke market has 2.8 million sq. ft. (260,000m^2), and North York – where growth has long had the advantage of the subway – the total is 10.5 million sq. ft. (975,500m^2).

This study, commissioned by the City to determine how best to build on its competitive advantage as an office location, estimates a minimum demand for another 10 million sq. ft. (929,000m^2) of office space between now and 2031, and a maximum of 25 million sq. ft. (2,323,000m^2) – provided that supportive policies are put in place now.

The report accompanying this executive summary contains more recommendations and proposed strategies while this executive summary is intended to convey the essential strategic direction of our report.

This report recommends a package of fiscally responsible strategies and innovative official plan policies designed to address four key challenges.

- **Office development in Mississauga City Centre is stalled.**

  In 1992, the City Centre was Mississauga's most successful office location, with approximately 3 million sq. ft. (279,000m^2) of prestige office space.* But no large stand alone office buildings have been built in City Centre since 1992. Significant office development has since gone to Meadowvale, Gateway, and Airport Corporate Centre. Action is needed to revitalize the City Centre office market.

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* Approximately only 100,000 square feet has been added to the City Centre since 1992, increasing the total supply by less than 3% over 15 years. No large (100,000 sq. ft +) stand alone office buildings have been built in the City Centre since 1992.

- **Traffic congestion is worsening in the City's top office locations.**

  Tenants have driven the marketplace by seeking out low cost, high quality, highway accessible locations. Meadowvale and Airport Corporate Centre, the two employment districts in Mississauga responsible for 70% of all new office development over the past decade, are heavily dependent on automobile access. Only 6% of rush hour trips are made by public transit. Without appropriate policies, congestion will worsen, and potential office tenants may gravitate to less congested sites elsewhere.

- **Current development patterns waste land and promote sprawl.**

  Current rates of land consumption limit Mississauga's capacity to accommodate new office space in sites attractive to the marketplace. Large expanses used for surface parking increase the amount of land consumed by each development and limit the size of new buildings. This is inconsistent with a growing desire expressed by tenants for "green" office space and buildings.

  Landlords and developers raised these points during our interviews with them. Their top priority is offering tenants a high-quality business environment, and they are looking to the City to promote higher-intensity development, tap into burgeoning interest in green development, and introduce higher-order transit.

- **Current office policies undermine the City's goals for city-building.**

  There are many places throughout the City that permit office uses with no limit on building size or height. This restricts the ability of the City to achieve its city building goals by directing office uses to specific locations such as the City Centre. Most of the nine official plan designations allowing office uses simply list offices as one of many permitted uses, offering little guidance in terms of the desired built form, scale or size of building. The result is that although a few business park type settings have been successfully developed, stand-alone office buildings have been built in many different places throughout the City, sometimes in isolated locations, detracting from the City's desire to concentrate offices in locations that can be more easily served by public transit.

Summary of Strategies:

The strategies below have been identified by the study team and are provided here in summary format. A more detailed discussion of each of the strategies is provided in Chapter 6, *Strategies and Policy Recommendations*.

1. **Adopt a new office designation hierarchy to direct prestige office development to desired locations and discouraging but not restricting development of isolated, stand-alone office buildings elsewhere in the City.**

   The challenge: Existing official plan designations and zoning permissions convey to property owners certain expectations that translate into value. When there are no policy limits in place, it is a challenge to introduce new policies that convey different messages in terms of the City's expectations for use, scale and built form.

The opportunity: It is nevertheless incumbent on the City to attempt to reshape its policies regarding office development in order to prepare the City for the next wave of growth and, in particular, make it very attractive for new companies to re-locate in Mississauga. The time is right for this transformation because Mississauga is in the process of shifting to a focus on reurbanization rather than greenfield development. The provincial Growth Plan provides strong additional support for this move. No general recommendations regarding existing policies for offices in Business Employment districts are necessary.

The proposal: The proposed office policies in Chapter 6 provide explicit guidance for future office development. These policies address specific goals for re-energizing the City Centre office market; support the creation of a transit-oriented, high quality business environment on Hurontario Street; support more intensive development in prestige locations such as Meadowvale and Airport Corporate Centre; support the status quo in industrial park settings; and recommend that stand-alone office buildings larger than 4,000m2 (43,000 sq. ft.) be actively discouraged in all other locations in the City. Presently offices can be constructed within most land use designations in the City, the new policies would limit office development to the following designations: *Downtown Office, Major Office, Business Employment,* and *Local Office*.

Downtown Office: this designation is intended to provide for the highest intensity of development in Mississauga, supported by higher order transit. Underground parking will be required for new offices in the designated downtown core (Chapter 6, Figure 6.2). The intention is to create a "green," fine grain, pedestrian oriented environment capable of attracting firms of international, national and regional status seeking a downtown setting. The range of uses currently permitted would be included in the Downtown Office designation but office uses would be the predominant land use. Minimum densities will be prescribed and the zoning amended to impose a temporary cap on residential development for a period of five years to allow any of the selected strategies identified in this study to come into effect.

Major Office: this designation is intended to facilitate the creation of a transit-oriented office environment on Hurontario Street to compliment plans to introduce higher order transit. Uses other than office will be permitted in this designation in recognition that there are sites on Hurontario where uses compatible with a high density, transit-oriented environment are already designated or built. Uses incompatible with higher density, place-focused setting such as big box and highway commercial development should b e actively discouraged. Within the corridor, the ongoing land use/transportation study on Hurontario should recommend a process for undertaking secondary plans that identify appropriate locations for the implementation of the Major Office designation and where office-focused locations should be designated. Office-focused sites are those which will require office uses to be the predominant land use.

Business Employment (Business Parks): Retain the *Business Employment* designation as the principal designation applicable to business parks such as Meadowvale, Airport Corporate, and Sheridan Park. This is intended to provide for more intensive development over time in response to investment in bus rapid transit (BRT), GO Transit lines and stations, and the upgrading of municipal bus service, while acknowledging the historical success of development in the City's business parks. It is noted that Airport Corporate Centre and parts of Meadowvale Business Park are designated as *nodes* in the current plan, which affects their development potential by removing any limits on permitted floor space. The City will be reviewing its policy with respect to nodes as part of its official plan review.

Local Office: this designation will be applied primarily to arterial roads in a variety of neighbourhoods and commercial settings in locations other than employment districts. This designation will incorporate professional offices, medical offices and other office uses serving a local market and could include provisions for retailing. In order to support the concentration of major office buildings in specific locations such as the City Centre and on Hurontario, stand-alone office buildings in Local Office areas will be limited.

More detail on the office Hierarchy is provided in Chapter 6.

2. Kickstart office development in the City Centre while addressing urban design issues.

The challenge: A major barrier to new office development in the City Centre is the high cost of underground parking. At the same time, the area has no room for more surface parking. Existing surface parking detracts from the quality and character of built form in the City Centre, preventing Mississauga from achieving its goal of creating a fine-grained, pedestrian-oriented, transit-friendly downtown, and the high quality business environment desired by office tenants.

The opportunity: The City of Mississauga has outgrown the civic centre, and needs up to 100,000 sq. ft. (9,200m^2) of new space to accommodate City staff. This presents a unique opportunity to use the City's own space needs to ensure the development of at least one new City Centre office building by becoming an anchor tenant. City Centre office development represents the pinnacle of a proposed office development hierarchy (described in detail in the full report, Chapter 6).

If the City were to invest in underground parking in partnership with an office developer and utilize one or more additional recommended financial incentives designed to make office development with underground parking financially feasible, this would represent an investment in urban form that ultimately could raise the assessment base in the City Centre, and help to achieve the City's other goals for the downtown.

The proposal: The City of Mississauga should stimulate the City Centre office market by utilizing one or more of the financial incentives listed in Chapter 6 of this report. In order to achieve the desired urban environment and business climate required by tenants and office building developers over the long term, while also creating a new assessment base for the City, an improved public realm, and new employment opportunities for Mississauga residents, we recommend:

A. That Mississauga invest in underground parking and become an anchor tenant in at least one new office development.

B. That the investment in underground parking would be towards the capital cost ($14 million for 400 stalls -- 80% of the overall parking requirement) that would be reduced by a developer contribution of $6 million ($15,000 per stall). Tenants would then pay a nominal parking fee at the outset, which would increase annually until the financial investment by the City is no longer needed (between 19 and 27 years depending on the rate of escalation). The value of the City's investment to the developer would be sufficient to trigger new construction while the City would retain the garage asset.

C. That the City of Mississauga should take advantage of a range of financial incentives to effectively urbanize the City Centre. In order to make the office building with underground parking financially viable, the City of Mississauga should stimulate the City Centre office market by utilizing one or more of the financial incentives listed in Chapter 5 of this report (these include use of Tax Increment Financing or Tax Increment Equivalency Grants, and an exemption from certain fees and taxes). Doing so will help the City to achieve the desired urban environment and business climate required by tenants and office building developers over the long term, while also creating a new assessment base for the City, an improved public realm, and new employment opportunities for Mississauga residents. Where negotiation, partnership, or co-operation with other levels of government is required to implement one or more of the financial tools that are recommended, the City should initiate a dialogue as soon as possible. These incentives should be timed to work in conjunction with a proposed residential cap (6.1.1a).

D. The creation of a multi-disciplinary team at the City of Mississauga exclusively dedicated to promoting the City Centre and expediting development applications for office and other employment-oriented development in the core and at future office-focused nodes in the Hurontario Corridor.

3. Go green in the City Centre.

The challenge: Aging buildings in the City Centre have higher operating costs, requiring landlords to absorb up to $2/sq. ft. ($23.57/m^2) to remain competitive.

The opportunity: Landlords in other markets are taking advantage of growing public interest in sustainability by retrofitting older buildings to improve air quality, lower energy consumption (and costs), and reduce greenhouse gas emissions. A recent industry survey found that 90% of tenants want a green office environment and 65% would pay a premium to lease such space. The Building Owners and Managers

Association (BOMA) is working with local landlords and developers to help them upgrade building performance (Go Green Plus). A BOMA partnership with the Ontario Power Authority involving 40 Toronto buildings is expected to reduce electricity consumption by 30 million kilowatt-hours, for annual savings of at least $2 million. LEED® (Leadership in Energy Efficient Design), a rating system developed by the Canada Green Building Council (CaGBC), is the industry standard for new green construction in the commercial sector. By embracing these industry-wide trends, Mississauga can reposition the City Centre as a green leader while addressing issues that affect the area's competitiveness. As well, a recent report prepared by the Canadian Urban Institute for Infrastructure Canada identified the City Centre as having sufficient energy demand to warrant the consideration of a district energy system. The report cites the benefits of district energy including reduced greenhouse gas emissions, reduced reliance on the electricity grid, and district energy's role in ensuring reliable long-term price stability. Hydro One has indicated that southern Mississauga is close to capacity in terms of introducing new transmission lines to supply electricity. The introduction of district energy would help address this concern.

The proposal: The City should work with landlords in the City Centre, BOMA, and the Ontario Power Authority to make the OPA's conservation demand management grants program available to City Centre landlords, and adopt the LEED standard for new office development. The City should also consider conducting a City Centre district energy system feasibility study, which would be an eligible cost under the new provisions of the Planning Act (through Bill 51) with respect to Community Improvement Plans.

4. Intensify the Hurontario Corridor and create attractive office sites that will be served by higher-order transit.

The challenge: Although Mississauga still has plenty of vacant employment land, only half of the sites are in places that are attractive to the office market. Meadowvale and Airport Corporate Centre need to be developed more intensively and the Hurontario Corridor – including the City Centre − needs to be made more attractive to investors. Having proven its ability to attract prestige office development and thousands of jobs over the past 25 years, Mississauga must now invest (in partnership with other levels of government) in essential transit and related infrastructure to service the next generation of growth.

The opportunity: Case studies from other jurisdictions show that constructing light rail transit and implementing the principles of transit-oriented development can attract high-quality, higher-density development; generate jobs; add to the tax base; persuade car-dependent commuters to switch to transit; and achieve levels of ridership high enough to reduce the time needed to make operation of LRT service viable. Hurontario could support higher-order transit: the City's Urban Growth Centre already has 80% of the provincial target of 200 jobs and residents per hectare. Hurontario also has many vacant sites close to key intersections that could support high-quality transit-oriented development. With firm planning controls, innovative urban design guidelines, and appropriate incentives, Hurontario could be transformed into an

irresistibly attractive environment for new investment in the next generation of office development. There are also precedents for building base infrastructure such as stations and the track bed required for LRT before funds are available to supply rolling stock, to send appropriate signals to developers and other investors early on.

The proposal: In preparation for the introduction of higher order transit on Hurontario Street, the City should conduct one or more secondary plans designating transit-oriented development nodes along Hurontario that will contain office-focused uses adjacent to transit stations. The nodes should be developed in accordance with the proposed new office designation hierarchy. This action consists of the following steps:

- Complete the higher order transit study on Hurontario as quickly as possible, then fast-track the environmental assessment.
- Establish urban design guidelines for the corridor to support the expected alignment of future transit and station locations.
- Develop a secondary plan, or plans, for each potential node, covering a normal walking radius of 500-600m, specifying office-focused sites, appropriate densities, and development requirements (including setbacks, build-to lines, pedestrian routes, and direct transit connections) to give developers and investors a clear sense of development potential and to ensure that office development initiated before the provision of higher-order transit remains compatible with overall design objectives.
- Articulate a vision and principles for a high-quality public realm in each node, showing how developers can contribute to making it happen.
- Adopt policies to discourage inappropriate uses such as big box retail, identify office-focused sites in the zoning by-law closest to the proposed station stops for higher order transit, and develop new policies that provide a basis for minimum and maximum densities.

The City should also consider delaying the introduction of maximum FSI limits for a defined period following the commitment to build higher order transit in order to provide a window of opportunity for developers to respond to these new policies.

INTRODUCTION | THE MISSISSAUGA OFFICE STRATEGY STUDY:

MISSISSAUGA HAS A WINDOW OF OPPORTUNITY TO TRANSFORM THE OFFICE MARKETPLACE

Mississauga is at a critical point in its evolution as a city. Increasingly, the focus of municipal leadership is turning to the challenges of reurbanization and city building rather than greenfield development. To help the City build on gains achieved through rapid growth over the past few decades that have seen Mississauga become the second largest city in the Greater Golden Horseshoe, the Canadian Urban Institute was retained to provide advice in the form of policies and strategies on how the City can maintain and enhance its competitive position as an office location.

What we were asked to do

The Canadian Urban Institute was retained to prepare a report on the office market in Mississauga, forecast demand, assess current financial issues associated with office development, and provide advice on policies and strategies to expand the office market. The goal of the study is to enhance Mississauga's role in the region's office market as well as to provide guidance to the City to ensure that it has sufficient land and infrastructure to enhance its position as the pre-eminent office location in the 905.

We were also asked to consult with local landlords, developers and office tenants to determine what industry needs from the municipality to make the city a competitive place to conduct business and to identify specific

actions that should be taken. As a starting point, using data provided by Real Estate Search Corporation, we assembled and mapped historic and current market intelligence on office building locations in Mississauga and the rest of the Greater Toronto Area (GTA) as well as the size and nature of office tenancies. We reviewed current official plan policies and zoning to determine what changes might be appropriate. The CUI also prepared pro forma analyses to better understand concerns over financial barriers raised in our discussions with the development industry. We were also asked to pay special attention to the City Centre and provide insights into why there has been no office development there since 1992.

In the course of this assignment, we also received helpful feedback from Mississauga staff, which has been incorporated into this revised report.

The time is right

The timing for this re-evaluation of the City of Mississauga's office policies is good for four important reasons:

The Growth Plan

First, the Province of Ontario's recently adopted Growth Plan for the Greater Golden Horseshoe provides a consistent, focused policy framework within which committed municipalities like Mississauga can work to implement plans for higher residential and employment densities. The province has indicated that priority for investments in infrastructure will be given to communities that further the goals of the Growth Plan. Within the defined scope of infrastructure, priority will be given to transit investment. This commitment will benefit the City's desire to move forward with major investments in rapid transit, maintain its current strong position as a location for major office development within the Greater Toronto Area (GTA), intensify existing office nodes and direct future growth to places well served by transit. As well, this study can take advantage of new provisions contained in the recently adopted revised Planning Act.

The Greater Toronto Transportation Authority (now known as Metrolinx)

Second, the results of this study have the potential to be integrated into a regional transit plan currently being prepared by the recently established Greater Toronto Transportation Authority (GTTA), recently renamed Metrolinx. It is expected that major new capital funding will be made available over the coming decades to municipalities that demonstrate their readiness.

Mississauga has many complementary initiatives under way

Third, the City is undertaking or preparing to begin a number of studies that potentially complement this study. These include a complete review of its official plan, a nodes study, a parking study and full-scale review of the potential for higher order transit on Hurontario, as well studies directed at improvements to the block design and pedestrian environment in the City Centre.

Shifting Drivers for Office Development

Finally, there are indications that the drivers for office development in the GTA are starting to change in ways that potentially benefit the City's goals. For the first time since the severe recession of the early 1990s, developers are risking capital to build multi-tenant office buildings rather than restricting their new construction to design-build projects. A number of these "spec" buildings are under construction in Mississauga and elsewhere in the 905.[1] This report will provide innovative strategies aimed at tapping into this positive trend.

Recent Office Development

Continuing past trends, a substantial number office construction and expansion projects in Mississauga have been under way since 2005. The majority of these have been in Airport Corporate Centre, Gateway, and Meadowvale (See table I.1). With the right set of strategies the City of Mississauga will be in a better position to expand its current competitive advantages, attract additional demand for office space, and also engage in city-building initiatives such as the development of transit corridors and downtown intensification.

				Office Space	
Year	Name	Address	Area	m^2	ft^2
*		4715 Tahoe Blvd.	Gateway	28,569	307,513
*	Petro Canada	2484 North Sheridan Way	Sheridan Park	8,080	86,972
2008		6950 Creditview Rd.	Meadowvale	9,899	106,547
2007		5750 Explorer Dr.	Airport Corporate	9,928	106,865
2007		2680 Matheson Rd. E.	Airport Corporate	11,696	125,900
2007		80 Courtney Park Dr. W.	Gateway	7,003	75,385
2007		60 Courtney Park Dr. W	Gateway	7,743	83,347
2007	Citigroup Building	5900 Hurontario St.	Gateway	18,674	201,000
2007		6605 Hurontario St.	Gateway	5,392	58,034
2007	Kingsway Financial	7120 Hurontario St.	Gateway	19,592	210,883
2007		1830 Matheson Blvd.	Airport Corporate	5,391	58,030
2007		1820 Matheson Blvd.	Airport Corporate	4,385	47,205
2007		1790 Matheson Blvd.	Airport Corporate	2,804	30,185
2007		2550 Meadowpine Blvd.	Meadowvale	4,736	50,983
2007		6775 Financial Drive	Meadowvale	12,106	130,310
2006	Maple Leaf Foods	6985 Financial Drive	Meadowvale	16,723	180,000
2005		5110 Creekbank Rd.	Airport Corporate	9,440	101,616
2005		6990 Creditview Rd.	Meadowvale	11,148	120,000
2005		2075 Hadwen Rd.	West Mississauga	1,208	13,000

TABLE I.1: New Office Constructions and Expansions, City of Mississauga

Mississauga presently has a number of office construction projects which have recently been completed or which are expected to be complete within the next few years. This table indicates each such project. Maple Leaf is expected to become the anchor tenant in a new office building to open in 2009.

DATA SOURCES: Real Estate Search Corporation & City of Mississauga (*)

[1] See the Financial Review chapter (Chapter Five) for more detail.

IMAGE 1.1: Mississauga City Centre Model
This model at City Hall illustrates a previous vision for City Centre

CHAPTER ONE | THE MARKET CONTEXT FOR OFFICE DEVELOPMENT IN THE GTA

This chapter describes the principal functional and spatial trends affecting office space supply dynamics in Mississauga and the rest of the GTA.

1.1 Mississauga is the dominant player in the 905 marketplace

Over the past 25 years, the City of Mississauga has become the dominant player in the Greater Toronto Area (GTA) office market outside Toronto, having added an average of 1 million sq. ft. (93,000m^2) of office space a year – despite two severe recessions and economic restructuring following the introduction of free trade. With 28 million sq. ft. of office development, the City now contains almost one third of all the office space in the 905 and in the past five years Mississauga has captured almost half (46%) of new office growth in the 905.

To put this into perspective in terms of municipal performance, Mississauga has significantly outperformed its neighbours over this period. Milton, Burlington and Oakville combined have a total of 7.4 million sq. ft. (687,000m^2); Vaughan has 1.5 million sq. ft. (140,000m^2); and the Don Valley/404/Markham corridor, despite having begun its growth somewhat earlier, has reached only 17 million sq. ft. (1,579,000m^2). Within the former Metro Toronto, the Etobicoke market has 2.8 million sq. ft. (260,000m^2), and North York – where growth has long had the advantage of the subway – the total is 10.5 million sq. ft. (975,500m^2).

Mississauga's extraordinary growth has benefited from three interlocking factors that drive the office market: corporate decision-making in a globalized economy that has shown a willingness to build and lease prestige office space outside of the traditional financial core of Toronto; a sustained period of economic growth that has

withstood two severe recessions and economic restructuring resulting from the introduction of free trade; and, public policy decisions, dating back several decades that include development of the 400 series highway system, improvements to Lester Pearson International Airport, and investments by the municipality such as those made in the City Centre, to mention just a few.

1.1.1 How Mississauga's office market grew

The decision to designate significant amounts of employment lands when the City prepared its first official plan has proven to be an excellent policy choice. Thanks to this strong focus on jobs, coupled with continuous improvements of the 400 series of highways serving the western part of the GTA, Mississauga was able to capture first the boom in development related to the expansion of industry beyond the City of Toronto, and then capitalize on the growing market for office space.

In 1960, brokerage records indicate that the City of Mississauga (although not yet operating as a single municipal entity), had less than 46,000 m^2 (500,000 sq. ft.) of office space. A decade later, in 1970, this modest amount of space had doubled to 100,000 m^2 (1.1 million sq. ft.). Office uses at this time mostly served the industrial market. Development was oriented to the older industrial sites south of Dundas Street. Between 1970 and 1980, the amount of office space increased to just over 300,000 m^2 (3 million sq. ft.), but in terms of the City's position within the GTA market, it remained a minor player.

The breakthrough occurred between 1980 and 1992. While the GTA as a whole nearly doubled its total inventory – from 6.8 million to 12 million m^2 (73 million to 132 million sq. ft.) – Mississauga jumped to almost 1.1 million m^2 (12 million sq. ft.). The City Centre became Mississauga's prime office location during that time, reaching a total of 300,000 m^2 (3.1 million sq. ft.), an achievement that merited comment in a 1998 report by Hemson Consulting, which stated that by 1992 the Mississauga City Centre had the largest concentration of office space in the City – a stark contrast to the mid-1970s when

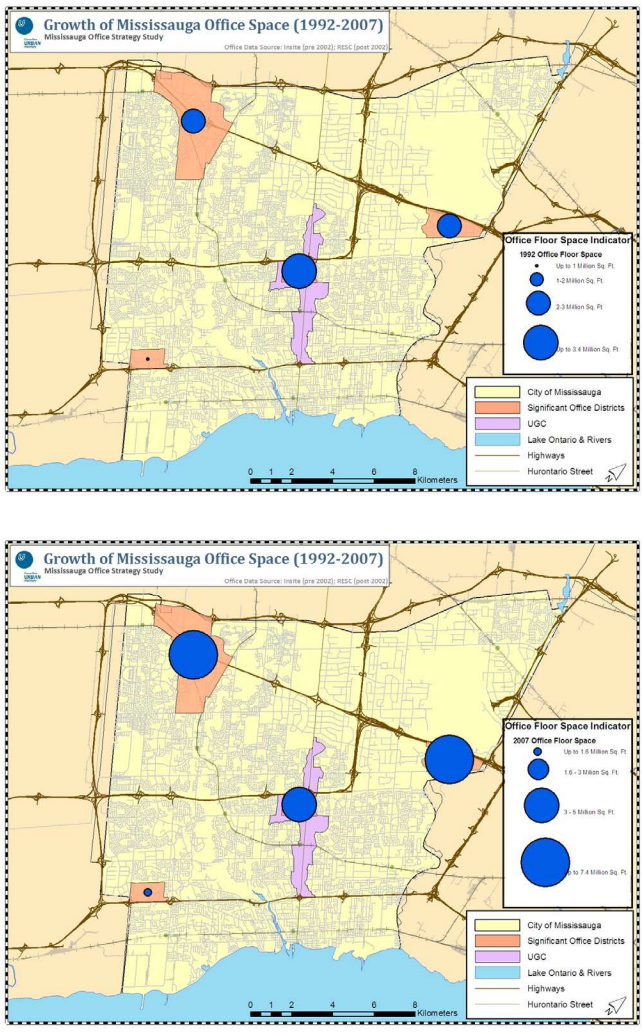


FIGURE 1.1: Growth of Office Areas (1990-2007)
Since 1990 Airport Corporate and Meadowvale have grown dramatically while Gateway and Sheridan Park have also experienced growth. City Centre has remained much the same in size.

the area had only one office building.

In 1990, with City Centre as the largest concentration, Meadowvale, Airport Corporate, Northeast, and Gateway all had approximately the same amount of office space (about 180,000 m^2; 2.0 million sq. ft. each). Sheridan Park was the next most significant block of space with 63,000 m^2 (700,000 sq. ft.) - although its focus was somewhat different than the other employment areas.

A radical shift occurred following the recession of the early 1990s, however. In response to massive overbuilding throughout the region, the speculative development of multi-tenant office buildings that had put the City Centre at the front of the pack disappeared (see figures 1.2 a & b). When expansion of the market resumed in the mid-1990s, it was fuelled by the development of design build projects – new construction mainly for single large tenants at locations chosen to meet their specific needs. It was this point that that public policy – the stated desire to develop a GTA urban structure comprising nodes and corridors - and the market essentially went their separate ways.

Time Series Depicting Office Growth Areas in Mississauga (1960-2000s)

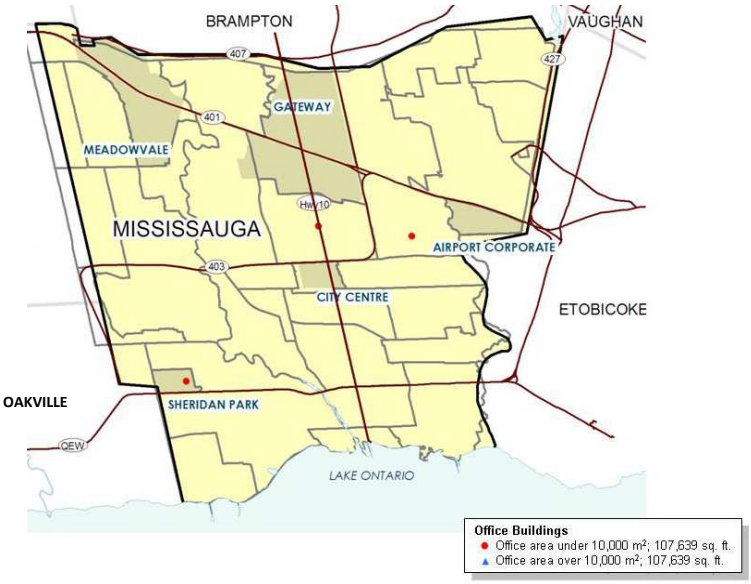


FIGURE 1.2a: Distribution of Office Buildings By Size, 1960.
Very view major offices existed in Mississauga in 1960 – those that did were under 10,000 square metres (107,500 sq. ft.)
SOURCE: Real Estate Search Corporation

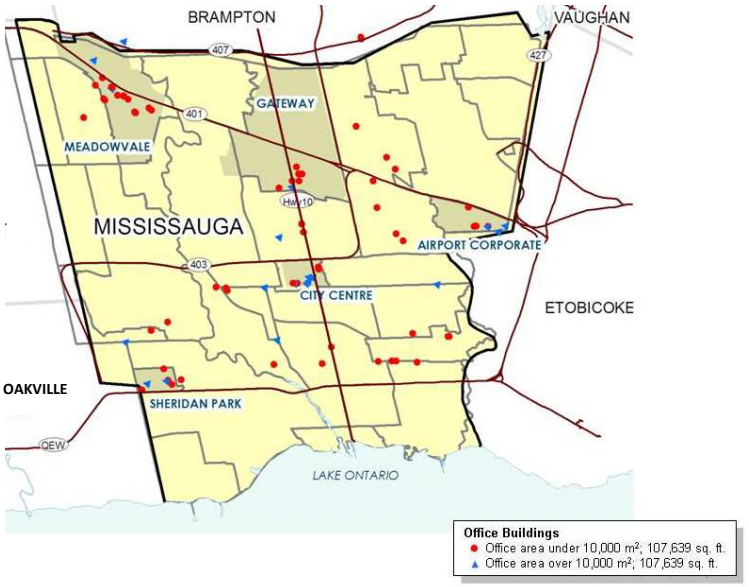


FIGURE 1.2b: Distribution of Office Buildings By Size, 1980.
Mississauga has experienced tremendous office growth over 20 years. Meadowvale, Gateway and City Centre have captured most of the growth.
SOURCE: Real Estate Search Corporation

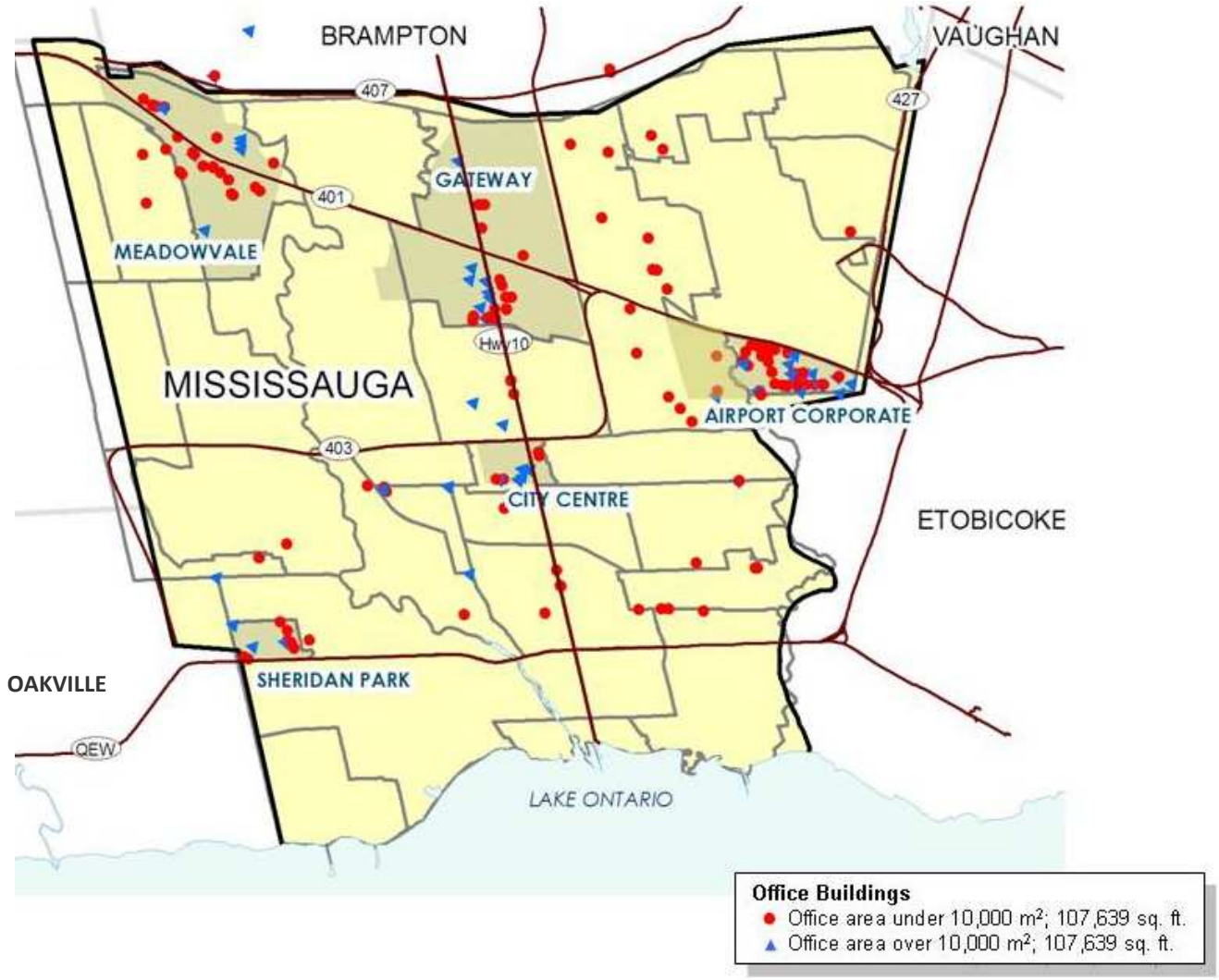


FIGURE 1.2c: Distribution of Office Buildings By Size, 2000.
Airport Corporate has attracted substantial new office space while other districts have continued to grow at a more regular pace. City Centre has experienced only limited office growth.
SOURCE: Real Estate Search Corporation

1.2 Led by Mississauga, 905 is now growing faster than 416

The structure of the office market in the GTA underwent fundamental changes in the late 1990s. Rapid growth in the 905 since 1998, combined with the lack of development in the 416 (Toronto), meant that in 2001 the 905 overtook the 416 in terms of gross amounts of office space. As of 2006, of the approximately 17.8 million m^2 (191 million sq. ft.) of office space in the GTA, 9.4 million m^2 (101 million sq. ft.) is in the 905 (See Table 1.1).

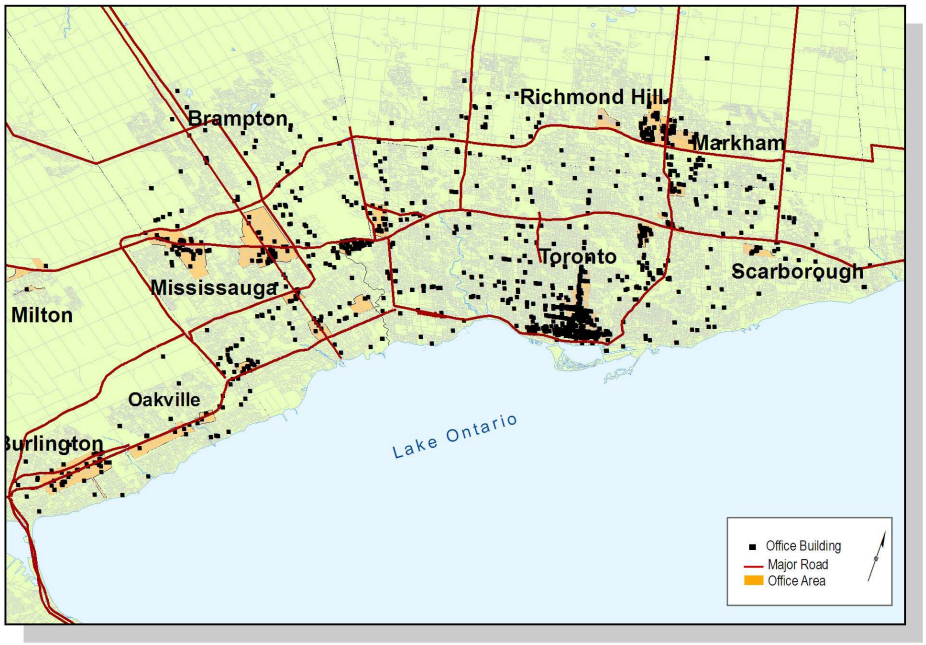


FIGURE 1.3: Office Development Increases in the 905
While Toronto remains the dominant market for office space in the GTA, in recent years new office buildings have been constructed mainly across the 905 area as indicated by the black dots on the above map.
SOURCE: CANADIAN URBAN INSTITUTE AND REAL ESTATE SEARCH CORPORATION, 2007

Toronto's financial district now represents less than a quarter of the total GTA office market. Data on the growth of office supply over the past five years illustrates this trend. During the 2001 to 2006 period, the GTA added approximately 0.98 million m^2 (10.6 million sq. ft.) of new office supply. Of that total new supply, only 26% accrued to office locations within the City of Toronto while almost three-quarters of total growth was in the 905. Mississauga captured close to half (46%) of the new office supply within in the 905 area between 2001 and 2006.

	2001			2006			New Supply 2001-2006			Avg. Annual Increase	
	m^2	ft^2	Share of GTA	m^2	ft^2	Share of GTA	m^2	ft^2	Share of New Supply	m^2	ft^2
GTA	16,835,113	181,211,643	100.0%	17,818,361	191,795,246	100.0%	983,248	10,583,603	100.0%	196,650	2,116,721
416 Area	8,134,452	87,558,509	48.3%	8,394,909	90,362,044	47.1%	260,457	2,803,535	26.5%	52,091	560,707
905 Area	8,700,661	93,653,134	51.7%	9,423,453	101,433,202	52.9%	722,792	7,780,068	73.5%	144,558	1,556,014
Mississauga	2,164,974	23,303,585	12.9%	2,496,873	26,876,122	14.0%	331,899	3,572,537	33.8%	66,380	714,507

TABLE 1.1: Share of New Office Supply in the Greater Toronto Area
The above table provides a comparison of office floor space available in the GTA in 2001 and 2006 by location. From this table it is obvious that the 905 is the dominant location for new office space (73%) in the GTA. More importantly, the City of Mississauga has captured close to half (46%) of the new office space within the 905 area during the period.
DATA SOURCE: REAL ESTATE SEARCH CORPORATION, 2007

As illustrated in figure 1.4 the expansion of the office market in Mississauga took place almost exclusively in the prestige office parks of Meadowvale and Airport Corporate Centre. [2] The lack of office growth in Mississauga City Centre since 1992 coincided with a similar lack of activity in Toronto's financial core, although some 1 million m^2 (10,000,000 sq. ft.) was added either side of the financial district in converted industrial buildings (referred to as brick and beam office space).

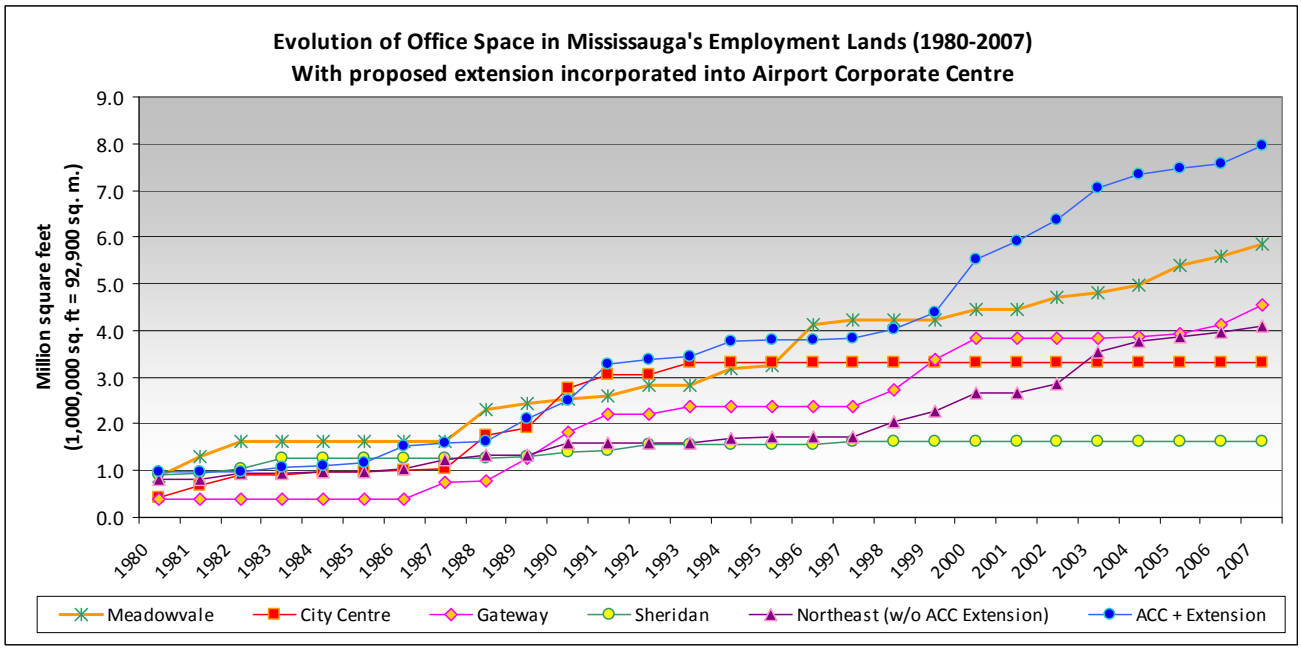


FIGURE 1.4 Evolution of Office in Mississauga (by District)
In the last decade most new office space in the city has been constructed in Airport Corporate Centre and Meadowvale. City Centre has remained stagnant in growth since the early 1990s.
Note: This figure incorporates that portion of the Northeast Planning District immediately adjacent to the west side of the Airport Corporate Centre as a part of the Airport Corporate centre since it is already considered to be by the market. See Chapter Six for more details.
SOURCE: Real Estate Search Corporation

1.2.1 Changing office space requirements benefited auto-oriented locations

The surge in growth made possible by the popularity of design build projects since the late 1990s in Meadowvale, Airport Corporate and, to a lesser extent, lands in Gateway centred on Hurontario, has changed the dynamic of office development in Mississauga. As illustrated in Figure 1.4, development in Meadowvale and Airport Corporate proceeded at an unprecedented pace. Buildings constructed in "office park environments" like Meadowvale and Airport Corporate also met the demand for a new breed of office building with large floor plates designed to meet the requirement for a sharply different ratio of executive offices to clerical staff (i.e. following the recession, many companies underwent a flattening of the executive hierarchy, resulting in fewer layers of management but often requiring large numbers of non-executive staff to carry out their business function.)

[2] Much of the growth in the Northeast district has taken place immediately adjacent to the west side of Airport Corporate Centre. The market considers this portion of Northeast to be part of the Airport Corporate cluster. See Chapter Six for more details.

1.2.2 What type of buildings have been built and where?

The dominant building form in the City today is the stand-alone office building. The appeal of these structures explains not only the rapid growth but also the increasing dominance of Meadowvale and Airport Corporate Centre, which now account for almost half of all office space in the City. If there is a negative associated with this type of growth, it is that stand-alone office buildings consume a great deal of land per building. Building density is relatively low (rarely more than 0.6 FSI[3]), and most developments require surface parking. As a result, transit usage is extremely low, between three and six percent of total trips, depending on location and the time of day being monitored. Of particular interest in terms of Mississauga's future development potential is the number of office buildings located on the edges of employment districts abutting Hurontario Street and at various locations along its length. This includes buildings in the City Centre and at other major intersections.

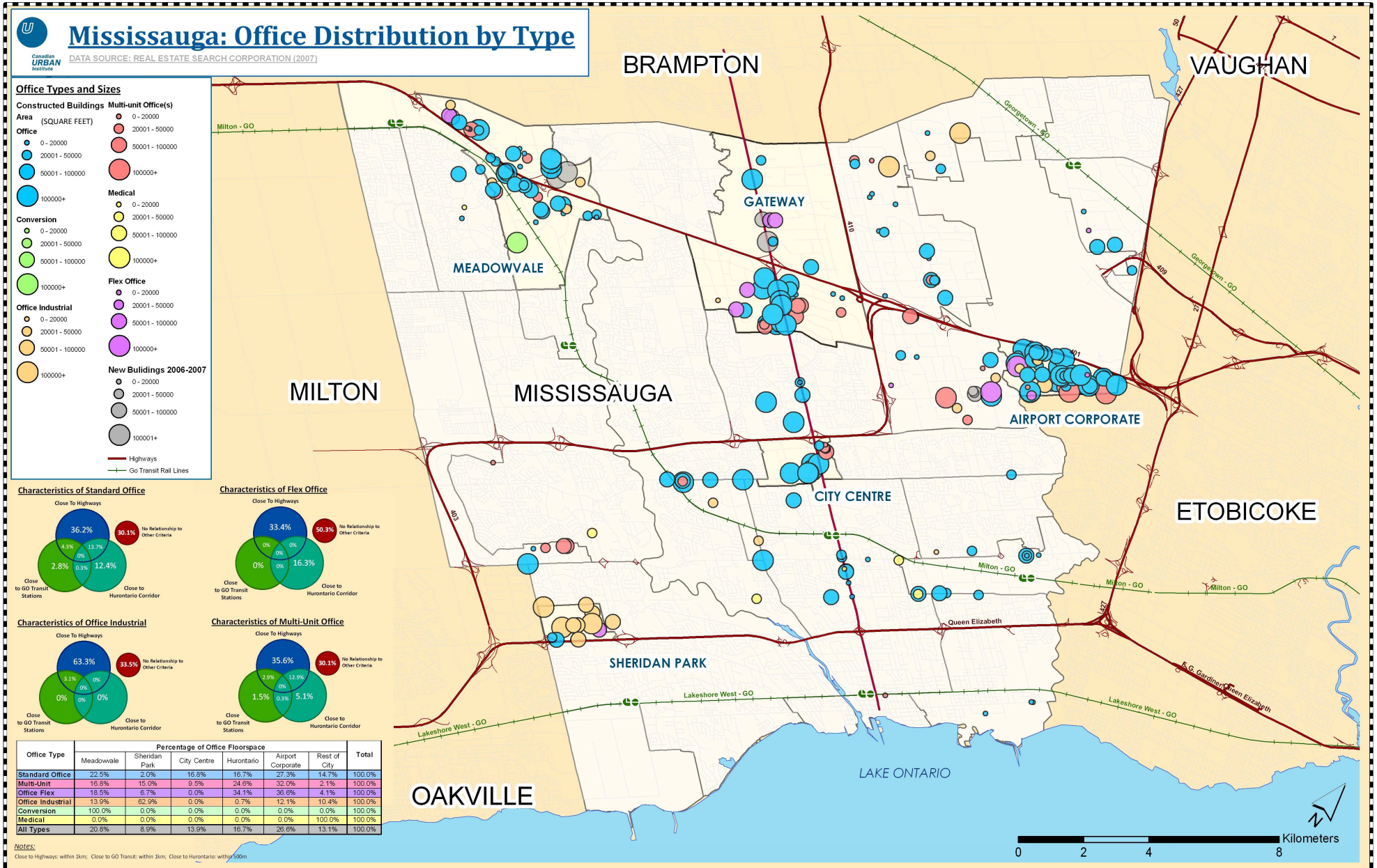
Although the Office Distribution Map (next page) shows the dominance of Meadowvale and Airport Corporate Centre, it also shows that Hurontario Street has already attracted many office buildings and in this regard, Hurontario has a number of attractive qualities. It provides the City with a centrally-located north-south spine; it intersects with three 400-series highways and six east-west arterial roadways, all of which either provide good bus service or have the potential to do so.

The accompanying map illustrates the location of offices by building size and type across the city. Another building type that has grown in prominence over the past few years is office flex, at 138,000 m^2 (1,500,000 sq. ft.). Flex buildings are built under the auspices of employment designations that allow both industrial and office uses. The typical flex building is designed as a single storey industrial structure with appropriately high ceiling heights but deliberately arranged to easily permit the demising of walls and the lowering of ceilings for office purposes should the need arise. The low price point, achieved in part because there is no investment in accommodating additional floors, is attractive for a variety of users, and provides flexible space (hence the name) to convert industrial to office use on demand. In order to keep costs low, developers do not offer inducements for interior finishes as they do for commercial office buildings. In other jurisdictions, notably in California and the southern United States, this type of building serves an important incubator function for start-ups and companies in the early stages of growth. The lifespan of a flex building is considerably shorter than for stand-alone office buildings.

[3] FSI is a measure of density and is an acronym for Floor Space Index. It represents the total gross floor area of the building as a ratio of the total lot area.

Mississauga: Office Distribution by Type

DATA SOURCE: REAL ESTATE SEARCH CORPORATION (2007)



Office Type	Percentage of Office Floorspace						Total
	Meadowvale	Sheridan Park	City Centre	Hurontario	Airport Corporate	Rest of City	
Standard Office	22.5%	2.0%	16.8%	16.7%	27.3%	14.7%	100.0%
Multi-Unit	16.8%	15.0%	9.5%	24.6%	32.0%	2.1%	100.0%
Office Flex	18.5%	6.7%	0.0%	34.1%	36.6%	4.1%	100.0%
Office Industrial	13.9%	62.9%	0.0%	0.7%	12.1%	10.4%	100.0%
Conversion	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Medical	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
All Types	20.8%	8.9%	13.9%	16.7%	26.6%	13.1%	100.0%

Notes:

Close to Highways: within 1km; Close to GO Transit: within 1km; Close to Hurontario: within 500m

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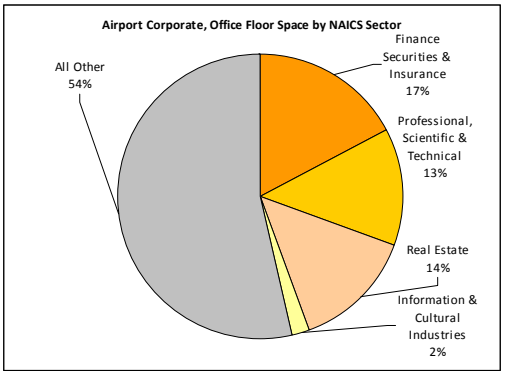
1.2.3 Which companies locate where?

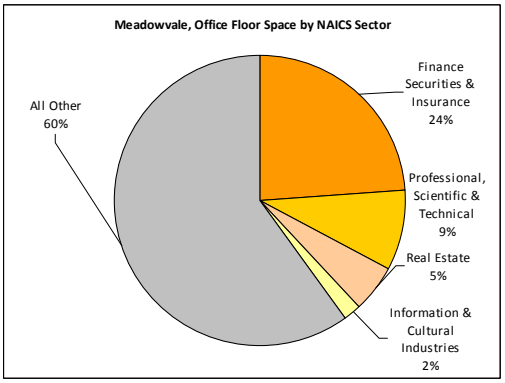
Although Airport Corporate Centre (ACC) has by far the largest concentration of office space in the City, it also has one of the most diverse range of companies. The Finance, Insurance and Real-estate (FIRE) sector accounts for the largest segment of Airport Corporate Centre's office market (31%) with a total developed floor space area of 139,000 m^2 (1.5 million sq. ft.). Companies in the Information, Professional, Scientific and Technical sectors are also important, accounting for 13% of the total floor space in the district. However, the majority of floor space (54%) in Airport Corporate Centre is made up by a variety of smaller sectors, reflecting the broad appeal of a prestige location so close to the airport, see Figure 1.5.

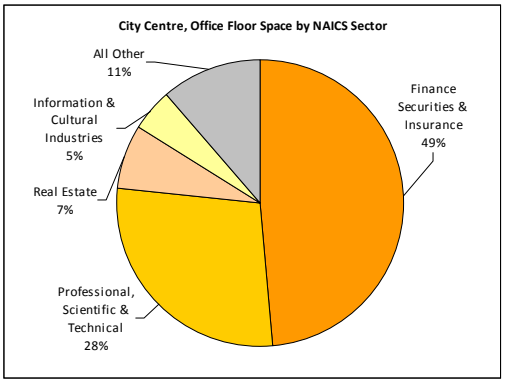
The dominant type of company in Meadowvale is also the FIRE sector (29%), but like ACC, the majority of firms are classified as "other," again illustrating the attraction of prestige location with highway access and high visibility.

As might be expected, the City Centre is also dominated by the FIRE sector (56%), which is to be expected in a downtown setting. Although it has been noted that there has been no major office building constructed in the City Centre since 1992, it would be a mistake to equate the absence of new space with a lack of leasing activity. Areas like the City Centre have in fact experienced considerable tenant activity; large space users like Bell Canada, the Royal Bank, the CIBC, and the federal government left the City Centre for other locations in Mississauga. They were replaced by larger numbers of smaller tenants such as Ernst & Young, General Electric Canada, Sun Life Financial, and Tropicana. The general trend, however, is towards smaller tenants, which is in part attributable to the aging of the building stock and the lack of new space, which would normally introduce larger blocks of space to attract new tenants.

All three areas discussed here have a strong representation of head office, regional market leaders etc. Also of interest is Sheridan Park: this area has one of the lowest proportions of dedicated office







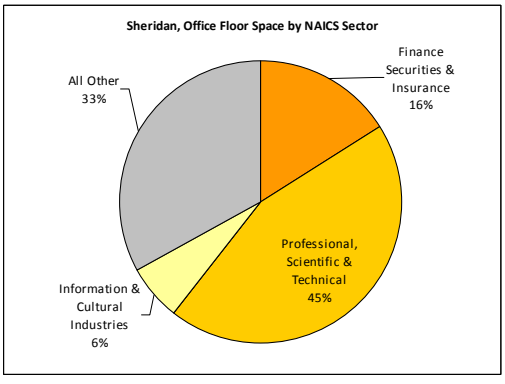


FIGURE 1.5-1.8
Office Uses by Location
Office Uses by NAICS sector in Mississauga Districts
SOURCE: Harris Consulting, 2007.

buildings, with mostly "office industrial" type structures, but is dominated by the Professional, Scientific and Technical sector, which is consistent with its beginnings as a "science park."

1.3 The GTA market today: implications for Mississauga

This final section of the chapter looks at the GTA office market from the perspective of transportation issues, infrastructure renewal and the relative appeal of three major office clusters. Of the two clusters in the 905, the DVP/404/Markham cluster and the Airport cluster both cross municipal boundaries. The downtown Toronto cluster (financial district, brick and beam, and subway related nodal development) is no longer considered to be a direct competitor to the Mississauga market (see Figure 1.9).

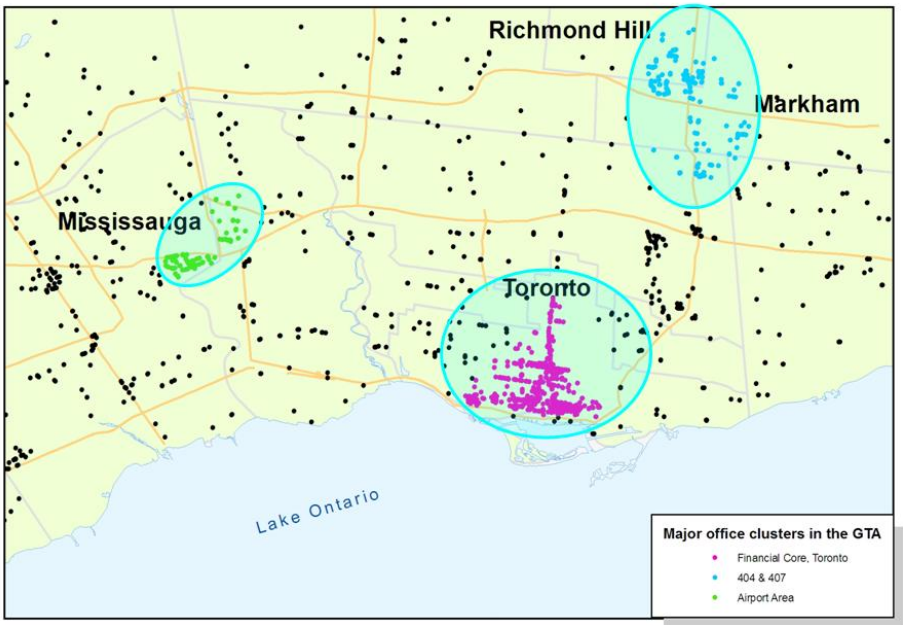


FIGURE 1.9: Three Major Office Clusters in the GTA
Outside of Toronto there are only two major office clusters in the GTA, they are in Mississauga and Markham-Richmond Hill. The 'Markham-Richmond Hill' cluster is also known as the *404 Corridor Cluster*.
SOURCE: CANADIAN URBAN INSTITUTE AND REAL ESTATE SEARCH CORPORATION, 2007

It is generally agreed that the GTA has fallen behind in its ability to adequately serve the region with public transit. Even if recent announcements regarding new transit funding proceed as planned, the fundamental conditions underlying high levels of congestion are likely to get worse before they improve. Four key reasons are that (a) levels of car ownership continue to rise, particularly in low-density areas. The number of cars on the roads of the GTA is projected to increase from 3.7 million today to 5.6 million in 2031.[4] (b) The same study forecasts that the number of kilometres driven in the GTA will increase by 63% by 2031. The number of people crossing municipal boundaries is also increasing. (c) The average number of people per car continues to decline, to 1.15 people per car in 2006 according to a Region of Peel cordon count assessment. (d) Transit is losing modal

[4] Neptis Foundation, Miller, 2004.

share as a percentage of total trips. Even though the *number* of transit trips is on the rise in many municipalities in the GTA, the rate of trip generation is increasing at a faster rate. These factors add up to a bleak assessment of the potential to reverse the trend to increasing congestion. One impact is that employees commuting to work will lose more time out of their day to traveling. A second is that companies relying on face-to-face contact to pursue business opportunities will have poorer access across the region as a whole.

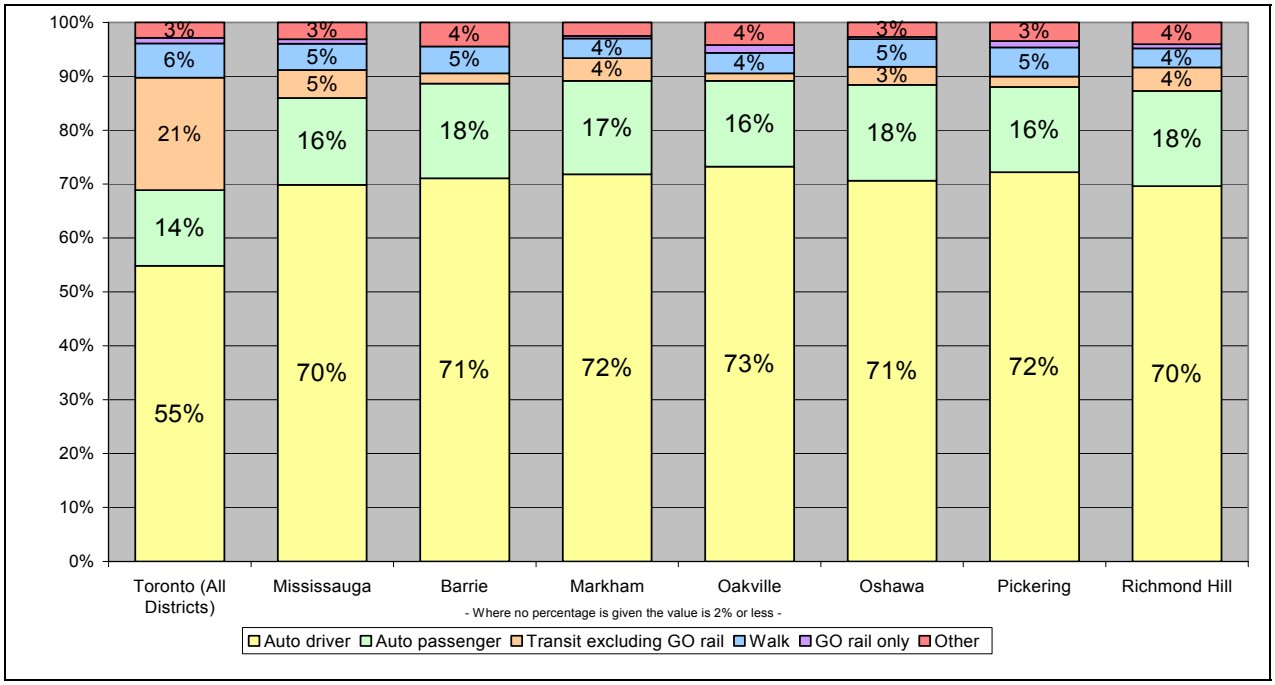


FIGURE 1.10: Modal Split in Select GTA Municipalities
This diagram shows the percentage of use of each major mode of transportation in the GTA. For example, 70% of trips made in Mississauga are done by individuals driving automobiles, while 15% of trips made are by automobile passengers. Of all trips made in Mississauga only 5% are made on transit.
DATA SOURCE: Toronto Transportation Survey, 2001

What do these trends mean for the three principal office clusters in the GTA, and how effective will planned infrastructure improvements be?

Downtown Toronto:

The single largest concentration of offices is in Toronto's financial district and adjacent areas of downtown. Over the past seven years, more than 236,000 m^2 (2.5 million sq. ft.) of new space has been added (see figure 1.11). Because it has the largest critical mass, this sub-market has a momentum of its own; what distinguishes this market is that buildings are generally much larger than suburban equivalents, more likely to have good transit access, have high levels of amenity and reflect the kind of pedestrian environment that is only possible with fine grain built form. Although there has been a recent flurry of new projects in the core, growth in Toronto over the past 10 years has largely been confined to the brick and beam areas either side of the core. The four new buildings now under construction reflect pent up demand and the desire of major tenants to occupy new space. Many of the triple A class buildings in the core are now more than 30 years old. The new buildings now under

construction represent the "new wave" of interest in green or sustainable buildings in that they are being built to the LEED® standard (See Appendix A).

From an infrastructure perspective, the City of Toronto is receiving capital funding support to improve Union Station's capacity as the principal transit hub in the GTA. This is widely viewed as a necessary investment to compensate for years of under-investment rather than as a move that introduces new capacity. Plans to create a direct transit link to Pearson International have encountered problems during the EA phase and it is not clear how this project will proceed.

The City of Toronto, through the TTC, is also planning to develop a new transit hub at Islington subway station; Mississauga buses currently connect with this location and will relocate to Kipling in a new facility, which will also house GO buses and provide direct access to the Milton GO station. This can be expected to have a neutral to positive impact on Mississauga residents bound for jobs in Toronto but could have a beneficial effect on transit passengers from Toronto seeking to connect to jobs in Mississauga via the BRT. The City of Toronto recently released a plan to develop an extensive system of light rail transit routes but as yet there is no funding or commitment. Despite all these issues, Toronto enjoys the highest level of transit use in the GTA, including a growing percentage of people who live downtown and who walk or cycle to work.

DVP/404/Markham:

A second important office cluster is the loose concentration of offices adjacent to the DVP/404. Visibility from the highway plays an important role in the success of this cluster, which includes a small number of offices in Toronto, and much larger concentrations in Markham and Richmond Hill. This area is heavily dependent on automobile access and has minimal amenities. Although Markham has been making headway in creating an attractive urban-style environment in its developing downtown, this is the exception rather than the rule, which likely limits the potential for new growth on a scale sufficient to compete with Mississauga. This cluster has grown by 440,000 m^2 (4.7 million sq. ft.) since 1999 for a total of 1.58M m^2 (17 million sq. ft.; see figure 1.12).

The VIVA bus rapid transit system, created in 2005, serves York Region, but does not directly improve service in the vicinity of this corridor. The focus is on creating "the transit habit" so York is subsidizing service levels in anticipation of future increases in ridership. The system is equipped with distinctive new buses, and utilizes the latest intelligent transit system technology. The region is also working with local municipalities and private firms to develop Transportation Demand Management (TDM) initiatives aimed at enhancing ride-sharing and other ways to reduce car dependence.

The recently announced expansion of the subway from Downsview to York University through to Vaughan Corporate Centre could potentially have an impact on the Mississauga market for office development but land use plans for intensification and financial planning (to utilize tax increment financing) is in the early stages.

The Airport cluster:

The third major office cluster is focused around Lester Pearson International Airport. Access and visibility is available from 400 series highways (the 401, 409 and 427). The desire to be located in the vicinity of the airport continues to be a major factor in terms of the strength and resilience of this sub-market. This area is focused almost entirely on employment uses as a result of land use restrictions imposed by airport operations. Many of the office buildings are interspersed with traditional industrial development, which limits the potential to create an attractive environment. Although the "hotel strip" provides an extensive array of hotel, restaurant and convention facilities, which are well served by the TTC and Mississauga Transit, this cluster is also mostly auto-dependent. Within this cluster, Airport Corporate Centre stands out as an area experiencing rapid growth. In the past seven years, 372,000 m^2 (3.9 million sq. ft.) of new office space has been added to ACC and adjacent lands west of Etobicoke Creek (see figure 1.13). The planned introduction of the long-awaited bus rapid transit system can be expected to improve transit access. At present, however, ACC has a rush hour modal split of less than 6% (TTS data).

Transportation issues in the Mississauga office market

One of the factors likely to have a positive impact on transit usage in Mississauga is the AcceleRide project in Brampton. The

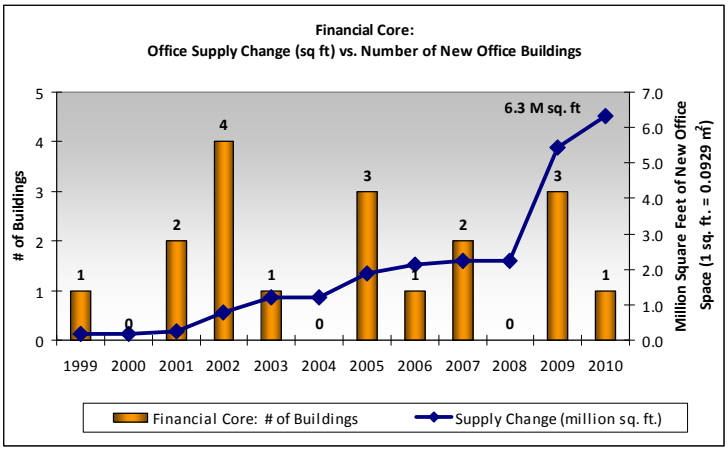


FIGURE 1.11: New Office Supply in the Toronto Core
Between 1999 and 2007 approximately only 2M square feet of new office space was created in Toronto's Financial Core.

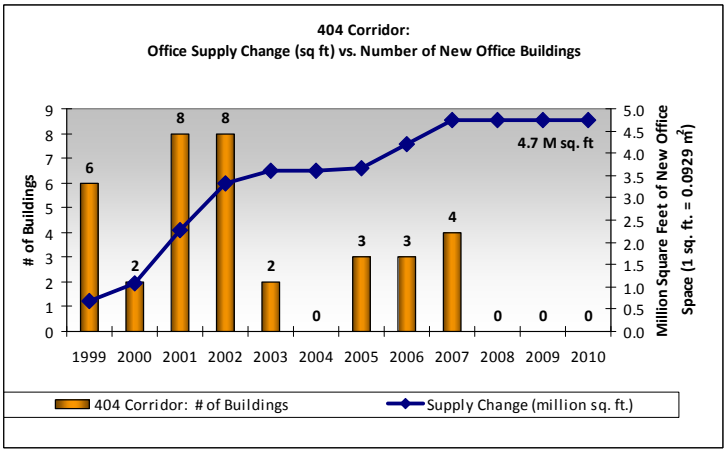


FIGURE 1.12: New Office Supply in the 404 Corridor
Between 1999 and 2007 more than 4.7M square feet of new office space has been developed in the 404 Corridor – 2.7M square feet more than in Toronto.

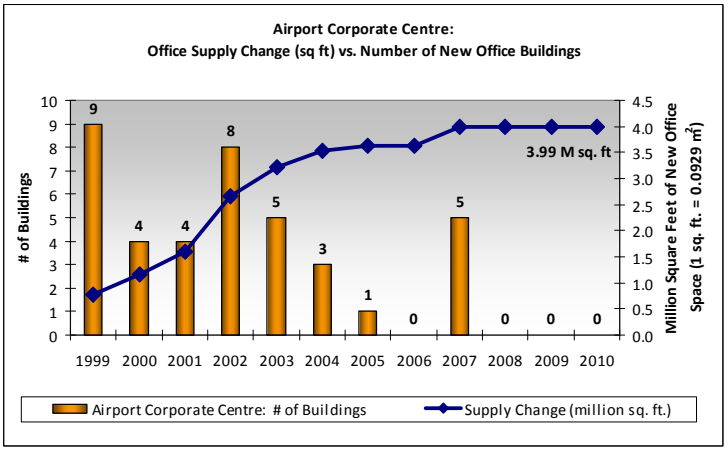


FIGURE 1.13: New Office Supply in Airport Corporate
Between 1999 and 2007 approximately 4 million square feet of office space was built in the Airport Corporate District (excluding Northeast) .
SOURCES (Figs. 19-21): CANADIAN URBAN INSTITUTE AND REAL ESTATE SEARCH CORPORATION, 2007

AcceleRide initiative is part of Brampton's Transportation and Transit Master Plan (Figure 1.14), a long-term strategy for managing Brampton's transportation needs. The City of Brampton is investing $2.4 million; the province has announced a $95 million commitment; and most recently the project received another $95 million ($53 million for phase one) in the form of federal funding. The estimated cost of the project's first phase is $110 million, with completion by 2013, demonstrating that Brampton is well on its way to a higher order transit system. Plans call for the project, which is focused on Queen Street East and Main Street, the Brampton extension of Hurontario, to be a Bus Rapid Transit (BRT) – with eventual transition to Light Rail Transit (LRT) in phase two. The project will include new roadway infrastructure, intersection modifications and signal priority equipment. There will be routes that connect to Pearson International Airport and Airport Corporate Centre; Vaughan Corporate Centre, York University, VIVA routes and GO routes. There will be connections to employment zones and express services linking residential areas to GO and Brampton terminals across the City. Enhanced transit access in Brampton is likely to have positive impacts on Mississauga's office market.

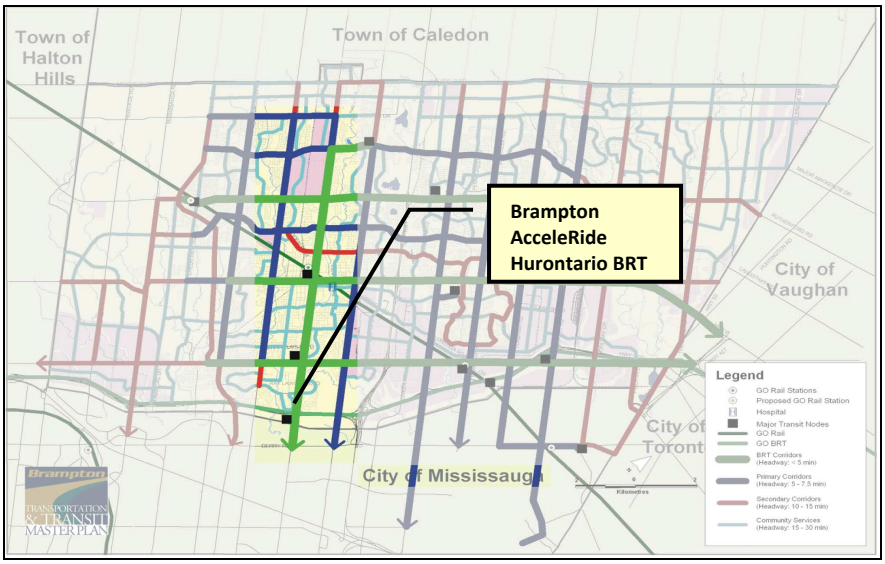


FIGURE 1.14: Brampton's Transit Masterplan (Showing AcceleRide)
Green lines represent planned AcceleRide BRT (with future LRT). Note the BRT connection to Mississauga on Hurontario Street.
SOURCE: City of Brampton / Transportation Association of Canada (http://www.tac-atc.ca/English/pdf/conf2005/s17/zbogar.pdf)

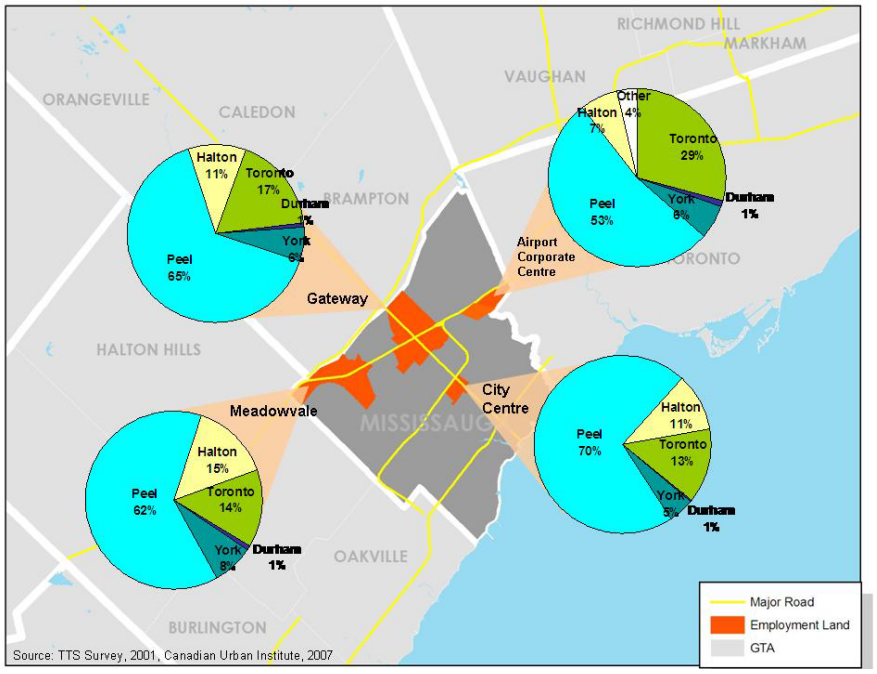


FIGURE 1.15: Home-Work Trips (All Modes)
Reading this Chart: 70% of people working in City Centre travel to work from within Peel Region while in Airport Corporate only 53% travel to work from within Peel.
DATA SOURCE: Toronto Transportation Survey

The recent announcement from the federal government concerning a funding commitment for the province's BRT has long been anticipated by the City of Mississauga. Both the federal and provincial government have committed up to a maximum of $173 million for the entire program, of which $121 million will be used for the Mississauga segment ($58 million federal and $63 million provincial). Although from Mississauga's perspective the BRT is a "Mississauga project," it is actually a key piece of a much larger initiative - GO Transit's Inter-Regional Bus Rapid Transit project. The entire line is proposed to link post-secondary educational campuses from Oakville to Durham Region, but, more importantly, from Mississauga's perspective, it will provide rapid transit connections east-west across the City, focused on the central hub of Mississauga City Centre. The targeted completion date is 2012, although several important links have already been constructed. Additionally, the province is providing $2.2 million, to fund a comprehensive study examining higher-order transportation opportunities, land uses, and design options in the Hurontario corridor.[5]

[5] In addition to the provincial funding the City of Mississauga has now budgeted a 1.8 million contribution to the Comprehensive Study.

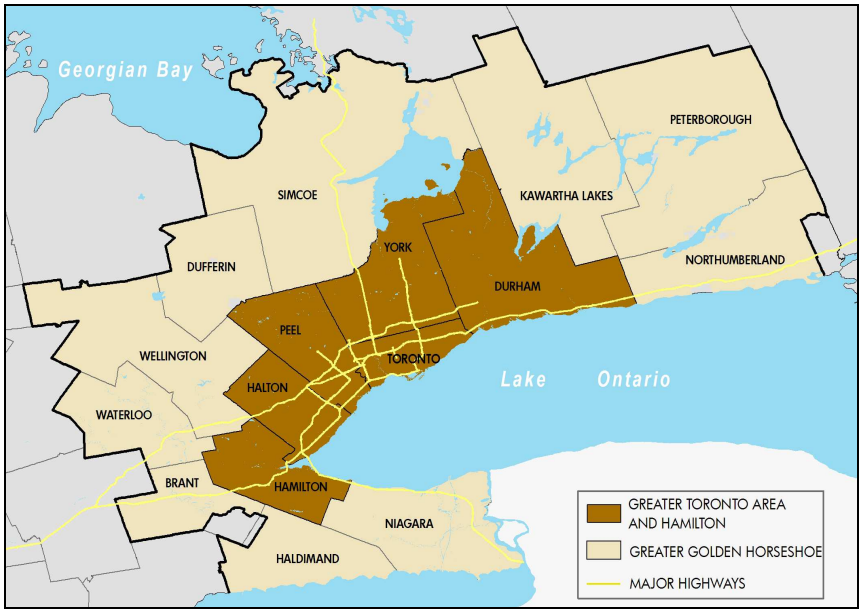
CHAPTER TWO | MARKET FORECAST:
EXPECTATIONS FOR GROWTH SHOULD ANTICIPATE CHANGING MARKET NEEDS

This chapter identifies the forecasted increase in population and employment growth at both the regional and municipal levels. These employment estimates are then translated to floor space requirements on a sector-by-sector basis for both the region and the City of Mississauga. This sector-based forecast is then compared to an extrapolation of recent development history to identify an upper estimate of demand for office space in order to determine if the City has enough suitably located land to accommodate its needs up to 2031 and beyond.

2.1 Mississauga's share of employment and population growth will reflect the City's new status as a built-out community.

Projections for population and employment growth within the Greater Toronto Area (the City of Toronto plus the regions of Halton, Peel, York and Durham) were based on forecasts included in the *Growth Outlook for the Greater Golden Horseshoe* report released in January 2005. The report was created by Hemson Consulting Ltd. for the Greater Golden Horseshoe Forecast Committee as an input into the Ontario Ministry of Public Infrastructure Renewal's *Places to Grow Plan* process.

The Growth Outlook report looks at potential population and employment growth for a portion of the Greater Golden Horseshoe area. This assessment uses forecast population and employment figures only for the core regions and municipalities referred to as the GTAH (Greater Toronto Area and Hamilton), which encompasses the City of Toronto, and the regions of York, Halton, Peel, Durham, and Hamilton.



FIGURES 2.1: Greater Golden Horseshoe and the Greater Toronto Area
The Greater Golden Horseshoe is depicted in beige while the Greater Golden Horseshoe & Hamilton are shown in dark brown.
DATA SOURCE: Land Information Ontario, 2007

The GTAH has a current estimated population of approximately 6.1 million residents and has an estimated 3.1 million jobs. The forecast for the GTAH prepared by Hemson Consulting foresees the potential for as many as 8.6

million residents and 4.3 million jobs within this area by 2031, representing a strong annual average growth rate for both population and employment of approximately 1.3%.[6]

Projected Population & Employment Growth		2005 (est.)	2031	Forecasted Growth Rate
GTA & Hamilton	Population	6,123,700	8,620,000	1.3%*
	Employment	3,101,900	4,334,500	1.3%*
Mississauga	Population	693,800	768,800	0.4%*
	Employment	381,380	459,800	0.7%**

TABLE 2.1: Projected Population & Employment Growth
Mississauga is expected to grow at a slower rate than the rest of the GTA between now and 2031. However, the City's employment growth rate is expected to out-pace its population growth rate.
*DATA SOURCE: Source: *Hemson Consulting Ltd. and **Harris Consulting Inc.*

Based on these forecasts, it is estimated that the City of Mississauga will see an increase in its population from the current 693,800 (or 707,000 in mid- 2007) residents to approximately 768,800 residents by 2031. (This is based on the 2005 Hemson forecast and consistent with the Compact Scenario presented in "*The Growth Outlook for the Greater Golden Horseshoe.*") This represents an annual rate of increase of approximately 0.4%. This relatively modest population growth rate reflects the fact that much of Mississauga's residential land base is now built-out and future growth will be limited because of an increased reliance on intensification and infill.

Over the same period, the level of employment for the City of Mississauga is forecast to increase at a rate of 0.7% per year – slightly higher than the rate predicted for population growth given Mississauga's role as an established jobs centre within the region and its significant supply of employment land. This rate of employment growth will increase the number of jobs within the City from the current estimate of 381,380[7] to approximately 459,800 by 2031.

2.2 Employment growth will be led by four key sectors

To understand employment growth in the GTAH and the City of Mississauga it is important to look at not only the scale, but also the distribution of future job growth within different sectors of the local economy. This section provides an overview of future employment growth by sector, accompanied by some discussion related to the basis for the sector-based employment growth rates used in the floor space forecasts that follow.

This employment growth forecast for the GTAH was then disaggregated into economic sectors using sector-specific growth rate forecasts prepared by Strategic Projections Inc. for the June 2002 report entitled *'Flash-*

[6] Forecasts for population and employment growth within the City of Mississauga were based on other employment forecasts prepared by Hemson Consulting Ltd. for the City of Mississauga in December of 2005.

[7] The figure of 381,380 is taken from "2005 Employment Profile", page 3, City of Mississauga. The census adjustment, designed to account for part-time job holders and home-based businesses, was not used because it does not drive the demand for more office floor space. Because this adjustment was not included in the 2005 figure, the 2031 projection was adjusted by the same amount to ensure the same growth rate.

forward: Projecting Population and Employment to 2031.' For the City of Mississauga, total employment growth forecasts provided by Hemson Consulting Ltd. indicated an additional 78,400 jobs in the City by 2031. This forecast was then disaggregated to project growth in individual sectors. This was done by examining past employment growth by sector over the 2000 to 2005 period, as well as by examining growth in Mississauga's office floor space inventory by sector to determine which parts of the local economy were growing and driving demand for office floor space.

Assumptions and information that provided input into these city-level projections are provided in the chart found in Appendix B. By NAICS codes, sectors that drive office demand include:

- Professional, Scientific and Technical Services
- Finance and Insurance and Real Estate (FIRE)
- Administrative and Support Services
- Information and Cultural Industries.

As well, the City's Economic Development department expects that growth will include:

- Biomedical Technologies
- Information, Communications and Technologies
- Automotive and Aerospace.

2.3 Forecasting regional office space demand

This section contains commercial office floor space projections based on employment within commercial, industrial and non-commercial/institutional sectors of the Greater Golden Horseshoe region.

2.3.1 Regional Office Space Forecast to add 9M m² (97M sq. ft) of additional office space by 2031

Focusing on the inner-core jurisdictions of the Greater Golden Horseshoe employment growth was forecast for the following economic sectors:

- Retail Trade
- Accommodation and Food Services
- Management of Companies and Enterprises
- Professional, Scientific and Technical Services
- Finance and Insurance
- Real Estate and Leasing, Other Services
- Administrative and Support Services
- Information and Cultural Industries
- Arts, Entertainment and Recreation
- Public Administration
- Health Care and Social Assistance
- Educational Services
- Wholesale Trade
- Manufacturing
- Transportation and Warehousing
- Construction, Utilities
- Primary Industry.

Overall, the findings of these sector projections suggest the following: the strongest growth is expected for the Professional, Scientific and Technical Services sector (1.9% annual growth); the Finance and Insurance sector and the Management of Companies & Enterprises sector, and the Other Services sectors are the second most rapidly growing sectors (each at 1.7% annually); the Real Estate and Leasing, Administrative and Support Services Information and Cultural Industries, and Transportation and Warehousing sectors will also go substantially (each at 1.6% annually). Complete details can be found in Appendix C, also see Table 2.2.

In absolute terms, a significant number of jobs will be created in the Professional, Scientific and Technical Services (201,000 jobs), Manufacturing (173,000 jobs), Finance and Insurance (122,000 jobs), and Health Care and Social Assistance (103,000 jobs) sectors. Employment in the Primary Industry[8] is expected to decrease by 3.0% per year (5,000 jobs), see Appendix C and Table 2.2.

Making use of these employment sector-based projections, future floor space requirements were estimated by using floor area per employee ratios. Average floor area per employee figures were determined through research looking at floor space surveys conducted in cities such as: Edmonton, Alberta; Portland, Oregon; London, UK; the Greater Vancouver Regional District, as well as areas in the GTA.

For the purpose of this analysis, employment projections for each employment sector were matched to the floor area per employee estimates, allowing for estimated floor area requirements to be calculated based on projected employment, by sector.

	Greater Toronto Area & Hamilton			
	2005 Employment (est.)	2031 Employment*	2005 - 2031 Employment Change	Forecasted Growth Rate**
Finance & Insurance	223,000	345,000	122,000	1.7%
Professional, Scientific & Technical Services	318,000	519,000	201,000	1.9%
Real Estate & Leasing	70,000	105,000	35,000	1.6%
Information & Cultural Industries	123,000	186,000	63,000	1.6%
Public Administration	103,000	137,000	34,000	1.1%
All Other	2,244,000	3,045,000	801,000	1.4%
Total	3,081,000	4,337,000	1,256,000	1.5%

TABLE 2.2: Projected Employment in the GTAH (By Sector)

Job growth across the GTAH is expected to be driven by the Professional, Scientific and Technical Services sector (+1.9%, 201,000 new jobs), and the Finance & Insurance sector (+1.7%, 122,000 new jobs). See **Appendix C** (Table C1*) for* a complete table.

DATA SOURCES: 2005 figures are estimated based on Statistics Canada data for 2001.

**Total growth based on projections prepared by Hemson Consulting Inc. for the January 2005 report entitled "Growth Outlook for the Greater Golden Horseshoe"; ** Sector-based growth rates based on projections prepared by Strategic Projections Inc. for the June 2002 report entitled "Flash-forward: Projecting Population and Employment to 2031."*

These figures were also matched with figures estimating the proportion of total sectoral employment that has traditionally occupied multi-tenant office locations greater than 1,900 m^2 (20,000 sq. ft.) in size.

[8] Primary Industry (NAICS codes 11 and 21) is agricultural, forestry and fishing activities such as crop production, animal production, logging, hunting and support activities.

As shown in Table 2.3, the growth in employment in the inner-core of the Greater Golden Horseshoe over the 2005-2031 period will drive demand for a total of 8.9 million m^2 (96.2 million sq. ft.) of commercial office floor space (a 53% increase over the current estimated office floor space inventory). Significant demand for future office floor space in the GTAH is expected from the Professional Scientific and Technical services sector (2.8 million m^2; 30.1 million sq. ft.), the Finance and Insurance sector (2.3 million m^2; 24.5 million sq. ft.), and the Information and Cultural Industries sector (875,000 m^2; 9.4 million sq. ft.).

	Greater Toronto Area & Hamilton							
	2005 - 2031 Employment Change	Employment Density Ratio*		Warranted Floorspace		Percentage Office - based**	Office Floorspace Demand	
		m^2 per employee	ft^2 per employee	m^2	ft^2		m^2	ft^2
Finance & Insurance	122,455	18.6	200	2,275,288	24,491,000	100%	2,275,288	24,491,000
Professional, Scientific & Technical Services	200,677	18.6	200	3,728,700	40,135,400	75%	2,796,525	30,101,550
Real Estate & Leasing	35,606	16.3	175	578,883	6,231,050	75%	434,163	4,673,288
Information & Cultural Industries	62,804	23.2	250	1,458,671	15,701,000	60%	875,202	9,420,600
Public Administration	33,862	23.2	250	786,471	8,465,500	50%	393,235	4,232,750
All Other	799,681	36.8	396	29,396,943	316,426,075	7%	2,166,779	23,323,020
Total	**1,255,085**	--	--	**38,224,956**	**411,450,025**	--	**8,941,193**	**96,242,208**

TABLE 2.3: Projected Office Floor Space Demand in the GTAH (By Sector)

This table shows the estimated demand for nearly 97 million new square feet of office space by 2031, a 53% increase over the current estimated inventory in the region. The Professional, Scientific & Technical services sector, and Finance & Insurance sector combine for over half of this estimated demand (54 million square feet). See **Appendix C** (Table C2) for a complete table.

*DATA SOURCE: *Average floorspace per employee values derived from detailed floorspace inventories in comparable North American and European urban regions; ** Percentage of employment allocated to office space derived from estimates of existing employment distribution (by sector) within the current floor space inventory. Data provided by Real Estate Search Corp.*

2.4 Forecasting office demand within the City of Mississauga

This section examines office demand within the City of Mississauga exclusively, using a sector-based approach that provides estimates for future office demand within the city limits.

2.4.1 Demand for New Office Space is Forecast to Require at least 10M sq. ft. (930,000 m^2)

The office floor space projections provided in this section for the City of Mississauga have been developed using employment-sector forecasts combined with other data such as regional employment trends and past employment growth in the City.

Projecting Office Demand

Growth rates for each sector were based upon past growth rates in sectoral employment in the City, as well as on projections provided by Hemson Consulting Ltd., which indicated an additional 78,400 jobs in the City by 2031. This overall employment projection was then disaggregated to project growth in individual sectors through examination of past employment growth by sector as well as growth in Mississauga's office floor space inventory by sector. More detail on the assumptions and background data used to develop employment growth projections for each sector can be found in Appendix C.

Analysis in the 2005 Employment profile (prepared by the Planning and Building Department, City of Mississauga), also calculates employment in an Unknown category, which includes a number of businesses where employment and business description is unavailable[9]. A summary of these employment-sector forecasts is provided in Table 2.4. For an explanation of the methodology used, please refer to Appendix C.

	Mississauga			
	2005 Employment (est.)*	2031 Employment*	2005 - 2031 Employment Change	Forecasted Growth Rate**
Finance & Insurance	21,210	35,493	14,283	2.0%
Professional, Scientific & Technical Services	21,250	33,447	12,197	1.8%
Real Estate & Leasing	6,345	10,350	4,005	1.9%
Information & Cultural Industries	8,915	14,176	5,261	1.8%
Public Administration	7,135	8,554	1,419	0.7%
All Other	316,525	357,773	41,248	0.5%
Total	381,380	459,793	78,413	0.7%

TABLE 2.4: Projected Employment in Mississauga (By Sector)

Nearly half of all job growth across Mississauga expected to be driven by the Professional, Scientific and Technical Services sector (+1.8%, 12,197 new jobs), the Finance & Insurance sector (+2.0%, 14,283 new jobs), and the Transportation & Warehousing sector (+1.6%, 21,675 jobs*). See **Appendix C** (Table C3) for* a complete table.

DATA SOURCES: Hemson Consulting Ltd. and Harris Consulting Inc.

**The Census Adjustment used in the 2005 Employment Profile was not included in this assessment given that it is assumed that multiple job-holders and home-based businesses do not drive demand for additional employment floor space. ; **Total employment growth assumptions based on employment growth rate derived from the January 2006 newsletter entitled "Mississauga Growth Forecast: Employment Growth".*

Employment figures derived from these projections suggest the following: the strongest growth is expected in the Finance and Insurance sector (2.0%), with strong growth also expected for the Real Estate and Leasing (1.9%), Professional, Scientific and Technical Services (1.8%), Information and Cultural Industries (1.8%), Management of Companies and Industries (1.8%), Transportation and Warehousing (1.6%), and Administrative and Support Services (1.6%) sectors, as shown in Appendix C. Sectors not expected to see growth in Mississauga include wholesaling, manufacturing, and the primary industries.

[9] NB: the 2005 Employment Profile does not include employment for home-based businesses.

2.4.2 Forecast for Future Expansion of the Mississauga Office Market Reflects Historic Sector Performance

	Mississauga							
	2005 - 2031 Employment Change	Employment Density Ratio*		Warranted Floorspace		Percentage Office - based**	Office Floorspace Demand	
		m^2 per employee	ft^2 per employee	m^2	ft^2		m^2	ft^2
Finance & Insurance	14,283	18.6	200	265,387	2,856,600	100%	265,387	2,856,600
Professional, Scientific & Technical Services	12,197	18.6	200	226,628	2,439,400	85%	192,634	2,073,490
Real Estate & Leasing	4,005	16.3	175	65,113	700,875	80%	52,091	560,700
Information & Cultural Industries	5,261	23.2	250	122,191	1,315,250	80%	97,753	1,052,200
Public Administration	1,419	23.2	250	32,957	354,750	50%	16,479	177,375
All Other	41,248	61.6	663	2,542,443	27,366,625	14%	348,035	3,746,220
Total	**78,413**	--	--	**3,254,718**	**35,033,500**	--	**972,378**	**10,466,585**

TABLE 2.5: Projected Additional Office Floorspace Demand in Mississauga to 2031

This table shows the estimated demand for over 10 million new square feet of office space by 2031, a 38% increase over the current estimated inventory in the region. The Professional, Scientific & Technical services sector, and Finance & Insurance sector combine for nearly half of this estimated demand (4.8 million square feet). *See **Appendix C** (Table C4) for* a complete table.

*Source: Harris Consulting Inc. *Average floor space per employee values derived from detailed floor space inventories in comparable North American and European urban regions; **Percentage of employment allocated to office space derived from estimates of existing employment distribution (by sector) within the current floor space inventory. Data provided by Real Estate Search Corp.*

Utilizing these employment sector projections, and matching them to the floor area per employee estimates, the total projected floor area requirements were calculated based on the marginal employment increases shown in the table above. This was coupled with estimations of the total share of employment that can be expected to locate in each office location.

Given this forecast, the City of Mississauga will warrant a minimum additional 972,000 m^2 (10.5 million sq. ft.) of office related floor space by 2031, which is a 38% increase over current supply.[10] This is equivalent to between two and three office buildings a year (based on the average size of buildings currently under construction).

Significant demand for future employment floor space is expected from the Finance and Insurance sector (265,000 m^2; 2.8 million sq. ft.), Professional, Scientific and Technical Services sector (193,000 m^2; 2.0 million sq. ft.), the Information and Cultural industries sector (97,000 m^2; 1.1 million sq. ft.), Administrative and Support Services sector (93,000 m^2; 1.0 million sq. ft.), and the Transportation and Warehousing sector (63,000 m^2; 677,000 sq. ft.), see Appendix C (Table C4), Table 2.5.

A check of these numbers against other projections and historical data confirms that they are consistent with a projection of office-based employment created as part of the Hemson employment growth forecast. That forecast indicates future growth in what Hemson refers to as "major office employment" totalling an additional 48,650 jobs by 2031[11]. Comparatively, the sector-based forecast above predicts a total of 46,285 additional

[10] These figures based on values from Harris Consulting. A similar study by Hempson Consulting identified the need for 1.16 million m^2 (12.5 million sq. ft.) of additional office floor space.

[11] Difference of mid-2031 and mid-2005 for Major Office Employment, taken from "Mississauga Growth Forecasts, Employment Growth. City of Mississauga, January 2006

office-related jobs by 2031. This represents a difference of only approximately five percent over the forecast period.

Further, assuming an average floor space ratio of 18.6 m^2 (200 sq. ft.[12]) per employee, the Hemson forecast predicts future demand for approximately 0.9 million m^2 (9.7 million sq. ft.) of office floor space, a difference of approximately seven percent less than the sector-based forecast, see Table 2.5. This suggests demand for an average of approximately 37,000 m^2 (400,000 sq. ft.) of office space per year to 2031.

This is rate of increase is somewhat lower than the approximately 65,000 m^2 (700,000 sq. ft.) of new office floor space added to the local inventory over the past five years. At the same time, this forecast suggests that Mississauga's share could drop to approximately 11% of the total demand for office space in the GTAH. This is somewhat lower than the current share of total regional office space (currently 14%). It should be noted that future estimates suggest that future employment growth will occur at a faster rate (0.7% annually) than population growth (0.4% annually), however, over the long term, decreasing land availability (i.e. a decreasing supply of cheap and easy to develop sites) and increasing competition from other areas of the region will place some constraints on future office development in Mississauga. In much the same way as in the City of Toronto, the loss of greenfield sites within the City will have an effect on the pace of new development. This suggests that new policies and strategies (including capital investment in infrastructure) will indeed be necessary to ensure that the City is able to add new, competitive office floor space supply beyond the forecast amounts.

2.5 Balancing sector-based forecasts against recent performance

Does Mississauga have sufficient land suitable for office development over the long term?

Looking to 2031 and beyond, municipalities in the GTA will need to preserve enough land to accommodate an additional 1.2 million jobs in all sectors. Since the land use structure of the region is already established, a significant number of these jobs will likely be added to existing areas of employment. The challenge for municipalities is to make the best use of available lands, given that there are often competing demands for well-located property.

At present, there are approximately 28,000 ha (69,000 acres) of employment lands in the seven municipalities that comprise the core of the GTA, a quarter of which 25% are vacant (see table 2.6). Some of these lands, typically in locations that are viewed as less attractive for employment purposes by industry, are under pressure to be re-designated for residential use. Other employment lands simply do not meet the needs of the office market (or are more suitable for their intended industrial purpose). As a result, of the 7,000 (17,000 acres) hectares of vacant

[12] Average floor space ratios range from 18.6 m^2 (200 sq. ft.) to 23.2 m^2 (250 sq. ft.). 200 sq. ft. is based on Canadian Office Floor Space to Worker Density findings in a Royal Le Page Office and Employment Research Study, 2003 (http://www.gvrd.bc.ca/growth/pdfs/comindusttrends.pdf)

employment land in the GTA, a relatively small proportion of vacant land in Mississauga can be considered suitable for office development.

Municipality	Employment	Employment Land Supply (ha)	Employment Land Supply (acres)	Vacant Employment Land (ha.)	Vacant Employment Land (acres)	% Vacant
Oakville	66,058	1,590.0	3,928.8	417.0	1,030.4	26%
Mississauga	381,380	9,205.7	22,747.0	1,113.6	2,751.7	12%
Brampton	176,100	5,510.0	13,615.0	2,428.1	6,000.0	44%
Toronto	1,455,000	7,730.0	19,100.6	550.0	1,359.0	7%
Vaughan	100,000	2,190.0	5,411.4	963.0	2,379.5	44%
Richmond Hill	43,900	590.0	1,457.9	144.0	355.8	24%
Markham	118,800	1,400.0	3,459.4	390.0	963.7	28%
Total	**2,341,238**	**28,215.7**	**69,720.0**	**6,005.7**	**14,839.9**	**21%**

TABLE 2.6: Vacant Land in Employment Areas Across he GTA

Mississauga has the largest inventory of Employment Lands in the GTA, and the second largest supply of vacant employment land yet more land may be demanded than there is available supply using a business-as-usual approach to office development.

SOURCES:

Oakville: Hemson, 2004. Employment Land Market Assessment. http://www.oakville.ca/Media_Files/DevelopmentProcess/117HemsonWestFeb2004.pdf; Mississauga: 2007 Vacant Employment Lands (employment land does not include employment lands in residential districts); 2005 employment from Hemson Consulting and Harris Consulting; Brampton: City of Brampton, 2007. Brampton Community Profile, http://www.brampton.ca/economic-development/content_stats/CommProfile.pdf; Toronto: Hemson, 2007. Long Term Employment Land Strategy for the City of Toronto. http://www.toronto.ca/business_publications/pdf/TEDCO-Hemson-rep-jan-07.pdf; Vaughan: York Community Profile Vaughan (http://www.york-vcrc.com/community_profiles_frame.htm); Hemson 2005. http://www.city.vaughan.on.ca/newscentre/projects/pdf/Hemson%20Vaughan%20Hwy%20400%20North%20Draft%20Dec%2013%202005.pdf

Richmond Hill: Richmond Hill, 2005. Richmond Hill EDO Report. http://www.richmondhillonline.com/Business_Information/greater_toronto.asp; Markham: Employment in 2001. http://www.markham.ca/markham/channels/planning/phefore_1996-2026.htm. Community Profile Markham (http://www.york-vcrc.com/profile_markham.htm#Employment%20Areas); Hemson 2000 Employment Lands Strategy.

To its credit, Mississauga has resisted attempts to develop vacant employment lands for residential purposes and, therefore, today the City has the largest inventory of employment lands in the GTA – some 9,200 hectares (2,750 acres), and the second largest supply of vacant employment land. To estimate whether the City has sufficient land to accommodate future office demand, we calculated the amount of vacant land located in areas where the majority of office development has taken place in the past. This immediately reduces the vacant land inventory to approximately 1,656 acres, about 60% of the total. If the minimum amount of new office (forecast at approximately 10 million sq. ft.) were developed at recent average development densities, this would require approximately 460 acres of land – 28% of the City's inventory of land likely to prove attractive to office developers. In reality, 70% of office development has taken place in only two employment districts over the past decade – Meadowvale and Airport Corporate Centre. Vacant land in these two districts accounts for 50% of the desirable land available.

If we assume that the sector-based forecast is a conservative estimate, and one that by definition does not reflect recent strong development history, a prudent step would be to also carry forward an upper estimate of future demand in order to ensure sufficient land is available for office development.

When historic demand levels are extrapolated from 1980 to 2031, an upper estimate is identified that suggests as much as 25 million square feet could be developed (see figure 2.2), effectively replicating the level of development achieved during the past 25 years. Using the same estimates in terms of land required to accommodate future office space, there would be a need for 1,148 acres, or 70% of all desirable vacant land (see Table 2.7). This does not leave the City with a sufficient cushion to ensure that the development industry has sufficient choice of sites.

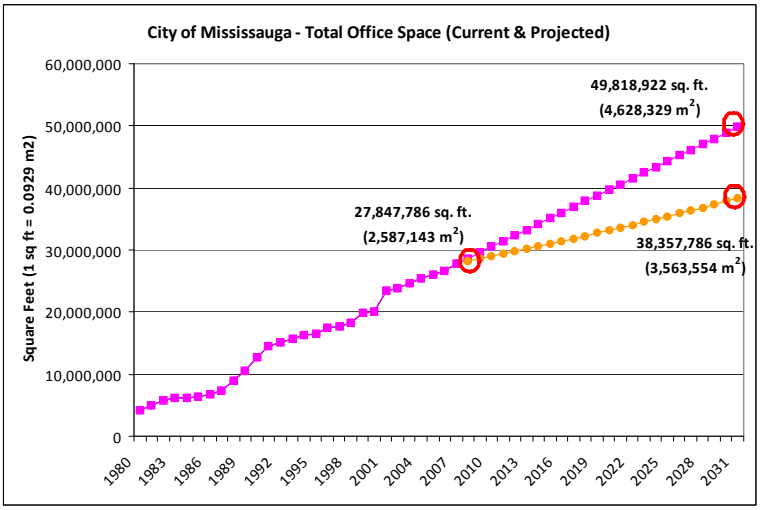


FIGURE 2.2: Total Office Space in Mississauga (Current and Projected)

Our sector based forecast, when placed alongside the development history between 1980 and 2007, would mean a much slower growth rate for office development in Mississauga. When the historic trend is projected to 2031, it reveals that if growth continues at pace, an additional 25 million square feet of office will be developed in Mississauga over the next 25 years

DATA SOURCE Real Estate Search Corporation

As a further check to ensure that Mississauga's long-term needs are met in terms of having sufficient lands suitable for office development, we carried out a qualitative analysis of the two locations most in demand – Meadowvale and Airport Corporate Centre. To calculate the "easily developable" lands, we excluded sites too small to accommodate average sized office buildings, as well as sites more likely to develop for industrial uses. The details are found in Appendix D but in summary, this approach would reduce vacant land in the two districts to approximately 223 ha (551 acres). If the same proportion of office (7.1 million sq. ft. or 70% of 10 million sq. ft.) were to continue to be directed to these areas, approximately 326 acres would be needed to accommodate this amount of office development.

When the upper estimate of future demand is applied, some 815 acres would be required in

	Sector Specific Forecast	Historic Demand Levels	Available Land	Desirable Land
Square Footage				
Mississauga	10,000,000	25,000,000		
Airport Corporate	4,800,000	12,000,000		
Meadowvale	2,300,000	5,750,000		
Rest of City	2,900,000	7,250,000		
Acres Required			**Acres**	
Mississauga	459	1,148	2,752	1,656
Airport Corporate	220	551	242	205
Meadowvale	106	264	591	346
ACC & MV	326	815	833	551
Rest of City	133	333	1,919	1,105
Hectares Required			**Hectares**	
Mississauga	186	465	1,114	670
Airport Corporate	89	223	98	83
Meadowvale	43	107	239	140
ACC & MV	132	330	337	223
Rest of City	54	135	776	447

TABLE 2.7: Land Consumption of Two Development Projections

The sector based projection of 10 million square feet, at 0.5 FSI would eat up approximately 459 acres of land, or over one-quarter of the desirable vacant employment land for office buildings in Mississauga. If development proceeds apace and reaches an additional 25 million square feet by 2031, 1,148 acres of land will be required, consuming over 70% of desirable land in the process. This would also see 815 acres consumed within Airport Corporate and Meadowvale, a combined shortfall of 264 acres.

DATA SOURCE Real Estate Search Corporation

these two districts, assuming development of 17.8 million sq. ft., a shortfall of 264 acres.

In our view, Mississauga should consider designating additional land dedicated for office uses in order to preserve its options in the future and prevent the potential encroachment of other land uses into areas most suitable for future office developments.

	Employment Land Supply (ha)	Employment Land Supply (acres)	Vacant Employment Land (ha.)	Vacant Employment Land (acres)	% Vacant	% of Total Vacant Supply
Mississauga Total	16,476.3	40,712.4	1,177.1	2,908.6	7.1%	100.0%
Mississauga Total (excluding lands in Residential Districts)	9,205.7	22,747.0	1,113.6	2,751.7	12.1%	94.6%
Meadowvale	1,326.4	3,277.5	262.3	648.1	19.8%	22.3%
Gateway	1,825.1	4,509.8	223.4	552.0	12.2%	19.0%
Airport Corporate & Extension	598.0	1,477.6	97.8	241.7	16.4%	8.3%
City Centre	235.2	581.2	41.4	102.3	17.6%	3.5%
Sheridan Park	162.0	400.3	45.9	113.4	28.3%	3.9%

TABLE 2.8: Vacant Space in Mississauga's Employment Lands
Just over 30% of vacant employment lands in Mississauga are in prime locations with high demand, Meadowvale (22.3%) and Airport Corporate & Extension (8.3%). **NOTE*: See Chapter Six regarding the Airport Corporate Extension.
SOURCE: City of Mississauga Vacant Lands Study (2007)

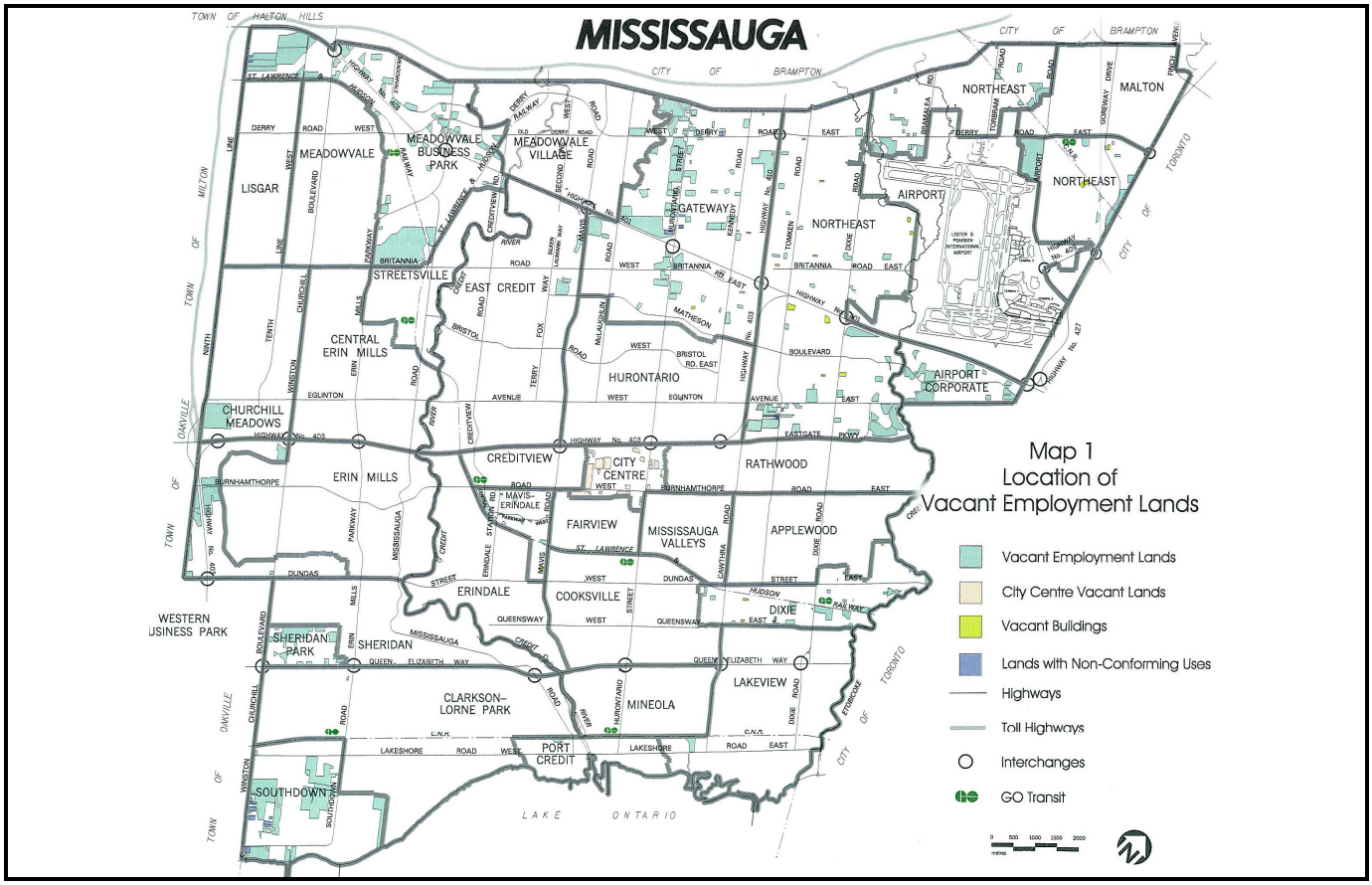


FIGURE 2.3: Current Vacant Land & Buildings in Mississauga (January 2007)
Many pockets of vacant employment land remain scattered across the City of Mississauga. *SOURCE: City of Mississauga Vacant Lands Study (January 2007)*

CHAPTER THREE | INDUSTRY INTERVIEWS:
LANDLORDS, DEVELOPERS AND TENANTS LOOKING TO THE CITY FOR LEADERSHIP TO ACHIEVE SUSTAINABLE GROWTH

A key component of the study involved consulting with developers, landlords and tenants to determine what is needed to support Mississauga's competitive position as an office location. This chapter summarizes comments elicited from these interviews. Because of the subjective nature of the questions asked, it is important to note that not all interviewees were in agreement on all themes.

3.1 High-ratio surface parking sites and growing congestion concerns developers

The central concern affecting all developers interviewed, regardless of location, is parking. Several developers indicated their frustration with tenant demands exceeding 4 spaces per 1,000 sq. ft. (4.3 spaces / 100m^2), requiring the construction of parking decks, which frequently turn out to have poor utilization. The demands for high parking ratios appear to be driven by the fear of HR repercussions (not having parking available at a low cost for employees) or by expectations raised by greenfield sites where 5 stalls per 1,000 sq. ft. (5.4 stalls / 100m^2) of office space can often be accommodated. The development community would appreciate anything that the City can do to reduce car-dependence and alleviate tenant-parking demands. Supporting "smart commute" groups would be one way of encouraging employers to work cooperatively to organize ride-sharing and other means of reducing car travel. One developer also thought that increased flexibility of parking stall sizes would help reduce the size of the parking area to be constructed. It was also thought that the excessive parking requirements are at odds with the concept of 'green' buildings, an initiative that if properly promoted, could aid a developer's profitability through the potential for premium rents.

All developers interviewed indicated significant concerns about traffic congestion, and urged the City (together with other levels of government) to invest in rapid transit. Although it was acknowledged that congestion is an issue throughout the GTA, developers felt that Mississauga needs to take concerted action to address local problems. Some suggested that they were concerned about protecting the value of their existing assets while others indicated that it was in the City's own best interests to carry out some "city building initiatives." In this regard, there was strong support for the BRT and higher order transit being discussed for Hurontario. The prospect of transit-oriented nodes on Hurontario was considered "attractive and could make a difference." Most developers questioned on this point felt that tenants would be willing to pay small premiums to locate on a rapid transit line.

The reality of putting transit plans into action was also discussed: even if a rapid transit project on Hurontario were announced tomorrow, it would be seven or eight years before it could be completed. In the 905, developing an office project generally takes about two years, therefore the earliest that a developer could expect to commit to a transit-focused project on Hurontario would be 2012. So every deal that is *not* transit-focused completed over the intervening period reduces the potential for future success. In terms of perception in the marketplace, there is a qualitative difference between investing in locations with rail-based transit versus similar locations with buses. For Hurontario, the view was expressed that buses consume a lot of road space and interfere with traffic whereas light rail would add real value. Rail-based transit is generally thought to be a greater attractor for investors than rubber-wheeled transit.

Another key difficulty in implementing transit plans would be the need to provide sufficient parking to attract tenants before a transit culture can be established, since transit-oriented buildings would typically be constructed with lower parking ratios. Some assistance in the form of a municipal parking authority was suggested as a way to overcome this difficulty.

Finally, there were concerns from developers about the impact of the growing residential component within City Centre on congestion on the arterial roads in the area. While some developers see residential development as a 'plus', it will only continue to be considered as such "provided that the congestion from residents doesn't interfere with commercial tenancies."

3.2 Market-led development policies worked in the past but congestion and a dwindling supply of prime sites requires a fresh approach

Outside of the key issues of congestion and parking, several other themes emerged from developer interviews with respect to the development environment in Mississauga. All developer/landlords interviewed speak positively about Mississauga as a place to invest and indicate either that they have plans to carry out new projects or that they would be prepared to proceed with development under the right circumstances. There was a tacit recognition that Mississauga is considered by developers to be a mature and extremely significant office market. In that regard, Mississauga is perceived as an environment capable of attracting investment capital. Other themes and issues that emerged from developer interviews included; financing issues, locational considerations, issues surrounding the quality of the building itself and surrounding amenities, and opportunities for the City to intervene or support the marketplace.

Financing Issues:

Several developers are financed by pension funds or similarly conservative sources of capital. In recent years, because the developer needs to bring multiple funding sources with different risk profiles together for a single

project, this inhibited decisions to proceed with new projects. This appears to be changing, as evidenced by decisions to proceed with higher risk, multi-tenant buildings.

We heard that the appetite for building "green" projects is likely to be greater with high profile publicly traded companies seeking to "do the right thing."

Although there is evidence that spec buildings are once again being developed in the GTA, mainstream developers stress the need for caution and the necessity of having at least one anchor tenant in place. Because investors are inherently risk-averse (even though spec buildings are being constructed), the average size of such buildings will remain relatively small (i.e. less than 200,000 sq. ft.; 18,550 m^2). There is general agreement that tenants in the 905 marketplace have historically shown a reluctance to pay higher rents to cover the costs of larger, more complex high-rise office buildings with extensive common area spaces and underground parking.

Locational Considerations:

For developers with interests in the City Centre, considerable concern was expressed regarding high levels of congestion, poor access and a growing perception in the marketplace that the location is poorly served in terms of highway access. "It is extremely difficult to reach downtown Toronto from the City Centre," commented one interviewee. "The lack of a direct rail connection is an insurmountable problem," declared another.

The lack of new product in 15 years creates a worsening problem for landlords. Older buildings have higher operating costs, higher taxes, limited parking and require capital improvements that cannot be easily recovered in the rental rates. Older buildings are typically less efficient, which results in higher operating costs for energy. There is said to be a $2 per sq. ft. ($21/m^2) penalty for operating costs associated with older buildings. This effectively increases the total occupancy cost for tenants, although we were told that landlords often find ways to absorb these costs rather than make their buildings uncompetitive.

Although leasing activity has been reasonably successful in recent years, landlords are concerned that the average size of tenant in the City Centre is declining. (Note: this perception is backed up our research results.) As a result, it is becoming increasingly difficult to attract larger tenants because large floor space blocks are being broken up to meet the needs of smaller tenants. Landlords in the City Centre are facing increasing challenges to secure the right deals. As well, in order to be competitive, the cost of structured parking is often factored into lease rates, which effectively reduces the return on investment. The same financial factors make it virtually impossible to cover the development costs of new buildings or consider underground parking.

Another difficulty is that older City Centre buildings were mostly constructed with smaller floor sizes, which are considered to be somewhat less attractive in the current market. Companies like to have the option of locating

their operations on one or two contiguous floors, so a floor plate greater than 25,000 sq. ft. (2,300m^2) is considered the norm, versus 18,000 sq. ft. (1,600m^2) or 20,000 sq. ft. (1,850m^2) in the City Centre.

City Centre is no longer perceived as "centre ice" as a location for offices, so in the opinion of one landlord, leasing successes are "by default," when companies have not been able to meet their needs elsewhere. The success achieved in leasing space to smaller tenants when a large space block opens up highlights the missed opportunity with respect to making the case for new multi-tenant buildings. One developer mused that there seems to be enough potential tenants to make such a project worthwhile.

The lack of pedestrian amenities is also considered to be a significant drawback for what is supposed to be a downtown location. One developer is actively seeking ground-floor tenants such as restaurants to create some activity "on the street." Another developer commented that there used to be a marketing committee for the City Centre but the momentum behind that seems to have been lost.

Developers acknowledge that Airport Corporate is currently the most attractive location in the City, noting that the additional service to be provided by the BRT will help preserve its viability. But even though there is a substantial amount of vacant land in the area, "there are not that many great sites left within the node." It was also noted that the area has serious access issues that tend to overload surrounding arterial roads in rush hour.

Building and Amenity Issues:

The niche demand in Mississauga for flex-office buildings demonstrates the importance of this segment of the market. Those in the market for this type of office space are typically in search of lower rents and flexible space that can be altered to accommodate changing business needs, and are willing to trade-off the level of finish or amenity to obtain these attributes. High ratios of office use in a formerly industrial designated area can create a parking problem, usually requiring a variance. One landlord noted that the issue is not quality but price point. The clear benefit is the opportunity for companies to incubate in affordable premises. Even though flex buildings represent a form of competition, companies that require flex buildings are unlikely to consider traditional office buildings; the recommendation from all developers interviewed on this subject is to resist the temptation to introduce regulations to this form of office building; the potential loss of commercial tax revenue is more than offset by providing companies the opportunity to get started and potentially flourish.

Landlords that cater to the "corporate" tenant are frequently faced with "the threat" of an existing tenant relocating to a flex building. However, the reality is that the cost of moving is sufficiently high that a company would have to have other very good reasons to follow through.

Developers interviewed that also have land holdings in Vaughan and Markham indicated that the (recently announced) extension of the subway to Vaughan Corporate Centre might influence locational decisions, although

the current environment in those locations is not conducive to high-density commercial development. The approach taken to developing the downtown in Markham (investment in district energy, commitment to VIVA transit, a high level of urban design and discussion of a parking authority using a TIF (Tax Increment Financing, see Appendix E) drew positive responses from several developers. Given the option, developers indicated their preference for sites with highway access *and* rapid transit.

Several developers expressed an interest in constructing green buildings; however they feel that the parking requirements as currently composed will not allow a true 'green' building to be built. Most developers have said that they would build green buildings in the future "provided that the cost is acceptable."

Best opportunities for the City to intervene or support the marketplace:

Although most developers interviewed have properties in several locations in Mississauga and elsewhere in the GTA, there was agreement that the City needs to promote intensification, or "higher land utilization." As mentioned in section 3.1, the key issue is parking, and although land values are among the highest in the 905, land values are still insufficient for office uses to support the kind of more compact development that comes with underground parking. One tactic suggested was to structure development fees to encourage more intensive development.[13] Another solution identified in the interviews might be to increase the allowable lot coverage of a building from 0.5 to 1.0, allowing more creativity between the site area and the building floor plate.[14]

A developer with interests in the 404 corridor confirmed that residential is outbidding most other uses in certain locations. Because residential condominium development provides better economic returns at less risk, mixed use zoning (as in the City Centre) effectively makes it more difficult to develop new office buildings.

Several interviewees cited the value of reducing development charges and financial contributions; acknowledging the need for such charges, however, one developer recommended that the City put more effort into communicating the physical benefits generated as a result of paying into various fees. "Tell me about the park that my contribution helped fund," he suggested.

Although approval times are always considered onerous, one way of alleviating some of the concerns in this area would be to keep developers better informed on the progress being made on applications. Markham was cited as a municipality that does an excellent job in this regard. "You get the feeling that they operate as a team," one interviewee noted. Part of the cost of doing business for developers is hiring experts to navigate the approvals process. Although a great deal of emphasis is placed on the costs of acquiring development approvals, two landlords involved in the leasing process cited the need to pay attention to the time spans required to get Final

[13] A $9 per sq. ft. ($96.88/m^2) development fee translates into approximately $0.75 of rent.

[14] **Note:** While this was identified in the interviews with landlords/developers Mississauga does not restrict development using 'coverage'. FSI in Business Employment areas is already 1.0 (outside of nodes). This suggests that landlords/developers may not fully understand the current office designations and therefore we recommend considering a new 'office hierarchy', see Chapters 4 and 6.

Inspection Certificates (occupancy permits) when tenant improvements have been carried out. “It is very risky for me to sign a lease committing to a move-in date without the certainty of having that permit,” noted one landlord. “When you get to the point of having successfully negotiated a deal it is very difficult to have it all rest on the timing of a move. If I am moving a tenant within the same building, I can push the envelope but if the move is being made across town, there is a lot more at stake. This is definitely an area where the City could help us out.”

In attracting tenants, the developers interviewed noted that one of the highest priorities for prospective tenants is the value they place on access to a high quality labour pool. The City can support this by improving access to key locations such as the City Centre, and by encouraging a variety of business-focused uses such as hotels, childcare facilities and post-secondary educational institutions to facilitate continuing education and employee training. It was noted that businesses with high ratios of support staff and other lower-paid employees appreciate good transit access. One of the explanations for the success of Meadowvale and Airport Corporate suggested by landlords is that the companies that locate there employ large numbers of professionals who can afford to commute by car.

As the City’s building stock ages – particularly in the City Centre – the industry would benefit from incentives or at the very least guidance on ways to retrofit with a green component and preserve the quality of the investment.

3.3 Business functionality and access to a quality labour pool are top priorities for employers

Business Functionality:

Among the tenants we spoke to, the number one driver for locational choice was maintaining a high degree of business functionality. Business functionality implies how well the company is able to deliver their service, which may be influenced by things like traveling across town to attend business meetings, or being close to the airport. Some tenants explained that their market was in Mississauga, and being close to the clients maximized their functionality. Within the topic of ‘business functionality issues’, highway access for employees ranked as the most important issue, closely followed by the availability of parking (see Figure 3.1). Although access to the airport ranked the lowest overall, several companies explicitly mentioned that proximity to the airport was important in their decision to locate in Mississauga.

Human Resources Issues:

Human resources issues ranked second on the list of importance when choosing a location. Those companies that had moved to Mississauga (from other municipalities), did not want to lose their employee base with the

move. Furthermore, some companies feel that Mississauga is a strategic hub that their employees can access from as far away as Guelph, or locally from Milton or Brampton. In the human resources category, employee satisfaction ranked highest, along with access to the labour pool (see Figure 3.2). One tenant noted that Mississauga is "the central location for all the top talent in the GTA," although another said, "it is difficult to hire some types of employees." Proximity to affordable housing for employees did not appear to be as strong of a concern.

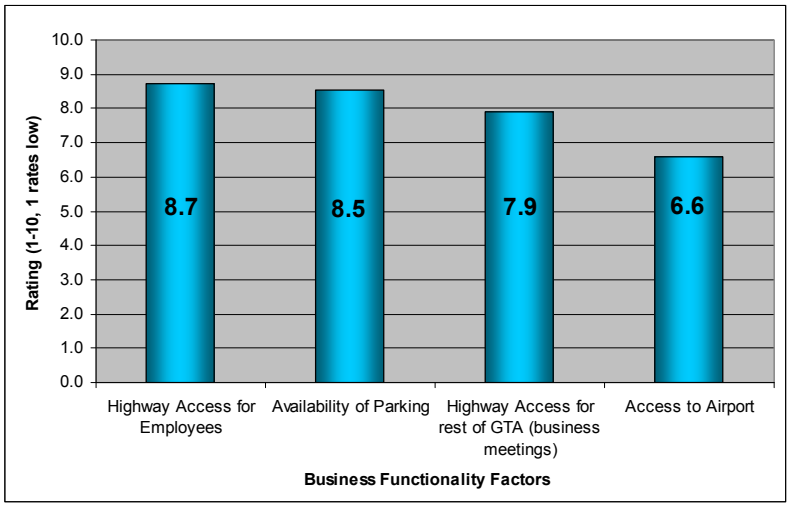


FIGURE 3.1: Business Functionality Ratings
Highway access for employees was the most important factor contributing to business functionality, while availability of parking was also very important to office tenants in Mississauga.
DATA SOURCE Canadian Urban Institute, 2007

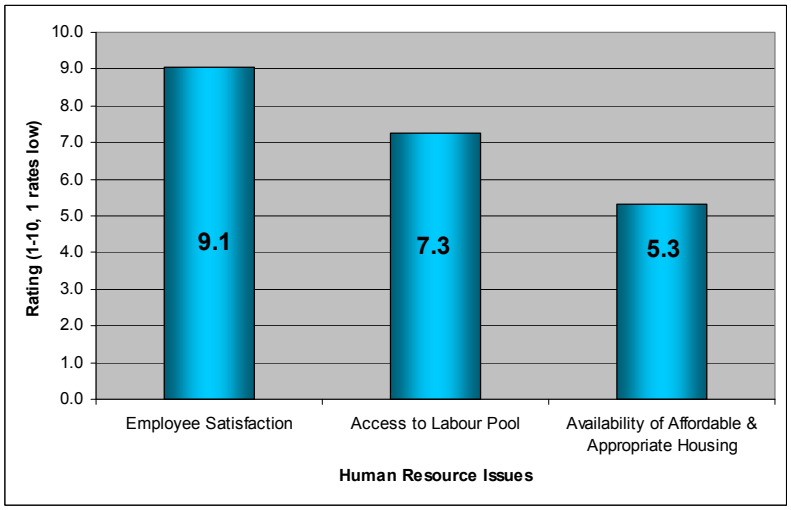


FIGURE 3.2: Human Resource Ratings
Employee satisfaction was cited as the most important human resource issue for office tenants surveyed.
DATA SOURCE Canadian Urban Institute, 2007

Cost Issues:

Of equal importance to human resource issues were concerns about costs. Total occupancy costs, operating costs and rental rates were all above 8 on a scale to 10 (1 rating low).

Corporate Objectives:

Among the other categories, corporate objectives ranked as the lowest priority, although still gaining an average 7.8 rating out of 10. In this category, the most important factor affecting the appeal of a present office location was the flexibility of space. The size of floor plate and access to high-tech office space, (e.g. having the capacity for broadband service or 'WiFi', etc.) were considered by respondents to be the two next most important factors in selecting, or staying in, a given location. Having a 'prestige location' ranked lowest on the list, however one company commented on the desirability of having "a nice building with our logo on it."[15]

[15] Enquiries with a leading telecommunications provider confirm that all major areas developed with office uses have fibre optic broadband access.

Amenities:

Among a list of amenities (see Figure 3.3), parking ranked highest with an average score of 8.6 on a scale of 1 to 10. Public transit was ranked next, followed by the presence of restaurants in the vicinity. Fitness and exercise facilities were least important.

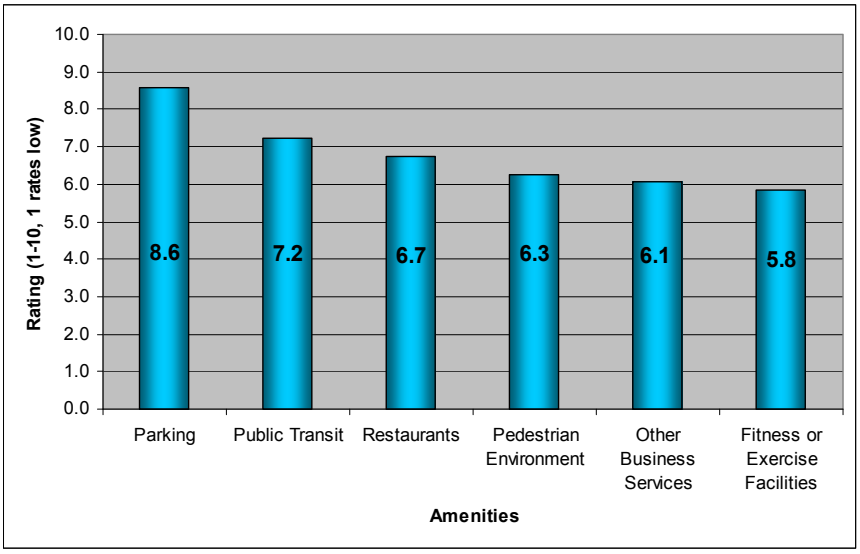


FIGURE 3.3: Amenities and Service Ratings
Parking was considered the most important amenity to office tenants surveyed.
DATA SOURCE Canadian Urban Institute, 2007

Parking and Traffic:

The majority of companies (80%) said their employees do not pay for parking. Tenants also mentioned that on average, 80% of employees drive into work, with the remainder using a combination of driving and transit. No companies we spoke to offered transit passes, but half did say they encourage their employees to carpool.

Traffic and road congestion were found to be the most prominent frustrations among the tenants. The majority of companies felt that congestion had worsened over time, especially in accessing the 401.

The walking environment in Mississauga was mentioned to be poor, with little street frontages to buildings. More than a few companies noted that their buildings are very car dependent – and with limited restaurants in the area, they were forced to drive around a lot during lunch, or cater in. One company noted that the presence of trucks on Dixie Road adds to the congestion.

When asked whether "green" was a consideration, tenants did not seem to boldly offer any comments or initiatives. At present, it seems that environmental considerations do not directly factor into locational decisions for tenants.

Other insights:

Mississauga is the city of choice for the pharmaceutical (pharma) sector. One company noted that the market for pharma in Mississauga is considered by some to be already at a mature state – and did not foresee rapid new growth in the industry. Biotechnology, on the other hand, was regarded as a field with a great deal of potential for the City. By nature, biotech companies are very small and specialized. In the view of that company, Mississauga is not regarded as being a regional draw for this industry, compared with Boston or San Diego.

Nevertheless, Mississauga could take a role in developing the link between its maturing pharma industry and an emerging biotechnology field. (This perspective is not borne out by extensive research documented by the Economic Development department, which cites Mississauga as the third largest pharmaceutical cluster in North America.)

Company size:

In speaking to companies of various sizes, ranging from 15,000-30,000 sq. ft. (1,400-2,800 m^2) to over 50,000 sq. ft. (2,650m^2), it appears the larger firms have been at their current location in Mississauga for the longest time, with an influx of smaller sized companies in recent years. Corporate objectives and human resource issues were most important for larger companies, while operating costs and access to the labour pool were the main concerns of smaller ones.

3.4 Local businesses and international investors alike demand high quality work environments

Few trends in real estate have had an effect as widespread as the burgeoning interest in green or sustainable buildings. As a result, the LEED® standard (Leadership in Energy and Environmental Design) promoted by the Canada Green Building Council (CaGBC) is quickly becoming a baseline for new development – both commercial and residential, as well as institutional (See Appendix A). The degree to which office tenants are prepared to pay for any additional costs associated with leasing green development is still not well understood, however, and more work is needed to develop a more thorough grasp of the issues. This is particularly true in the context of locations dominated by automobile use such as Mississauga. As indicated in the landlord interviews above, some openly question the logic of promoting "green" buildings in settings that result in land-extensive development. There is also a danger that residential developers will undermine the concept of green development by using "green" as a marketing device without following through on providing genuine enhancements over traditional development practices. In this regard, the City has an opportunity to clearly establish, in collaboration with developers, a policy basis to set higher standards for development that is demonstrably sustainable.

CHAPTER FOUR | POLICY ANALYSIS:
DEVELOPMENT OF AN OFFICE HIERARCHY PROVIDES A FRAME OF REFERENCE FOR INFRASTRUCTURE INVESTMENT

This chapter analyzes current official plan policies for office uses and identifies a number of problems with the existing policy framework. The second part of the chapter sets out proposals for a set of revised policies.

4.1 Provincial & upper-tier policy: the Growth Plan, PPS, and the Peel Regional Plan provide an opportunity to establish a firm link between land use goals and infrastructure

The Province of Ontario recently introduced *Places to Grow: Growth Plan for the Greater Golden Horseshoe*. This new Plan, introduced by provincial statute in 2006, coupled with the Provincial Policy Statement (PPS, 2005), comprise the provincial policy framework within which this Office Strategy Study has been assembled. As a lower-tier municipality, the City of Mississauga's Official Plan policies and any proposed amendments, along with the strategic directions provided in this study, must also be in conformity with the upper-tier Official Plan for the Region of Peel.

4.1.1 The Growth Plan and the Provincial Policy Statement

The Growth Plan and PPS identify the "importance of planning for, protecting and preserving employment areas for current and future uses." This protection is to be achieved by ensuring that an employment land supply will exist to serve a variety of different employment uses into future planning horizons, and that existing employment lands not be converted for other uses without a comprehensive review. The provincial government has also recognized that without investment in infrastructure, coupled with good land use planning policy, sustaining employment growth will not be possible. Therefore, the province now stipulates that municipalities will ensure that all "necessary infrastructure is provided" to support the forecasted employment needs. The plan also states that Major Office land uses ought to be concentrated in urban growth centres, near major transit infrastructure – or areas with existing or planned higher-order transit service – and that public transit be considered the "first priority for transportation infrastructure planning and… investment". Compact urban form supports transit and also promotes improved air quality and energy efficiency and, therefore, the PPS encourages planning be conducted in a way that interlinks compact nodes and corridors.

4.1.2 Region of Peel Official Plan

The Region of Peel has designated the City Centre as a *Regional Urban Node*. Where these nodes exist the lower-tier municipality is required to address the specific role of the node within the context of the region and the GTA (see Figure 4.1).[16] While each node must have a specific role it must also use land, services, infrastructure, and public finances effectively and contain a mix of employment and residential uses at high intensities that are able to support the safe and secure use of public transit, walking and cycling.[17] Regional Urban Nodes, of which there are two at present (Queen Street, Brampton; and, City Centre, Mississauga) are to be interlinked by public transit. As such the Region has designated Hurontario Street as a 'Major Bus Transit Corridor.'

More generally, the Region has an overarching goal to achieve a "sustainable rate of employment growth relative to population growth."[18]

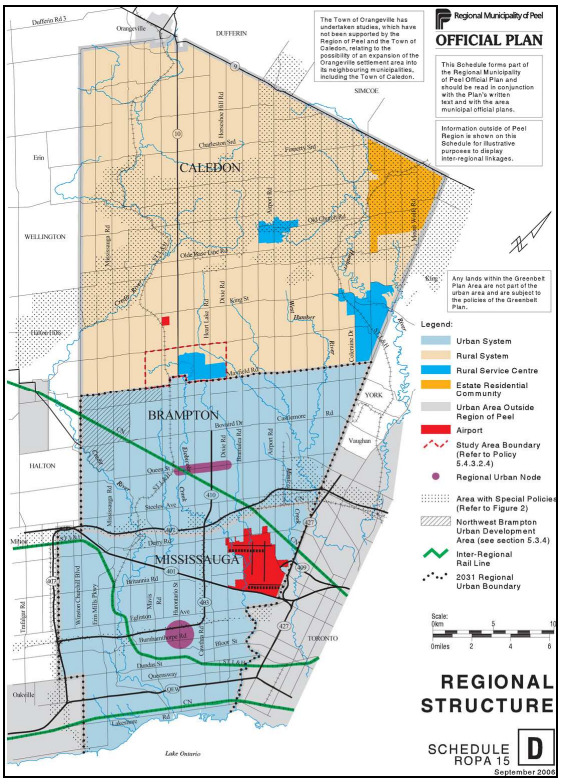


FIGURE 4.1: Current Regional Structure (Peel)
Peel designates two *Regional Urban Nodes* (purple) that are to become mixed use areas where opportunities are to exist for residents to both live and work in the node, where the nodes are characterized by compact and intense form, and where effective use is made of infrastructure, public finance, and services.
SOURCE: Region of Peel, 2006

4.2 Mississauga's current official plan policies for office development send mixed messages and need to be updated

One of the stated policy directions of the Mississauga official plan is to accommodate a wide range of employment activities, including office employment. The plan addresses two important interlocking goals: to increase the number of office jobs as part of a larger goal of establishing Mississauga as a net importer of labour; and achieving an urban form that creates a high quality business environment. This includes promoting a high level of transit use. Taken together, these goals contribute to the economic well-being of the City by seeking to attract companies that provide well-paying jobs, encourage development that contributes to the property tax base and attract investment from around North America and internationally.

The fact that Mississauga has significantly out-performed other municipalities in the Greater Toronto Area over the past 25 years confirms that current policies have served the market well in the past, but our analysis has

[16] Official Plan of the Region of Peel, s. 5.3.3.2.3a
[17] Official Plan of the Region of Peel, s. 5.3.1.4, 5.3.2.3, 5.3.3.1
[18] Official Plan of the Region of Peel, s. 5.3.1.2

identified a number of problems that are likely to limit the City's ability to achieve its goals for city-building in the future.

Office uses are defined in the official plan as "business, professional and administrative offices." Such uses are currently permitted in nine different official plan designations. This undermines the City's ability to direct offices to key locations such as the City Centre or encourage the creation of a critical mass of office development in specific locations capable of supporting high levels of transit use. Most importantly, this approach does not *discourage* the development of major office buildings in isolated locations. As well, there are inherent conflicts between some of these policies, so the current policies send mixed messages to developers and prospective office tenants.

A second difficulty is that the official plan has two additional geographically-focused designations – the Urban Growth Centre (UGC) and Nodes. The UGC applies to an area on Hurontario where the designations are mostly residential, which reduces the effectiveness of the designation to attract high intensity employment. The area covered by the UGC was recently extended further south on Hurontario (official plan amendment no. 58). Portions of Employment Districts designated as Nodes permit offices to be developed without any policy limits (no restriction on floor space index (FSI) or building height). Because this condition is present in a number of diverse locations throughout the City, this undermines the City's intent that the City Centre should "accommodate the highest concentration of commercial activities in the City" in keeping with its role as a regional centre and as the City's downtown. The issue of Nodes is addressed later in this chapter and in Chapter Six.

4.2.1 Current designations permitting office uses

At the heart of these conflicts is that the designations tend to be location-specific (rather than performance-based) and contain few criteria that address issues such as size, scale, building type or built form characteristic. Offices are just one of many potential uses permitted in the same designation. The range of uses permitted is not always internally consistent (prestige and open storage side by side, for example).

There are three "families" of designation that permit office uses. The first is a set of two designations found only in the City Centre. These designations were put in place after the majority of existing office development had been built. The second relates to two designations found in employment districts. The third is a catch-all family of designations typically found on arterial roads. These designations are listed in Table 4.1.

List of Designations in which Offices Currently Exist (By Family)	Office Designations and Zones	
FAMILY	**LIST OF LAND USE DESIGNATIONS**	**LIST OF ZONES**
City Centre	Retail Core Commercial	Retail Core Commercial (CC1)
	Mixed Use	Mixed Use (CC2)
Employment Districts	Business Employment	Business Employment In Node (E1)
		Business Employment (E2)
	Industrial	Industrial (E3)
Catch-all	Office	Office
	General Commercial	General Commercial (C3)
	Convenience Commercial	Convenience Commercial (C1)
	Mainstreet Commercial	Mainstreet Commercial (C4)
	Residential	Residential (All R Zones)

TABLE 4.1: Designations for Office Use

Presently office uses can be developed in nine-land use designations at various scales. These can be grouped into three families: *City Centre*, *Employment Districts*, and '*Catch-all*'.

SOURCE: City of Mississauga/CUI, 2007.

City Centre office designations

The "Retail Core Commercial" designation applies to the central core of the City Centre, while the "Mixed Use" designation applies to the next ring of development surrounding the core. There is no explicit limit on either the FSI or building height in either of these designations. When designations place no limits on FSI or building height, the City has no leverage to achieve its goals with respect to built form or other matters related to urban design.

Employment district designations

The "Business Employment" designation permits "an integrated mix of business activities…in enclosed buildings." There is no policy limit on the size or height of office buildings in areas of Employment Districts identified as a Node. Where lands are designated "Business Employment" in Employment Districts *not* identified as a Node, there is an FSI limit of 1.0. In reality, because no office building has been developed with an FSI higher than 0.7 in employment districts (the practical FSI limit for a project with surface parking) this policy has no practical effect.

A second designation found in Employment Districts that permits office uses is "Industrial." The policy limitation for offices in this case is 0.5 FSI.

The development of offices using the Business Employment designation works well for the purposes it was intended.

Catch-all designations

Five additional designations permit office uses at various scales – "Office," "General Commercial," "Mainstreet Commercial," "Convenience Commercial," and "Residential." For the most part, these designations are found on arterial roads throughout the City.

The "Office" designation is intended to accommodate "small concentrations of office space," with a prescribed FSI limit of 0.5. The only commercial designation with a specific policy limit is "Convenience Commercial," which limits development to 2000 m^2 (20,000 square feet) in size. The other two commercial designations encourage "compatible development" that is of an "appropriate scale, form and character."

Location Relative to Land Use Designation	Retail Core Commercial	Mixed Use	Business Employment	Industrial	Office	General Commercial	Mainstreet Commercial	Convenience Commercial	Residential
City Centre	I	X							
Business Parks (excluding nodes)			X						
Business Parks in Nodes			X						
Industrial Parks			X	X					
Arterials					X	X	X	I*	X
Neighbourhood/Local							X	I*	

X = Buildings Exist In These Locations I = Potential For Office In These Areas * up to 2000m2 or 21 500 square feet

TABLE 4.2: Designations in which Office Uses (by Location) Exist

Office uses exist in nine-different official plan land use designations.

SOURCE: City of Mississauga/CUI, 2007.

As shown in Table 4.2 and 4.3, however, stand-alone office buildings have been built up to 15,000 m^2 (150,000 square feet) in size in seven of the nine designations. Larger buildings (that is, more than 15,000 m^2 or 150,000 square feet) are found in the City Centre, Employment Districts identified as Nodes and Employment Districts *not* identified as Nodes. In other words, from a policy perspective, the choice of location, size and scale of development on the ground is the result of market-based decisions by developers and zoning standards rather than any policy direction provided in the official plan. A possible exception to this is office development that took place in the City Centre prior to 1992, which was responding to an earlier set of office policies.

Typical Office Types and Designations in which they are found	Retail Core Commercial	Mixed Use	Business Employment	Industrial	Office	General Commercial	Mainstreet Commercial	Convenience Commercial	Residential
Standard Office (150,000+ sq ft)	I	X	X			X			
Standard Office (less than 150,000 sq ft.)	I	X	X		X	X	X	I*	X (local professionanl)
Office Industrial			X	X					
Flex Office			X						
Multi-Unit Office		X	X	X					
Medical Office						X	X	I*	

X = Buildings Types Exist in Designation I = Potential For Building Types to Exist In Designation * up to 2000m2 or 21 500 square feet

TABLE 4.3: Designations in which Typical Office Types Exist

This diagram table illustrates the locations in which each typical type of office locates in, or can locate in, the City of Mississauga. Most noticeable is that small standard offices have been found to locate in the majority of land use designations that support office.

SOURCE: City of Mississauga/CUI, 2007.

4.3 Rationale for a re-ordering of the Office Hierarchy

The value of articulating a hierarchy for office development in Mississauga is to provide clear direction to potential investors and office tenants regarding the City's expectations for land use policy affecting the office market. A second key benefit is to provide a frame of reference for Council when approving strategic infrastructure investments such as higher order transit. The proposed hierarchy is also intended to reflect the City's goals in terms of creating a vibrant City Centre, and prestige "business park" type environments. In this regard, the term "office hierarchy" implies a ranking of office uses by size, building type and relevance to city building goals. The proposed hierarchy is intended to complement a future revised urban structure, which will be prepared as part of the City's upcoming official plan review. The new designations are intended to be "tenant-

focused," in that each component of the hierarchy addresses a set of location needs for a variety of potential users while at the same time incorporating criteria that relate to a range of building types found in the Mississauga marketplace. The overriding priority, however, is to ensure that the City is able to attract development at a scale and quality that is in the public interest.

The challenge for official plan policies, therefore, is to strike a balance between achieving specific public policy objectives and meeting the needs of the market place. Office policies may set out the City's expectations for the size, scale and location of office uses, but also need to accommodate a variety of business needs. For example, it is in the City's interests to direct higher intensity office uses to specific locations with appropriate levels of infrastructure and business-oriented amenities that can attract a critical mass of development. At the same time, the City has to offer a range of location options that appeal to the investment priorities of developers and which accommodate companies of differing size and economic focus.

A rationale for determining a revised policy framework is illustrated in Figure 4.2. The figure describes two sets of priorities for decision makers in terms of location. One is the degree to which transit service is considered important versus the value of automobile access. The second describes choices where the priority is a prestige-oriented location versus meeting purely functional needs, where choice is heavily influenced by price. At present, locations fall into four distinct categories: downtown, business park, industrial park and locations adjacent to major arterial roads. Figure 4.3 illustrates the current distribution of office uses within framework and figure 4.4 describes the future ideal condition, or the level to which the City should aspire.

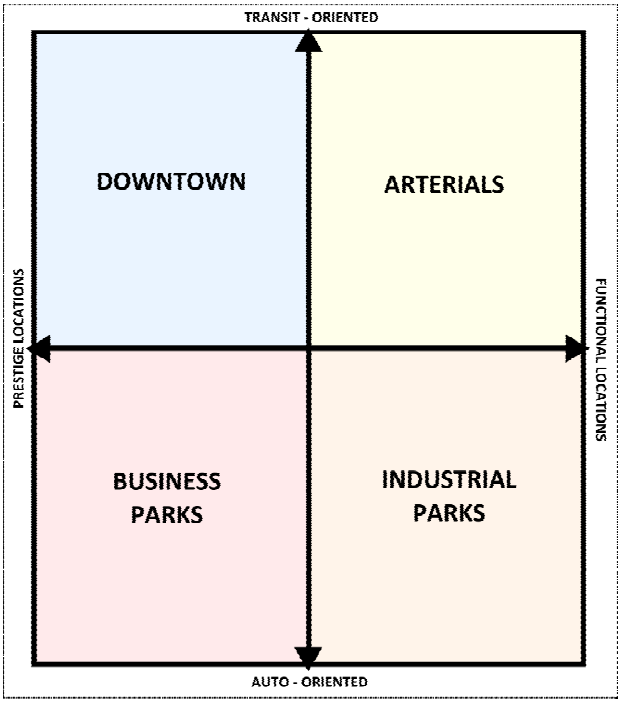


FIGURE 4.2: Locational Decisions Are Affected By Developer/Tenant Priorities & Needs
Developers and Tenants make locational decisions based on the degree to which transit or automobile access is important to their business or employees, and high-rent prestige locations versus purely functional locations.
SOURCE: CUI, 2007.

4.3.1 Downtown

Companies choosing downtown are looking for the prestige of a downtown location and are willing to pay a premium to locate in high quality office towers where there is a fine grain built form, and a lively pedestrian-oriented environment. Good access by car is important, but the emphasis is on public transit. Face to face contact with other businesses is critical, and employers choose such a location because of the range of amenities available to their employees. Downtown is the choice of head offices, regional

headquarters, and firms providing services to companies operating at a regional scale or higher as well as the City's principal civic, institutional and cultural organizations.

As discussed earlier in this report, the City Centre has not yet reached this ideal state, so revised policies should address the gaps and support progress made to date. At present, the City Centre does not reflect the full range of business types typically found in downtowns. The level of transit service is not yet consistent with a downtown setting and development of a high quality pedestrian environment is hindered by large block sizes and the preponderance of surface and decked parking.

4.3.2 Business Park

Office tenants in this quadrant place a premium on the prestige of being surrounded by buildings of similar quality. Highway visibility is important, but the top priority is access by car, both for employees and as the preferred way to maintain day-to-day business contacts. Companies operate at regional scale or higher; business parks are heavily favoured by the local offices of international companies, head offices, regional headquarters and other high profile firms. In the case of Mississauga, key economic sectors include IT, pharmaceutical and life sciences, financial services, insurance and real estate.

The business park environment is Mississauga's strongest suit. Revised policies should seek to support and protect the strengths of employment districts that function as business parks, while addressing concerns raised earlier in this report regarding congestion and land utilization. Better transit and improved levels of amenity will be important in future, particularly in areas like Airport Corporate Centre.

4.3.3 Industrial Park

For office tenants locating in industrial park environments, the emphasis is on access to competitively priced space with good automobile access. Firms choosing such locations frequently have strong business ties with manufacturing, sales and logistics, often related to access to LBPIA. The norm for industrial parks is a mixed environment of smaller stand-alone office buildings, office-industrial and light manufacturing operations.

Because Mississauga still has a strong industrial base, it is important to provide for office uses that support that sector. As well, business start-ups and other incubator functions require affordable space, which can often be found only in older building stock. The recent emergence of flex buildings also provides an attractive alternative in the market place. Revised policies for offices in employment districts that function as industrial parks should support the status quo but encourage offices to cluster together wherever feasible.

4.3.4 Major Arterial Locations

Businesses choosing to locate on arterial roads (outside of employment districts) have a wide range of locations to select from throughout the City. Many companies are serving a local market, providing professional services such as accounting, legal and real estate offices, as well as medical offices. Although the emphasis in many such locations is "local service," other companies select sites on arterial roads because these sites offer good transit service as well as access and visibility.

Revised policies for offices on arterial roads outside of Business Employment areas, therefore, will need to address the diverse needs of local service office uses while discouraging buildings larger than 4,000 m^2 (40,000 sq. ft.) on major arterials outside of employment districts.[19]

The exception is Hurontario Street, which is unique in Mississauga in that it connects with three 400 series highways, has a significant amount of development of all kinds along its length, and in the northern section has already attracted a number of major office buildings located in employment districts abutting the street.

As indicated in Chapter 1, there is an opportunity to reposition the corridor as a prestigious and transit-oriented office location, served by higher order transit, with a series of transit-oriented developments that have a sense of place at carefully selected intersection nodes along its length. As indicated previously, the City faces two issues with respect to office development in the future. One is the need to provide additional sites dedicated for office development to meet the City's long-term needs for continued growth; the second is to develop transit-oriented locations in order to provide an alternative to the auto-oriented sites available in business park type settings. This notion is expanded upon in the next section.

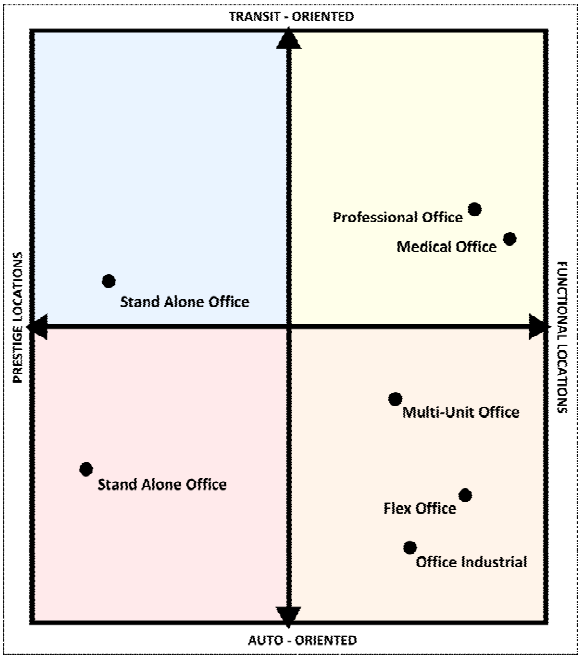


FIGURE 4.3: Current Distribution of Office Types
The above types of office have been identified in Mississauga and fall within this conceptual framework in the places indicated. For example, City Centre presently has a 6% modal split towards transit relative to the city's average of 5.4% making it slightly more transit-oriented. It is also the location of some prestige office development, however, the building stock is aging relative to major offices in other locations.
SOURCE: CUI, 2007; TTS, 2006.

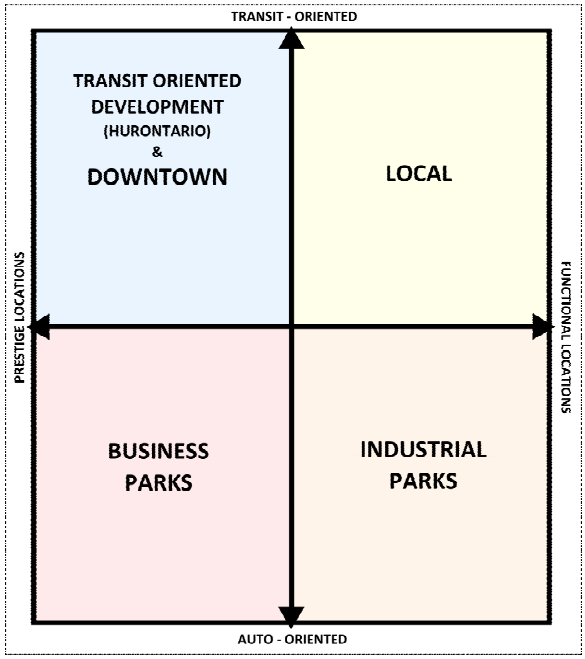


FIGURE 4.4: Ideal Future Office Type Distribution
In an ideal situation, City Centre and the Hurontario Corridor would achieve a high degree of transit usage resulting from an investment in transit infrastructure and transit oriented development strategies leading to new development and refreshing the prestige atmosphere of City Centre. With time, other office types in the City would also experience increases in transit usage as the average modal split increases in favour of transit city wide.
SOURCE: CUI, 2007; TTS, 2006.

[19] This building size is based on an analysis of the existing building stock developed under the auspices of commercial designations on arterial roads.

4.4 Transit oriented development (TOD)

The challenge of developing transit-oriented office development in a car-dominated environment is not to be under-estimated. To provide a context for recommendations for how Mississauga might make such a transition effectively and with the desired impact on its goals for city building, the following analysis addresses two issues, relying on best practices from other jurisdictions. The first is to gain insights into the prerequisites for being able to make the change to transit-oriented development (TOD). The second is to determine how the introduction of higher order transit affects four key variables: the ability of transit to generate sufficient new ridership; the likelihood that TOD will persuade commuters to choose transit over the car; the contribution that TOD has on the property tax base; and, the overall impact of TOD on the goal of city building.

4.4.1 Prerequisites for TOD

Market acceptance:

The first requirement is that there be a base of development that can be used to popularize the initiative in terms of market acceptance – essentially to help define the opportunity in the eyes of the development community. In the case of Hurontario Street, there is visible evidence that office developers have seen the street as a place to invest in major office buildings. The likely success rate is therefore enhanced because the introduction of higher order transit on Hurontario would not be virgin territory in terms of attracting office development. As well, Hurontario is already established as a transit spine within the context of mobility within Mississauga. Interviews with local developers suggest that there would be support in principle for focusing TOD on Hurontario.

Existing customer base:

The second requirement is that there should be a sufficient density of residents and workers to support higher order transit use from the outset. In the case of Hurontario, our analysis of the corridor from Eglinton to Dundas suggests that this section of the corridor has already reached 80% of the provincial target of 200 residents and jobs per hectare. We have been unable to identify any other locations in the 905 that have such a high overall density. In addition, the section of Hurontario from Matheson to just north of Derry has already reached 25% of the same target, simply as a result of office development taking place at the periphery of employment districts abutting Hurontario. This provides an excellent base upon which to build ridership.

Sufficient developable land:

The third requirement is that there should be a sufficient supply of vacant land to accommodate the level of office development needed to build critical mass for new investment in offices and supporting amenities. Our analysis suggests that Hurontario also meets this test. Because this finding is based on what is necessarily a high level analysis to identify opportunities, engaging land-owners to build support for this direction is an essential step for future work.

Sufficient market demand:

The fourth and final requirement is that there is sufficient market demand to support additional office development over the next 25 years. As discussed in chapter two, there is a strong likelihood that the City will need to designate more land to accommodate future demand for office development. We estimate that as Mississauga moves towards achieving a target of an additional 25 million sq. ft. (2.3 million m^2) of office over the next 25 years, that transit-oriented development could attract as much as 15% of future development, the equivalent of almost four million sq. ft. of office (approximately 18,000 to 20,000 jobs).

Routes must have destinations:

To be effective in achieving transit-related goals, a new higher order transit facility must be integrated into the network, and serve a useful role in terms of moving large numbers of people from place to place. As the City's principal north-south transportation corridor, higher order transit on Hurontario will connect to AcceleRide in Brampton, which is also in the process of enhancing transit service to connect with its primary development node. At the southern end of Hurontario, the opportunity to link to the GO station at Port Credit as well possible future higher order transit easterly along Dundas and the east-west BRT that connects at the City Centre, establishes the Hurontario alignment as a prime candidate to accommodate higher order transit as part of an integrated system.

4.4.2 Best practice evidence to illustrate the potential for TOD

For the most part, our review of best practice examples from other jurisdictions focuses on the situations where municipalities have established appropriate policies in combination with the introduction of light rail transit. Details can be found in Appendix F.

Generating ridership:

The Hiawatha LRT in Minneapolis/St Paul, constructed in 2004, has exceeded expectations, attracting 10.9 million more riders (65% higher ridership) in the first 18 months of operation than forecast. The Tramlink LRT line in Croydon, UK, increased ridership by 46% in its first year of operation. In Ireland, Dublin's Luas light rail network has seen an 18% increase in ridership in its first year.

Improving modal share:

In plain language, this means persuading commuters to leave their cars at home and take transit instead. The Hiawatha LRT in Minneapolis/St Paul has also been successful in helping commuters switch from cars to transit. Up to 50% of riders switched from another mode of transportation. Croydon's Tramlink has fostered a 19% decrease in car travel in the corridor. Dublin's system has also helped reduced car travel. By 2005, a.m. peak hour car usage had declined to 44% of trips versus 73% before the line opened.

Attracting new investment to support the property tax base:

The Hiawatha LRT in Minneapolis/St Paul is forecast to attract 19 million sq. ft. (1.76 million m^2) of new office development along its route, as well more than 7,000 housing units. This estimate has already been surpassed, resulting in 12,400 units (by 2008). Property values around the Tramlink corridor in Croydon have increased 14%. Other studies suggest that real estate values around light rail stations have been shown to increase in Atlanta, Boston, New York, Portland, San Francisco and Washington, D.C.

Promoting city building:

The Hiawatha LRT in Minneapolis/St Paul connects downtown with a major shopping destination as well as the airport. Tramlink has been so successful that plans to expand its route have been brought forward. Dublin's LRT is well integrated into all forms of transportation, including cycling, buses and pedestrian routes. In Vancouver, the Skytrain is closely linked to city building initiatives. Pedestrian-oriented development has occurred at almost every station. As well, Calgary is making progress in this regard.

Another prime example of city building comes from the City of Toronto which has benefited from transit oriented development related to the Yonge subway, as illustrated in Appendix F (Impacts of Rail-based Rapid Transit on Toronto's Urban Form). For more than 50 years, the City of Toronto and the Toronto Transit Commission have made a concerted effort to develop offices and high density residential development at key intersections along the length of the subway, which was extended from Eglinton to Finch Avenue in the 1970s. Development patterns not unlike those in Mississauga, particularly north of the 401, evolved to the current nodal form of development. For example, the Yonge/Eglinton intersection illustrated in Appendix F, has reached a density of 420 office jobs and residents per hectare. This does not include retail and other service jobs.

4.5 Opportunities to develop transit-oriented development

The City of Mississauga will be developing a new official plan in the near future, which will also include a revised urban structure. The rationale for a revised set of office policies described in the previous section is intended to support the City's goals for city building – in particular the City Centre, but also a future that offers the opportunity for transit-oriented development, on Hurontario in particular. At present, the urban structure of the City is defined on the ground primarily by the 400 series highways, the City Centre and two important employment districts described in our analysis as having a business park type of environment. The rationale for a revised set of office policies articulated here is intended to further the City's goals for city building and begin the discussion about priority areas for capital investment in new infrastructure. The potential to direct that investment towards Hurontario is outlined in the previous section. Taken together, these policies outline a sound basis for shaping the future of office development in Mississauga.

CHAPTER FIVE | FINANCIAL REVIEW

NEW FINANCIAL TOOLS ARE NECESSARY TO OVERCOME CHALLENGES ASSOCIATED WITH RESIDENTIAL LAND CONSUMPTION, PARKING, TRANSIT AND DESIGN.

This chapter attempts to answer a series of questions related to the feasibility of office development: the impact of factors such as parking on the feasibility of office development, the relative attractiveness of developing residential structures over office in the City Centre, and opportunities for new municipal revenues from future office development.

5.1 Pro forma analysis: the key questions

This chapter examines the results of a pro forma analysis process that was used to analyse various development scenarios and answer a series of questions.[20] The first question addresses the issue of Mississauga's competitiveness as a place to develop a standard office building in terms of the variables within its control, using a building of 170,000 sq. ft. (15,790 m^2) as the test (the average size built in Mississauga over the past 10 years). For this question only, surface parking was assumed in all cases in order to measure competitiveness. The variables include property tax rates, development charges, building permit fees and parking standards/ratios. Comparisons were made with Richmond Hill, Markham and Hamilton.

The second question addresses the financial viability of developing the same standard office building in the City Centre versus a car-oriented location such as Airport Corporate Centre. The key variable in this case is parking. Development in the City Centre was assumed to require underground parking. Development in Airport Corporate Centre utilizes surface parking.

The third question investigates the estimated return on investment for developing the same standard office building in the City Centre versus a residential condominium building in order to better understand factors driving market decisions in the City Centre. It should be noted that because development is a specialized industry, office developers are not typically likely to build condominiums and vice versa. However, if development of a condominium appears to be financially more attractive (taking into account risk and rates of return on invested capital) than an office building, this could well tip the odds in favour of condominium development by establishing an attractive sale price for the owner of a mixed-use site in the City Centre that allows either use.

Since development is extremely sensitive to the time cost of money, we also attempted to determine the potential impact of the length of time required to achieve development approvals. This proved to be problematic because municipalities do not keep reliable records that allow objective comparisons to be made across jurisdictions. Although we elected not to rely on anecdotal evidence, we nevertheless concluded that downtown

[20] For more detail about the pro forma used in this process, see **Appendix G**.

sites are more complex than greenfield sites, regardless of jurisdiction and therefore take longer to get approvals.

Finally, using the results of the pro forma analysis for the City Centre office building, comparisons against internal rates of return were made for the same building/construction but where different financial incentives were provided for by the City. Each of these scenarios and questions discussed is examined in detail below, and in Appendix G.

5.1.1 Is Mississauga competitive as a jurisdiction in terms of the price variables under its control?

Mississauga is slightly less competitive than Markham and Richmond Hill under the scenario examined for this comparison. This is explained as follows:

Office Rents/Vacancy Rates

Mississauga, Markham and Richmond Hill all have similar rents and vacancy rates. For the purposes of this model we assumed a rental rate of $30.00 per square foot per annum with a 9% vacancy rate for Markham an Richmond Hill, while Hamilton has higher vacancy rates (11.5%) and lower rents ($27.60 per square foot annum).

Parking Standards

Hamilton has the lowest parking standards among the four municipalities, at 2.0 spaces per 100m^2 for office buildings. Markham and Richmond Hill have ratios of 3.3 spaces /100m^2, similar to Mississauga's recently adopted 3.2 spaces / 100m^2.

Property Taxes

Mississauga has the highest property tax rates among the four municipalities, at 2.552623%, which is 7.9% higher than Markham (2.366800%) and Richmond Hill (2.364800%), and 25.7% higher than the City of Hamilton (2.030639%).

Development Charges

At $11.96[21] per sq. ft. ($128.70 per m^2), Mississauga's development charges are significantly higher than those in Markham ($5.35) or Richmond Hill ($5.64)[22]. Hamilton has extremely high development charges, at $16.51 per square foot. The pro forma analyses also took into account mandatory regional development charges. The impacts of development charges are examined in the following sections.

[21] Total development charges collected in Mississauga have, since the original drafting of this report, increased to $12.22 per sq. ft.
[22] For listed lower-tier municipalities, the development charges required by the upper-tier are included in the calculation. For example, the City of Mississauga charges $3.81 per square foot for its development charge while the region issues a fee of $7.85. Mississauga also charges a Storm Water Management Fee which works out to approximately $0.30 per square foot.

Conclusion

As a result of lower development charges and property taxes than in Mississauga, Richmond Hill and Markham see greater returns on a per square foot basis for an office development with surface parking than the same building in Mississauga. Both Richmond Hill and Markham see returns of over $25.00 per square foot. Mississauga has a relatively strong return of $18.04 per square foot, despite having higher development charges and property taxes. Hamilton lags behind at just $8.39 per square foot. In order to keep the comparisons manageable, land values were assumed to be the same between Markham, Richmond Hill and Markham, slightly lower than the land values in Mississauga City Centre. See tables 5.1 and 5.2 for a synopsis of the results.

	10-year horizon			
	Dollars per square foot			Percent
	NPV of Investment Revenue	NPV of Development and Operational Costs	Surplus	Return on Investment
Mississauga	$249.68	$231.64	$18.04	7.8%
Hamilton	$227.75	$219.36	$8.39	3.8%
Richmond Hill	$247.71	$222.23	$25.48	11.5%
Markham	$247.51	$221.65	$25.86	11.7%

TABLE 5.1: Estimated Returns for Business Park Office, Various GTAH Municipalities

NPV: Net Present value, see glossary for definitions

	Key Distinctions across Municipalities		
	Development Charges	Property Tax Rates (all levels)	Parking Ratio
Mississauga	$11.96	2.552623%	3.2 / 100m2
Hamilton	$16.51	2.030639%	2.0 / 100m2
Richmond Hill	$5.25	2.364800%	3.33 / 100m2
Markham	$5.64	2.366800%	3.33 / 100m2

TABLE 5.2: Key Distinctions Among Selected GTAH Municipalities.

Development Charges are listed in per square foot values

5.1.2 What is the financial impact of developing a site with underground parking in the City Centre versus a site with surface parking in a location such as Airport Corporate Centre?

The cost of building an office building in the City Centre with underground parking would raise the rental rate by an estimated $3.25 per square foot to provide the same return on investment as a comparable office building in Airport Corporate Centre. This is explained in the following subsections.

Parking Choices

The office development in Airport Corporate Centre (ACC) is assumed have surface parking, which is typical in that district. The cost of building such surface parking (excluding land) is $1,500 per space. The office development in City Centre is assumed to have underground parking, at a cost of $35,000 per space (excluding land). At such a high cost per stall, some form of incentive or grant would likely be required to entice developers to proceed with the building of underground parking (see Chapter 6). Although structured or decked parking represents another alternative, the financial impact of building structured parking was not examined because structured parking does not achieve the same benefits as underground parking in terms of influencing built form and pedestrian activity.

Land Cost / Lot Size

The development in ACC with surface parking requires significantly more land, using 5.5 acres (2.2 hectares) of land to accommodate the required parking. Providing underground parking in the City Centre requires only 1.36 acres (0.55 hectares). Land cost per acre in ACC is assumed to be $850,000, while land in the City Centre is assumed to be $1,500,000 per acre.[23] It should also be noted, however, that because office developers in the City Centre have had land on their books for a considerable period of time, they would not necessarily use a high land value to estimate the feasibility of a prospective development. Different landowners have different approaches and requirements regarding financial risk. This is most evident in the differences between developers of office development and residential projects.

On the advice of the City's Realty Services division, we have assumed a land cost of $1.5 million per acre in the City Centre.

Conclusion

Even though land in the City Centre is more expensive than in ACC, the development consumes less land, but because building underground parking is so costly, an office building using three times as much land still offers a better return on investment ($18.04 psf) than an office building in the City Centre ($-0.58 psf). To achieve the same return on investment as the building in ACC, the developer of an office building in the City Centre would have to charge tenants $3.25 more per square foot, per annum. See table 5.3 for a synopsis of the results.

		10-year time horizon			
		Dollars per square foot			Percent
Location	Parking Type	NPV of Investment Revenue	NPV of Development and Operational Costs	Surplus	Return on Investment
City Centre	Underground	$295.49	$296.07	-$0.58	-0.2%
Airport Corporate	Surface	$249.68	$231.64	$18.04	7.8%

TABLE 5.3: Estimated Return for Office Development in City Centre and Airport Corporate

In order for an office developer to consider proceeding with a new building, it would be necessary to utilize one or more of the incentives discussed in Section 5.2. It should also be noted that at a lower land value ($1 million/acre) the City Centre development generates a small, but positive return on investment.

5.1.3 What are the financial returns for a hypothetical site in the City Centre developed as an office building versus a residential condominium building?

The return on investment for a condominium building in the City Centre is approximately 10 times higher than the return offered by an office building with underground parking. This is explained as follows:

[23] Note that the land values used in the pro forma analysis are strictly for comparative purposes (City Centre versus ACC; office versus residential) and do not purport to be definitive evidence of financial feasibility.

The comparison is based on the same hypothetical office building described above (170,000 sq. ft., 15,793 m^2) with underground parking. The residential building size used (360,000 sq. ft., 33,445 m^2) is typical of those built in City Centre in recent years, and is significantly larger than the office building.

Parking Standards

As is the norm, the parking standard for a multi-unit residential dwelling is much lower than an office building. However, despite the larger size of the residential building, the number of parking spaces required is not much different from that of the office building. This means that providing parking for such a large residential building does not affect its comparative return relative to a smaller office building.

Office Rent / Condominium Unit Sales

The office rents, at $30.00 per square foot, provide less revenue over a 10-year span than the $340,000 a residential developer can charge for each unit, an amount generally received in its entirety prior to completion of the project. The differential in the time-cost of revenues affects the rate of return; an office developer must earn revenues over the long-term by maintaining ownership of the building (assumed in this pro forma to be a period of 10 years).

Property Taxes

The property taxes in Mississauga are much lower for Residential (1.002521%) than they are for Commercial office development (2.595117%). This means that during the holding/construction period of a building, the residential developer is paying less tax per month/per year. Once the building is complete, the developer relinquishes ownership and no longer pays property taxes, while the office developer is left to pay taxes for as long as the corporation retains ownership.

Conclusion

The key factor that makes residential development in City Centre more profitable than office is the amount of revenue a developer receives per unit, and the fact that these funds are received up front, generally upon completion of construction of the building, at which point ownership is turned over to a condominium corporation. The residential building achieves a net revenue surplus of $24.38 per square foot, much higher than the office building with underground parking. Another factor, although difficult to quantify, is the issue of risk. In the current market, banks do not provide construction loans for a condominium project until a minimum percentage of the units have been sold. By the time the project begins, approvals are in place, leaving only the construction risk to be addressed. Multi-tenant office buildings, on the other hand, typically proceed when there is an anchor tenant in place, but leasing up the remainder of the space still represents a significant risk. This is acknowledged in the pro forma analysis with an assumed “cost” for vacancy (over normal levels) for years one and two. See table 5.4 for a synopsis of the results.

		10-year time horizon			
		Dollars per square foot			Percent
Location	Parking Type	NPV of Investment Revenue	NPV of Development and Operational Costs	Surplus	Return on Investment
City Centre (Office)	Underground	$295.49	$296.07	-$0.58	-0.2%
City Centre (Residential)	Underground	$298.17	$273.79	$24.38	8.9%

TABLE 5.4: Estimated Return for Residential & Office Development in City Centre

Again, it would only be practical to proceed with an office building if incentives were available. This is discussed in Section 5.2.

5.2 Strategies to complement revised policies

We have identified and evaluated a number of strategies designed to complement revised office policies in order to give the City a sense of options that could be pursued to support development in the City Centre and elsewhere in the City. We believe that the most effective incentives programs can be established when all three levels of government work together. Therefore, the menu of recommended incentives is targeted not only at the City of Mississauga, but also the Region of Peel and the Province of Ontario. Furthermore, some proposed incentives are not currently permitted under the current legislative framework. Discussions with the province and partnerships with the Region would be required, if it were decided to pursue some of these initiatives. The strategies that are discussed in this chapter are:

- Creation of Community Improvement Plan for the City Centre
- Tax Increment Financing / Tax Increment Equivalent Grant
- Municipal investment in underground parking
- The granting of relief from development charges and other fees
- Exemption from Peel School Board taxes
- Elimination of property tax payable on newly constructed vacant office space
- Creation of a new property tax class for office development in the City Centre

We also identify two non-financial initiatives that would help to attract office development:

- The creation of a multi-disciplinary team at the City of Mississauga exclusively dedicated to promoting the City Centre and expediting development applications for office and other employment-oriented development in the core and at office-focused nodes in the Hurontario Corridor.
- Support for a transportation demand management program for the City Centre and selected employment districts.

5.2.1 Creation of Community Improvement Plan for the City Centre

Community Improvement Plans (CIPs) are created under the auspices of Section 28 of the Planning Act and sections 106 and 365.1 of the Municipal Act, 2001. CIPs have become an important tool for municipalities to support planning policy with a program of grants, loans and other schemes aimed at stimulating private sector investment in a specified geographic area of the community. Using what the Ministry of Municipal Affairs and Housing calls "self-rejuvenating" strategies, a CIP helps a municipality pursue two key objectives – to facilitate and encourage community change in a co-ordinated manner, and stimulate private sector investment through municipal incentive-based programs. The City of Mississauga recently took the step of establishing a CIP for the Urban Growth Centre but no programs have been developed as of yet.

There are four reasons to establish CIP programs for the City Centre core. The first is to allow the City to fund a "leadership program" to communicate with key stakeholders and the public. The second is to enable the City to pursue in partnership with the private sector a program of energy conservation and building rehabilitation for the aging office inventory. A third reason is to provide a basis for grants that essentially eliminate property tax for specific classes of development (such as offices) or reduce the cost of building permits. A fourth reason is to provide a basis from which to develop a proposal for a Tax Increment Financing scheme (TIF)[24] or Tax Increment Equivalent Grant (TIEG) scheme.

As a result of recent amendments under Bill 51, the City would be able to establish CIP programs that a provide a basis for infrastructure works, municipal property acquisition, land assembly and sale of lands, and other initiatives aimed at reshaping the physical environment. The goal is to promote higher intensity, compact and energy efficient forms, ranging from creating better quality pedestrian environments to the rehabilitation of older office buildings to improve their energy performance. A key benefit of the recent enhancements through the Act is the expansion of "eligible costs" to include project feasibility studies and structural improvements to buildings, and improvement of energy efficiency**.** The scope includes **"**energy efficient uses, buildings, structures, works, improvements or facilities**,"** which would include feasibility studies for district energy and its implementation (see Chapter Six).

5.2.2 Tax Increment Financing / Tax Increment Equivalent Grant

The starting point for examining the potential for Tax Increment Financing (TIF), or Tax Increment Equivalent Grant (TIEG) is to address the issue of parking. This chapter identifies that a barrier to office development in the City Centre is the cost of developing underground parking. We therefore examined the potential to create a TIF district in the core of the City Centre as a means of generating cash that could be given to a developer in the form of a grant to defray the capital cost of building underground parking. In the model tested, we assumed that 80% of the parking stalls required would be built underground. For the test building, this would result in a capital

[24] For more detail on TIFs see Appendix G.

cost of $14 million for a 400-stall garage. The developer would contribute $15,000 per stall towards the cost of building a parking stall costing $35,000, or $6 million in total. The gap to be financed would be $8 million. A common element in TIF programs in the United States is the "but for" test. In other words, the development would not take place *but for* the intervention. In Ontario, where this concept is still very new, this is an implied test because approval must be received from the province (which has to forgo its share of education taxes). For more detail see Appendix E.

About TIFs

TIFs work by comparing the difference, or '*increment*,' between tax revenues before and after development. In the case of the pro forma analysis, the comparison was based on the tax revenues generated by the vacant parcel vs. the expected tax revenues created by the increase in assessment value resulting from the construction of a 170,000 square foot (15,800 m^2) office building. The increment in tax revenue is compared over a ten-year period. [25] An amount equivalent to the increment is then granted to the developer over the agreed upon period. A common setup of a TIF sees the percentage granted start at 100%, declining every year by 10% until the amount is zero. If the money is to be spent by the municipality, the estimated cumulative amount of the tax increment is used to secure a bond. To justify using this tool a municipality must demonstrate that *but for* the TIF, the development would not have occurred. A TIF district must be established under the auspice of a CIP.

About TIEGs

TIEGs work in a similar manner but are grant-based, where the grants are issued equal to the tax increment. Instead of a bond, the City would offer an annual grant equivalent to the property tax increment caused by new development. The City would offer a grant equivalent to 100% of the increment in the first year to the developer. This annual grant declines each year by 10% until the amount is zero.

End Result

Both methods in essence reduce the developer's 10-year payable property tax by 45% but provide an amount of capital up front, which is when a cash infusion is most useful in terms of getting a project off the ground. The effects of the return as projected by our City Centre Office pro forma is sizable, increasing the per square foot return from $-0.58 to $27.69, the second highest such jump of the proposed strategies.

5.2.3 Partner with a developer to build underground parking

A second option evaluated as a means of funding the cost of underground parking for a new office building is for the municipality (or its agent, in the form of a parking authority) to simply borrow the necessary funds and enter into a joint venture agreement with the developer. The same assumptions apply, with the developer contributing $6 million, requiring an investment by the municipality of $8 million. The difference in this scenario is that the tenants using the parking would pay a nominal amount of $65 per month. This would increase annually until top-up payments are no longer needed. Depending on how aggressively the rate is increased, the time period would range from 19 to 27 years. After that time, however, the municipality would own its share of

[25] This is the standard model utilized by the Municipal Affairs and Housing in its advisory documentation on Tax Increment Financing.

the fixed asset, which then generates revenue for the municipality over the life of the building. If this were to be accomplished through the use of a parking authority or some similar mechanism, this model could be replicated for subsequent office buildings by floating bonds secured against the revenue stream of the asset on a non-recourse basis. As the market adjusts to paying for parking, the amount of the municipal contribution would be less each time. Our calculations suggest that the value to the developer of having the municipality subsidize parking in the manner described would be initially be slightly more than $2 psf per year, sufficient to overcome the financial hurdle imposed by the cost of building underground parking.

The financial effect of the municipality contributing to the parking structure, effectively separating the capital cost of the investment in underground parking from the rest of the office building, would see the developer's return per square foot increase from $-0.58 per square foot (IRR -.02%) to $12.06 (IRR 4.8%). This return would be significantly higher except that the involvement of the municipality reduces the amount of equity the developer has in the building, a key assumption within our model.

5.2.4 The granting of relief from development charges and other fees

Another option to help attract office development would be to waive, or at least greatly reduce development charges and other planning fees associated with office development in City Centre. Providing an exemption for office-related development charges would amount to an up front savings of $11.96 per square foot, averaging out to $1.20 per square foot per year over the first 10 years. Waiving planning fees for a proposed development would not amount to a substantial amount, and would not likely impact investment decisions. Alternatively, instead of waiving development charges outright, an area-specific development charge scheme could be introduced to help attract office development where it is most desired (usually referred to as differential development charges).

The effect of waiving development charges on the City Centre Office pro forma is relatively small compared to the other proposed interventions, raising the return up from $-0.58 per square foot to $4.48, still among the lowest of any of the scenarios investigated in this chapter.

5.2.5 Temporary Exemption from Peel Region & Business Education Taxes

A blunt but effective method to improve the desirability of investing in the City Centre would be to exempt office developers from paying education and Region of Peel property taxes, amounting to 85% of the overall property tax bill a developer would expect to pay. The precedent for this potential exemption is found in brownfields legislation. This strategy would require an agreement with the Region of Peel that stresses the importance of the City Centre within the regional context, and negotiations with the province to develop a property tax class structure that would enable temporary exemptions. Ultimately, the increase in land value would improve the assessment base and new jobs created would benefit the economy at all levels. The case for such an exemption,

particularly if made applicable to a very limited area (see 5.2.7), is strong. This incentive option would provide municipal governments and the province with a painless way to make a significant contribution to the achievement of employment-related goals for a provincially designated Growth Centre. Improving the long-term assessment base for underdeveloped land in City Centre would also have long-term financial benefits for the city, region, and province. Our calculations are based on a 10 year exemption and there would be no need to extend it beyond this time. In essence, 'but for' this action, it could be argued, the office development would not take place and the taxes would not yield any revenue from office development.

In the City Centre Office pro forma analysis, this incentive brings the per square foot return up from $-0.58 to $52.26, the largest such jump of any of the proposed interventions.

5.2.6 Elimination of property tax payable on newly constructed vacant office space

Another possible incentive includes the elimination or further reduction in the amount of property tax that building owners must pay on vacant office space during the early years of a building's life. This initiative would help reduce the uncertainty and risk during the initial lease-up period of major new spec office development. A set time and occupancy threshold would have to be agreed upon before program implementation. This would require provincial legislative change to provide for the abatement of property taxes related to the vacant portion of new construction. Presently, under Ontario Regulation 325/01 there is a rebate for vacant commercial office space where qualifying units and buildings receive a 30% rebate on the property taxes paid. While this rebate assists building owners facing high vacancy rates it does not substantially reduce the risk for a speculative office developer. The City of Toronto is currently in consultation with the province to define regulations for its newly designated *New Toronto Employment Centre* where they are seeking to eliminate property tax payable on newly constructed vacant office space.

Eliminating property tax payable only modestly increased the return in our City Centre Office pro forma, from $-0.58 to $6.60, much less than most of the other proposed strategies. However, such a move would send a positive message to the development community and its financial value would be outweighed by its symbolic value.

5.2.7 Creation of a new property tax class for office development in the City Centre

Currently, property tax rates for commercial office buildings are uniform across the city. Working with the province to develop a property tax class structure that could be area-specific, for example within Urban Growth Centres or approved Community Improvement Areas, could help promote office development where it is most desired by the City. This new class would be allocated a very low rate, to be applied for a defined period, as a means of providing stimulus to create a temporary advantage to spur new development.

5.3 Results

The most positive impact on a developer's return is exempting developers from Peel Region and School Board taxes, essentially cutting the annual property tax bill by 85%. The TIF/TIEG option also greatly boosts the developer's return, either of which would reduce the developer's annual property tax bill by 45%.

The municipal contribution/investment in a parking structure also boosts the developer return significantly, to over $12.06 per square foot. This option also provides the City with a new revenue stream through requiring office tenants to pay a nominal parking fee per month, with a complete payback of the municipal investment seen within 19 to 27 years. The eventual complete payback of the investment in this option makes it the most desirable for the municipality because it retains its equity in a fixed asset, which, after the period in question, delivers revenue to the City.

Two scenarios are not as effective as the rest; eliminating/reducing property taxes for vacant office space, and granting relief from development charges, as they only marginally increase the return for a developer with neither getting a return above $10.00 per square foot. See table 5.5 for a synopsis of the results. Recommendations regarding the preceding analysis are contained in Chapter Six.

Impacts of Incentives:

	Dollars Per Square foot 10-year horizon				
	NPV of Investment Revenue	**NPV of Development & Operational Costs**	**Surplus**	**Return on Investment**	**Financial Impact on City**
City Centre Office Scenario (no financial tool used)	$295.49	$296.07	-$0.58	-0.2%	N/A
Exemption from Peel & School Board Property Taxes	$295.49	$243.23	$52.26	21.5%	None
Tax Increment Financing/Tax Increment Equivalent Grant	$295.49	$267.80	$27.69	10.3%	TIF - $8 million bond secured to help fund a portion of the underground parking facility. TIEG - annual grants at a declining percentage of the tax increment, worth a total of $8 million to the developer
Municipal Investment in Underground Parking	$262.82	$250.76	$12.06	4.8%	$8 million investment in underground parking beneath a new office building (NPV = $2.19 per square foot per year). Payback period of 19-27 years from revenues from the city-owned garage
Elimination of Property Tax Payable on Newly Constructed Vacant Office Space	$295.49	$288.89	$6.60	2.3%	Property tax revenue reduction equivalent to the vacancy rate of the office building, multiplied by the amount of property tax reduction offered for vacant space
Granting Relief From Development Charges	$293.12	$288.64	$4.48	1.6%	Waving of $11.96 per square foot development charges

TABLE 5.5: Estimated Returns for Several Potential Incentives

The largest improvement to the City Centre office pro forma comes from eliminating Peel Region & School Board property taxes. Tax increment Financing and Equivalency grants also provide significant improvements to the developer's return. Investment in an underground parking structure by the municipality also provides a reasonable improvement to the return and, as well, it provides the City with a steady revenue stream from tenant parking fees.

Using Multiple Incentives:

Table 5.6 and 5.7 demonstrate the impacts on the internal rate of return (IRR) and surplus per square foot that, using our development scenario, could be achieved by combining two incentives. For example, eliminating the property tax payable on newly constructed vacant office space and using a TIF/TIEF to develop parking infrastructure would generate a 12% rate of return and a $31.61/sq. ft. surplus:

[see tables on next page]

	Compare Returns Per Square Foot ("Surplus")					
	City Centre Office Scenario (no financial tool used)	Exemption from Peel & School Board Property Taxes	Tax Increment Financing/Tax Increment Equivalent Grant	Municipal Investment in Underground Parking	Eliminating of Property Tax Payable on Newly Constructed Vacant Office Space	Granting Relief From Development Charges
City Centre Office Scenario (no financial tool used)	-$0.58	$52.26	$27.69	$12.06	$6.60	$4.48
Exemption from Peel & School Board Property Taxes	$52.26		$56.58	$53.80	$53.36	$56.51
Tax Increment Financing/Tax Increment Equivalent Grant	$27.69	$56.58		$34.39	$31.61	$36.17
Municipal Investment in Underground Parking	$12.06	$53.80	$34.39		$17.73	$17.12
Elimination of Property Tax Payable on Newly Constructed Vacant Office Space	$6.60	$53.36	$31.61	$17.73		$11.53
Granting Relief From Development Charges	$4.48	$56.51	$36.17	$17.12	$11.53	

TABLES 5.6 (above) & 5.7 (below):
Comparing Returns by Combining Incentives (surplus per square foot and internal rate of return)

Use these tables by selecting a financial tool on the left that you want to examine. The first column displays the surplus/return based on the pro forma scenario plus the incentive you have selected. To determine the surplus/return for the selected incentive plus another potential incentive, move to the right and compare the sum of the two returns. Combining all incentives would produce a return on investment of 31.1% or $61.85/sq. ft.

	Compare Returns On Investment (ROI)					
	City Centre Office Scenario (no financial tool used)	Exemption from Peel & School Board Property Taxes	Tax Increment Financing/Tax Increment Equivalent Grant	Municipal Investment in Underground Parking	Eliminating of Property Tax Payable on Newly Constructed Vacant Office Space	Granting Relief From Development Charges
City Centre Office Scenario (no financial tool used)	-0.2%	21.5%	4.8%	2.3%	2.3%	1.6%
Exemption from Peel & School Board Property Taxes	21.5%		25.7%	22.0%	22.0%	23.9%
Tax Increment Financing/Tax Increment Equivalent Grant	10.3%	23.7%		12.0%	12.0%	14.1%
Municipal Investment in Underground Parking	4.8%	25.7%	15.1%		7.2%	7.0%
Elimination of Property Tax Payable on Newly Constructed Vacant Office Space	2.3%	22.0%	7.2%	7.2%		4.1%
Granting Relief From Development Charges	1.6%	23.9%	7.0%	7.0%	4.1%	

5.4 Potential municipal revenues from future office development

Figure 5.8 illustrates the shifting distribution of future office development over time, relying on the minimum and maximum growth scenarios. A key assumption is that the expected growth will be spread out evenly across the 25-year horizon. Also, the share of the growth will change over time, as vacant land inventories decline. Over time, this is likely to shift the focus of new growth from Airport Corporate and Meadowvale (60% of growth early on), towards TOD in Hurontario Corridor (incorporating portions of Gateway adjacent to Hurontario), with 45% of the City's annual office growth projected for that area by 2031 (see table 5.8).

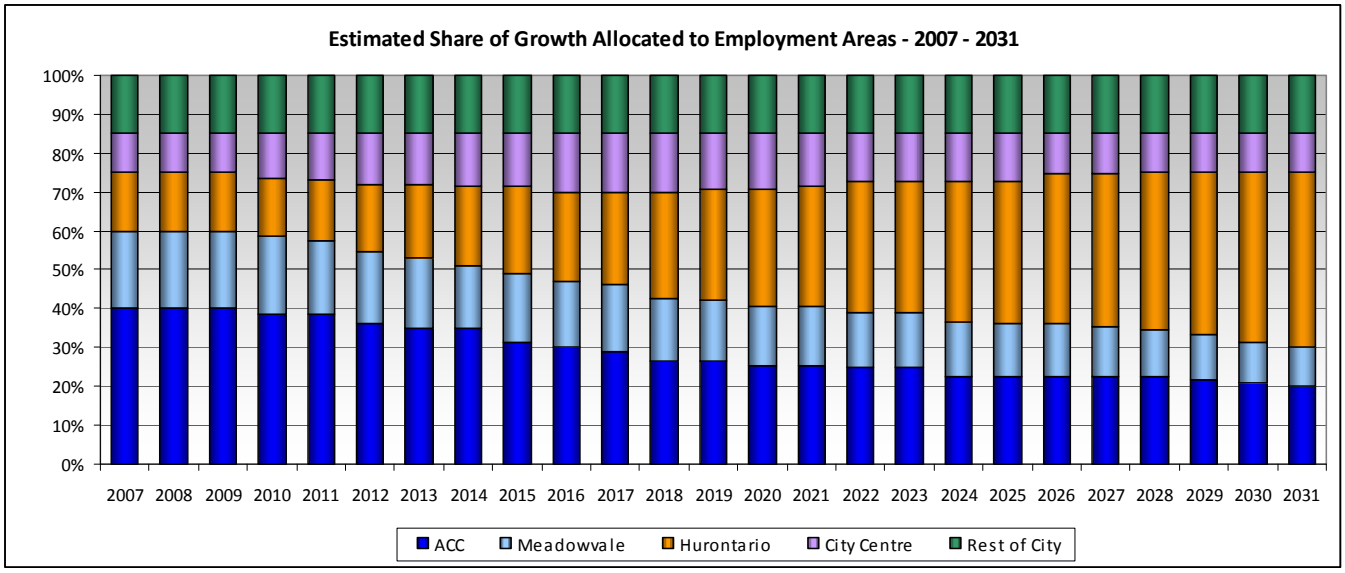


TABLE 5.8: Estimated Share of Growth Allocated to Employment Areas – 2007 to 2031

Note: 'Hurontario' refers to the Hurontario Corridor and *not* the Hurontario Planning District. As vacant land inventories decrease in Airport Corporate and Meadowvale, the share of new growth directed to those two areas should decrease, while the Hurontario Corridor can expect to see an increasing share over time. These numbers represent an estimate based on existing development and land inventories..

The City can expect annual property tax revenue increases ranging between $300,000 and $700,000, depending on the level of development. The City receives 15% of the total tax paid by office development. Total property tax revenues will range from $1.9 million to $4.8 million of new tax revenue per year to the City, Region and School Boards combined (see table 5.9).

	Share of Growth Allocated to Area (2007)	Annual Municipal Property Tax Revenues					
		10 million sq. ft. (400,000 per year)			25 million sq. ft. (1,000,000 per year)		
		Square Feet	City Tax Share	All Taxes	Square Feet	City Tax Share	All Taxes
Airport Corporate	40%	160,000	$129,041	$860,276	400,000	$322,603	$2,150,689
Meadowvale	20%	80,000	$53,398	$355,984	200,000	$133,494	$889,961
Hurontario	15%	60,000	$38,341	$255,603	150,000	$95,851	$639,009
City Centre	10%	40,000	$24,929	$166,194	100,000	$62,323	$415,485
Rest of City	15%	60,000	$41,043	$273,621	150,000	$102,608	$684,054
Total	**100%**	**400,000**	**$286,752**	**$1,911,679**	**1,000,000**	**$716,879**	**$4,779,196**

TABLE 5.9: Estimated Annual Estimated Property Tax Revenues – Future Office Development Scenarios

Taking into account the time-cost of money, (using a 7% annual discount rate), depending on the level of development, the City can expect between $3.2 million and $8.0 million (present values) of new property tax revenue over a 25-year period, with between $21 million and $53 million going to the City, Region and School Boards combined (see table 5.10)

	Share of Growth Allocated to Area (2007)	Share of Growth Allocated to Area (2031)	25-year Municipal Property Tax Revenues (Present Value)					
			10 million sq. ft.			25 million sq. ft.		
			Square Feet	City Tax Share	All Taxes	Square Feet	City Tax Share	All Taxes
Airport Corporate	40%	20%	2,890,000	$1,161,795	$7,745,297	7,225,000	$2,904,486	$19,363,242
Meadowvale	20%	10%	1,564,000	$512,236	$3,414,909	3,910,000	$1,280,591	$8,537,273
Hurontario	15%	45%	2,826,000	$717,468	$4,783,121	7,065,000	$1,793,670	$11,957,802
City Centre	10%	10%	1,220,000	$354,515	$2,363,431	3,050,000	$886,287	$5,908,579
Rest of City	15%	15%	1,500,000	$470,738	$3,138,256	3,750,000	$1,176,846	$7,845,639
Total	**100%**	**100%**	**10,000,000**	**$3,216,752**	**$21,445,014**	**25,000,000**	**$8,041,880**	**$53,612,534**

TABLE 5.10: 25-year Estimated Property Tax Revenues – Future Office Development Scenarios

5.5 Development costs related to future office development

Although this section has provided an estimate of potential property tax revenues from office development, intensification clearly comes at a cost.

The Region of Peel and the City are engaged in on-going discussions with the province related to meeting the City's commitments in connection with Places to Grow. In this regard, the region has just nearly doubled its development charges from approximately $44.43 per m^2 to $81.66 per m^2 in anticipation of general intensification demands related to water, wastewater, regional roads, and various soft costs. This increase does not take into account plans to introduce higher order transit on Hurontario and associated new development in either Brampton or Mississauga. This recent increase in development charges was incorporated into the economic modelling used within this Chapter.

As well, Mississauga City Council recently (April 23, 2008) adopted a 1% special infrastructure levy in anticipation of the need to keep infrastructure in good repair. Originally it was determined that the levy would not be imposed if funding became available from the federal government. The City Manager estimates that the City's infrastructure deficit will reach $1.5 billion over the next 20 years. Annual revenues of $75 million would be required to avoid this. Furthermore, tax reserves are projected to be exhausted by 2012.

CHAPTER SIX | STRATEGIES AND POLICY RECOMMENDATIONS

This chapter contains our recommendations for policies and strategies designed to help Mississauga consolidate its position in the marketplace, gained in an era of rapid greenfield expansion, and help the City prepare for a transition to a future focused on reurbanization and intensification. We have concluded that the City needs to direct growth towards sustainable, transit supportive design and away from the current dependence on cars for the following two reasons. First, with a growing population and a declining proportion of residents using transit in Mississauga, [26] trends suggest that the office locations which currently provide the City with its principal growth will become increasingly congested; unchecked, this can only be detrimental to the City's competitive position, particularly because these areas represent important assets of immense value to both the private and public sectors. Second, as the GTA matures as a city-region, other jurisdictions in the GTA will undoubtedly be seeking to improve their own transit networks in order to improve mobility in their municipalities and improve their competitive position in the office market.

These recommendations address concerns about the lack of office growth in the City Centre; high levels of congestion in the City's most successful office locations by promoting a strategy of transit-oriented office development on Hurontario Street while at the same time creating more land dedicated to office development; taking advantage of a burgeoning interest in green development; and proposing a revised set of office policies intended to help the City achieve its goals for city building.

Because these proposals form the policy basis for other initiatives directed at strengthening and re-directing the focus of the City's urban structure, the proposed new office hierarchy is dealt with first.

6.1 The proposed revised office designations are intended to enhance the City's ability to direct office development to transit-supportive locations such as City Centre and the Hurontario corridor.

The challenge:

Existing official plan designations and zoning permissions convey to property owners certain expectations that translate into value. When there are no policy limits in place, it is a challenge to introduce new policies that convey different messages in terms of the City's expectations for use, scale and built form. As well, office uses are currently permitted in nine different official plan designations and when the Nodal designations of the current plan are taken into account an additional set of expectations is created. This range of designations is cumbersome to administer and unnecessarily complicated for developers, investors and potential tenants. At the same time, the City's desire to direct office development to priority locations such as the City Centre is

[26] Transportation Tomorrow Survey, 2001 Data.

undermined because office development is permitted in so many other locations. For office concentrations in employment districts such as Meadowvale and Airport Corporate Centre, the 'Business Employment' designation has worked well but has also created an environment heavily dependent on car access (see lower left quadrant, figure 6.1).

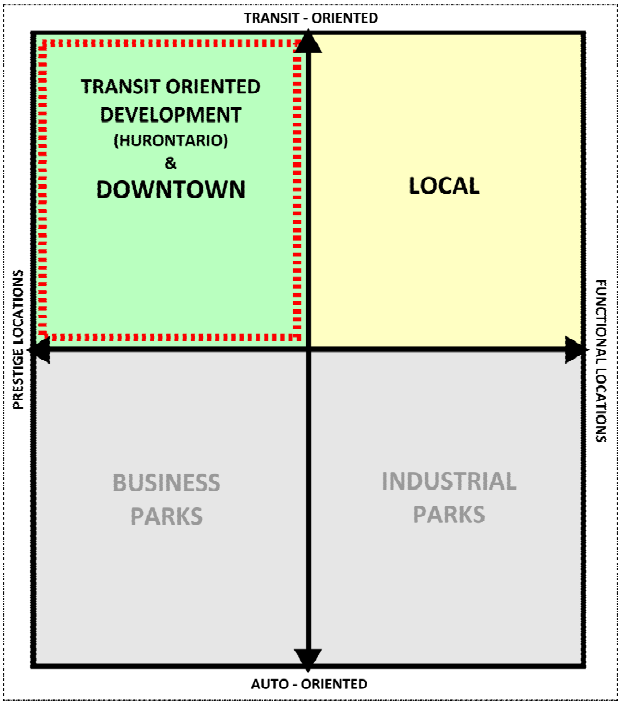


FIGURE 6.1: A Focused Policy Direction
The City of Mississauga should focus its attention on the downtown (City Centre) and its major potential transit corridor (Hurontario), as well as other areas that serve local office needs (e.g. professional, medical).

SOURCE: CUI, 2008.

The opportunity:

It is nevertheless incumbent on the City to attempt to reshape its policies regarding office development in order to prepare the City for the next wave of growth and, in particular, make it irresistibly attractive for new companies to re-locate to Mississauga. The time is right for this transformation because Mississauga is in the process of shifting to a focus on reurbanization rather than greenfield development. The provincial Growth Plan provides strong additional support for this move. As discussed in Chapter Four, the current emphasis is on auto-oriented development. Figure 6.1 depicts a preferred future that introduces a new set of office policies focused on locations that require and benefit from higher levels of transit service (the upper segments of the figure). The policy priority from the City's perspective should now begin to shift to the top left portion of the figure in order to promote renewed interest in the City Centre as an office location and to lay the foundation for transit-oriented development on Hurontario. In order to create a critical mass of major office buildings in the desired and appropriate locations, large new office buildings should be discouraged from locating on other arterial roadways that better accommodate local office and other commercial needs.

As already acknowledged in Chapter Four, the Business Employment designation has proven to be an effective tool to attract significant amounts of office development to the City's employment districts. The opportunity for locations like Meadowvale and Airport Corporate Centre is to find ways to encourage efficient use of remaining land resources and, in the case of Airport Corporate, to take advantage of the future east-west bus rapid transit service. No general recommendations are made regarding the development of office under the Business Employment designation.

We therefore envision a new 'office hierarchy' whereby the City Centre remains the number one priority for office location, followed by a strategic refocusing of policy and capital spending priorities on Hurontario (schematically the top left quadrant, Figure 6.1). Office development in what is termed the '**Business Employment**' designation would continue to accommodate business park uses (bottom left, Figure 6.1). The demand for stand alone office buildings in industrial district environments are not large and do not require intervention.

At the outset, we propose that the current definition of office uses ("business, professional and administrative offices") continue to apply.

The Recommendations:

6.1.1 The following new designations focused on office uses are proposed:

a) Downtown Office:

- This designation is intended to provide for the highest intensity of development in Mississauga, supported by higher order transit. Underground parking will be required for new office buildings in the downtown core (see figure 6.2). The intention is to create a fine grain, pedestrian-oriented environment capable of attracting firms of international, national and regional status seeking a downtown setting. Recognizing that no policy limits currently apply (FSI or building height), the emphasis will be on creating high quality design through the application of design guidelines. Minimum densities will be prescribed, but should only be implemented after a strategy to reduce the size of development blocks has been agreed upon. The minimum density should reflect the importance of protecting the City's investment in City Centre infrastructure.

FIGURE 6.2: Mississauga Downtown Core
The blue outline defines the edge of the proposed downtown core area within which the proposed 'downtown office' designation would apply.
SOURCE: CUI, 2008, Map base from Live Maps.

- Because current designations already permit a wide variety of uses, including residential, the Downtown Office designation will incorporate these uses but make it clear that office is a preferred use for this location. This designation is intended to work in conjunction with specific financial strategies designed to favour commercial office development over residential development until such time as the economic health of the City Centre office market has been regained.

- It is also recommended that zoning in the core of the City Centre (see Figure 6.2) be amended to institute a temporary cap on residential development that limits the permitted floor space index (FSI) to 0.5. This restriction should be reviewed five years after it comes into effect in order to provide a

window of opportunity for proposed office strategies to take effect. This reflects a concern that continued strong demand for residential development is steadily reducing the supply of potential office development sites. In this regard, office uses and residential uses have different impacts on local land use patterns and are not interchangeable; for this reason, it should be made clear that applications to convert office development permissions to residential will not be considered during the period that the cap is in place.

b) Major Office

- This designation is intended to facilitate the creation of a transit-oriented office environment on Hurontario Street to complement plans to introduce higher order transit. Uses other than office will be permitted in this designation in recognition that there are sites on Hurontario where uses compatible with a high density, transit-oriented environment are already designated or built. Certain priority sites with the best transit access will be zoned "office-focused," where office uses will be the predominant use.

- Uses incompatible with a higher density, place-focused setting such as big box and highway commercial development should be actively discouraged.

- The City is about to begin a major land use/transportation study on Hurontario to determine the feasibility of accommodating higher order transit. This study should recommend a process for undertaking a secondary plan or plans for the corridor that will include:
    - Identification of appropriate locations for the implementation of the Major Office designation where office development can be effectively integrated with higher order transit stations (illustrated for schematic purposes only on Figure 6.3)
    - A basis for establishing minimum and maximum densities at these locations;
    - Design guidelines that set out a vision for development of a high quality, pedestrian-oriented public realm within a 600-metre radius of each designated office location/transit station.

- In order to provide additional incentive to launch transit-oriented development, the City should identify a time period within which a residential development cap will be applied to lands within the 'downtown' and 'major office' in order to allow time for the incentive strategies proposed in this study to be reviewed and implemented.

c) Local Office:

- The Local Office designation will be applied primarily to arterial roads in a variety of neighbourhood and commercial settings in locations other than employment districts. This designation will incorporate professional offices, medical offices and other office uses serving a local market and could include

provisions for retailing. In order to support the concentration of major office buildings in specific locations such as the City Centre and on Hurontario, stand-alone office buildings in Local Office areas will be limited in size to 40,000 sq. ft. (3,700m^2). Local Office will also encourage the development of offices as accessory uses in plazas.

6.1.2 Re-examine Mississauga's Present Structure of Nodes:

Nodes identified in employment districts should remain in place until the revised office policies have been integrated into the revised plan. The revised plan should distinguish between the intention of concentrating mixed use development at appropriate locations throughout the City to provide a focus for the provision of local services and the desire to concentrate high quality commercial office development at specific locations such as the City Centre and at specified office nodes along Hurontario Street.

6.2 Policies and strategies designed to kick start office development in the City Centre.

The challenge:

A major barrier to new office development in the City Centre is the high cost of underground parking. At the same time, the core area has no room to accommodate new office development with surface parking. Existing surface parking detracts from the quality and character of built form in the City Centre, preventing Mississauga from achieving its goal of creating a fine-grained, pedestrian-oriented, transit-friendly downtown and fails to attract new anchor tenants. Even parking decks and parking structures, although less expensive to construct, present problems from an urban design perspective, although there are precedents elsewhere for attractive ways to mitigate the visual impacts. Underground parking for office buildings must be seen as a prerequisite for positioning the City Centre as a true downtown. The goal, after all, is to increase the critical mass of people working downtown, not to use valuable air rights to store vehicles.

A second barrier to new office development in the City Centre is that the area has lost momentum in the market place. With no new office buildings in 15 years, landlords are seeing a decline in the average size of tenancies as large blocks of space are leased to numerous smaller firms. The City Centre is no longer the obvious choice for major companies seeking large blocks of prestige office space.

The opportunity:

The City is currently developing a parking strategy for the City Centre, including consideration of creation of a parking authority of some kind. As detailed in Chapter Five, if the City were to partner with a developer to build and own the underground parking component of a new office building, this would overcome a major obstacle to kick-starting the office market in the City Centre. In our view, this would represent a practical investment in the

future built form of the City Centre. It would positively reinforce the desire of the City to improve the quality of the pedestrian realm by making possible a built form that creates a more vital streetscape and which brings large numbers of additional workers to the core area. By increasing parking rates at a steady pace over time, the parking garage would also initiate the long-overdue process in the 905, of acknowledging the true cost of parking. Our estimates suggest that even with municipal investment in underground parking, one or more financial incentives would be necessary to interest a developer in proceeding with a new office building

More than anything, the City Centre, which represents the pinnacle of a proposed new office development hierarchy, needs new office buildings in order to re-establish demand and awareness among potential larger tenants. The City of Mississauga has outgrown the civic centre, and needs between 80,000 and 100,000 sq. ft. (7,400-9,200 m^2) of new space to accommodate city staff. This presents a unique opportunity to use the City's own space needs to ensure the development of at least one new City Centre office building by becoming an anchor tenant in a new building. All or any of the financial incentives discussed in Chapter Five could be used to make an office building with underground parking financially attractive – particularly if the City is able to provide itself as a 'blue chip' anchor tenant. Some of the proposals are already being experimented with by other jurisdictions; others, such as the proposal to seek exception from Regional and school taxes are untried as of yet and would involve negotiation with both the upper-tier municipality and the province. In our view, a combination of less aggressive incentives together with a decision to proceed with underground parking may prove to be the easiest and most effective way to kick-start office development in the City Centre.

The recommendations:

6.2.1 Invest in Underground Parking in Partnership with Office Developers:

As indicated in Chapter Five, one of the most effective ways to stimulate office development in the City Centre is for the City to invest in underground parking in partnership with an office developer. The City should finance underground parking as a partner in at least one new office development to accommodate City staff. The capital cost of the parking (estimated at $14 million for a 400-stall garage – 80% of the overall parking requirement) would be reduced by a developer contribution of $6 million ($15,000 per stall). Over time, the relatively small area devoted to surface parking would be redeveloped as transit service improves and the demand for parking is reduced. Tenants would pay a nominal parking fee at the outset, which would increase annually until a municipal contribution is no longer needed (this would take 19 to 27 years, depending on parking rate escalation). The value of this partnership to the developer at the outset would be slightly more than $2/sq. ft. per year. The value to the City over the long term would be a revenue-producing asset, as well as more immediate benefits in terms of helping to re-establish the market for office space in the City Centre in a way that improves the quality of the pedestrian realm.

6.2.2 Take Advantage of Other Financial Tools and Incentives to Effectively Urbanize City Centre:

In order to make the office building with underground parking financially viable, the City of Mississauga should stimulate the City Centre office market by utilizing one or more of the financial incentives listed in Chapter 5 of this report. Doing so will help the City to achieve the desired urban environment and business climate required by tenants and office building developers over the long term, while also creating a new assessment base for the City, an improved public realm, and new employment opportunities for Mississauga residents. Where negotiation, partnership, or co-operation with other levels of government is required to implement one or more of the financial tools that are recommended, the City should initiate a dialogue as soon as possible. These incentives should be timed to work in conjunction with the proposed residential cap (6.1.1a).

6.2.3 Downtown and Major Office Development Team

We recommend the creation of a multi-disciplinary team at the City of Mississauga exclusively dedicated to promoting the City Centre and expediting development applications for office and other employment-oriented development in the core and at future office-focused nodes in the Hurontario Corridor.

6.3 The pedestrian environment in City Centre must be improved

The challenge:

As suggested in interviews with City Centre landlords, the lack of an attractive pedestrian environment illustrates how failure to meet expectations can work against the City's goals. At present, the large size of development blocks makes it difficult to develop the desired street patterns. Dependence on surface parking ensures that office buildings are separated by parking lots, resulting in large areas covered in asphalt. Although the introduction of residential development is helping to change "the look" of City Centre in some sections, the perception among office tenants is that the City Centre is not yet pedestrian-friendly.

The opportunity:

The City is already engaged in a process to improve this situation by working out ways to reduce block size and introduce a finer grain level of development.

The recommendations:

6.3.1 Improve Pedestrian Environment:

The City should continue to work with landowners to significantly improve the pedestrian environment in the City Centre core by reducing block size, rights of way and improving the permeability of the area overall. This process can be facilitated through Community Improvement Plan policies for the core of the City Centre.

6.4 Go green in City Centre.

The challenge:

Aging buildings in the City Centre have higher operating costs, requiring landlords to absorb up to $2/sq. ft. ($21.53/m^2) to remain competitive.

The opportunity:

Landlords in other markets are taking advantage of growing public interest in sustainability by retrofitting older buildings to improve air quality, lower energy consumption (and costs), and reduce greenhouse gas emissions. A recent industry survey found that 90% of tenants want a green office environment and 65% would pay a premium to lease such space. The Building Owners and Managers Association (BOMA) is working with local landlords and developers to help them upgrade building performance (Go Green Plus). A BOMA partnership with the Ontario Power Authority involving 40 Toronto buildings is expected to reduce electricity consumption by 30 million kilowatt-hours, for annual savings of at least $2 million. LEED® (Leadership in Energy Efficient Design), a rating system developed by the Canada Green Building Council (CaGBC), is the industry standard for new green construction in the commercial sector. By embracing these industry-wide trends, Mississauga can reposition the City Centre as a green leader while addressing issues that affect the area's competitiveness.

A recent report prepared by the Canadian Urban Institute for Infrastructure Canada identified the City Centre as having sufficient energy demand to warrant the consideration of a district energy system. The report cites the benefits of district energy including reduced greenhouse gas emissions, reduced reliance on the electricity grid, and district energy's role in ensuring reliable long-term price stability. Hydro One has indicated that southern Mississauga is close to capacity in terms of introducing new transmission lines to supply electricity. The introduction of district energy would help address this concern. A detailed discussion of district energy is available in Appendix H.

The recommendations:

6.4.1 Energy Conservation and Green Building:

The City should work with landlords in the City Centre, BOMA, and the Ontario Power Authority to make the OPA's conservation demand management grants program available to City Centre landlords, and adopt the LEED® standard for new office development**.**

6.4.2 Energy and the Community Improvement Plan (CIP)

City Centre falls within a Community Improvement Area. Incorporate into a Community Improvement Plan the objective of promoting the rehabilitation of energy retrofits and conservation practices. The CIP should identify a variety of energy-related initiatives as allowable costs. The City should also consider conducting a City Centre district energy system feasibility study, which would be an eligible cost under the new provisions of the planning Act (resulting from Bill 51) with respect to Community Improvement Areas.

Hurontario Development Corridor

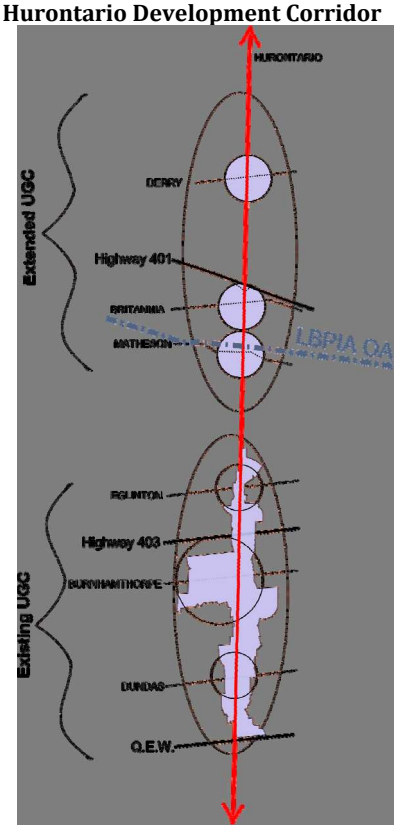


Figure 6.3: Hurontario Corridor
The Hurontario Development Corridor contains the Urban Growth Centre along with a series of key nodes north of Eglinton Avenue within a newly defined corridor. ***Conceptual Nodes are shown for illustrative purposes only.***
SOURCE: Canadian Urban Institute

6.5 Establish additional dedicated land for office: adopt a nodal development pattern on Hurontario to create attractive office sites that can be served by higher-order transit

The challenge:

Although Mississauga still has plenty of vacant employment land, only half of the sites are in places that are attractive to the office market. Meadowvale and Airport Corporate Centre need to be developed more intensively and the Hurontario Corridor – including the City Centre – needs to be made more attractive to investors. Having proven its ability to attract prestige office development and thousands of jobs over the past 25 years, Mississauga must now invest (in partnership with other levels of government) in essential transit and related infrastructure to service the next generation of growth.

The opportunity:

Case studies (Appendix F) from other jurisdictions show that constructing light rail transit and implementing the principles of transit-oriented development can attract high-quality, higher-density development; generate jobs; add to the tax base; persuade car-dependent commuters to switch to transit; and achieve levels of ridership high enough to reduce the time needed to make operation of LRT service viable. Hurontario could support higher-order transit: the City's Urban Growth Centre already has 80% of the provincial target of 200 jobs and residents per hectare. Hurontario also has many vacant sites close to key intersections that could support high-quality transit-oriented development. With firm planning controls, innovative urban design guidelines, and appropriate incentives, Hurontario could be transformed into an attractive environment for new investment in the next generation of office development. Should the upcoming study of Hurontario conclude that LRT is the appropriate way to implement higher order transit, there are also precedents for building base infrastructure such as stations and LRT track beds before funds are available to supply rolling stock, to send appropriate signals to developers and other investors early on.

Any selected policies should indicate that it is Council's intention not to impose an FSI for a specified period following adoption of the policies to provide "a window of opportunity" for developers to proceed with proposals for office development. The timing should be linked to the timing of the availability of the higher order rapid transit to be constructed. Since we have proposed that certain sites closest to any transit stations be

designated for office uses only, we feel that this two-pronged approach sends a very positive message to the development community.

The recommendations:

6.5.1 Designate six nodes on Hurontario for a new category of transit-oriented development within the proposed office development hierarchy. This action consists of the following steps :

a) Complete the higher order transit feasibility study on Hurontario as quickly as possible, then fast-track the environmental assessment.

b) Establish urban design guidelines for the corridor to support the expected alignment of future transit and station locations.

c) Develop a secondary plan, or plans, for each node, covering a normal walking radius of 500-600m, specifying office-focused sites, appropriate densities, and development requirements (including setbacks, build-to lines, pedestrian routes, and direct transit connections) to give developers and investors a clear sense of development potential and to ensure that office development initiated before the provision of higher-order transit remains compatible with overall design objectives.

d) By designating sites closest to transit stops located at key intersections as “office-focused”, the City seeks to encourage the highest intensity employment uses possible within walking distance of these stops. These locations will be linked with high quality, fully accessible pedestrian routes both to transit stations and adjacent development.

e) To ensure that these locations maintain a high quality business environment, the City encourages compatible uses and amenities that support such an environment.

f) Site planning for large blocks adjacent to stations should consider the potential to develop future phases to intensify over time. To facilitate this, the City should be prepared to negotiate density bonuses for residential uses where the developer is prepared to construct underground parking in excess of the amount of parking required for adjacent residential uses. The goal is to be able to maintain parking at the minimum level necessary to support the office market but to be able to adjust parking supply at the node as transit modal split improves over time.

g) Articulate a vision and principles for a high-quality public realm in each node, showing how developers can contribute to making it happen.

6.6 *Linking policies and strategies to a revised urban structure*

The opportunity:

For the purposes of this report, we argue that concentrations of office represent the key building blocks for a revised urban structure. In that regard, the purpose of the proposed Urban Structure Map (next page) is to assist in defining the Office component of the Structure (or Urban Form Concept) that the City has the opportunity to revise in the forthcoming Official Plan review. The proposed office component of the urban structure emphasizes transit-oriented development nodes and corridors but seeks to emphasize that, in future, the focal point of the urban structure is to be transit-oriented development centred on intensification in the City Centre and the Hurontario corridor. Acknowledging the role of the 400-series highways in the successful development of Meadowvale and Airport Corporate Centre as prestigious, business park environments is important. As well, together with the revised policies and strategies recommended in this chapter, the revised Urban Structure will confirm the City's intention to fully implement intensification policies contained in the Provincial Growth Plan.

The challenge:

The office component (which is also significantly affected by transit provision) is a key component of future urban structure of Mississauga. Balancing it with other municipal needs, and the needs of other land uses and users while also maintaining the intent of the proposal will be important. Investors and other stakeholders with a vested interest in maintaining and strengthening the office market in Mississauga must continue to be reassured that the City intends to continue strengthening its office market, and that it will remain a competitive office location.

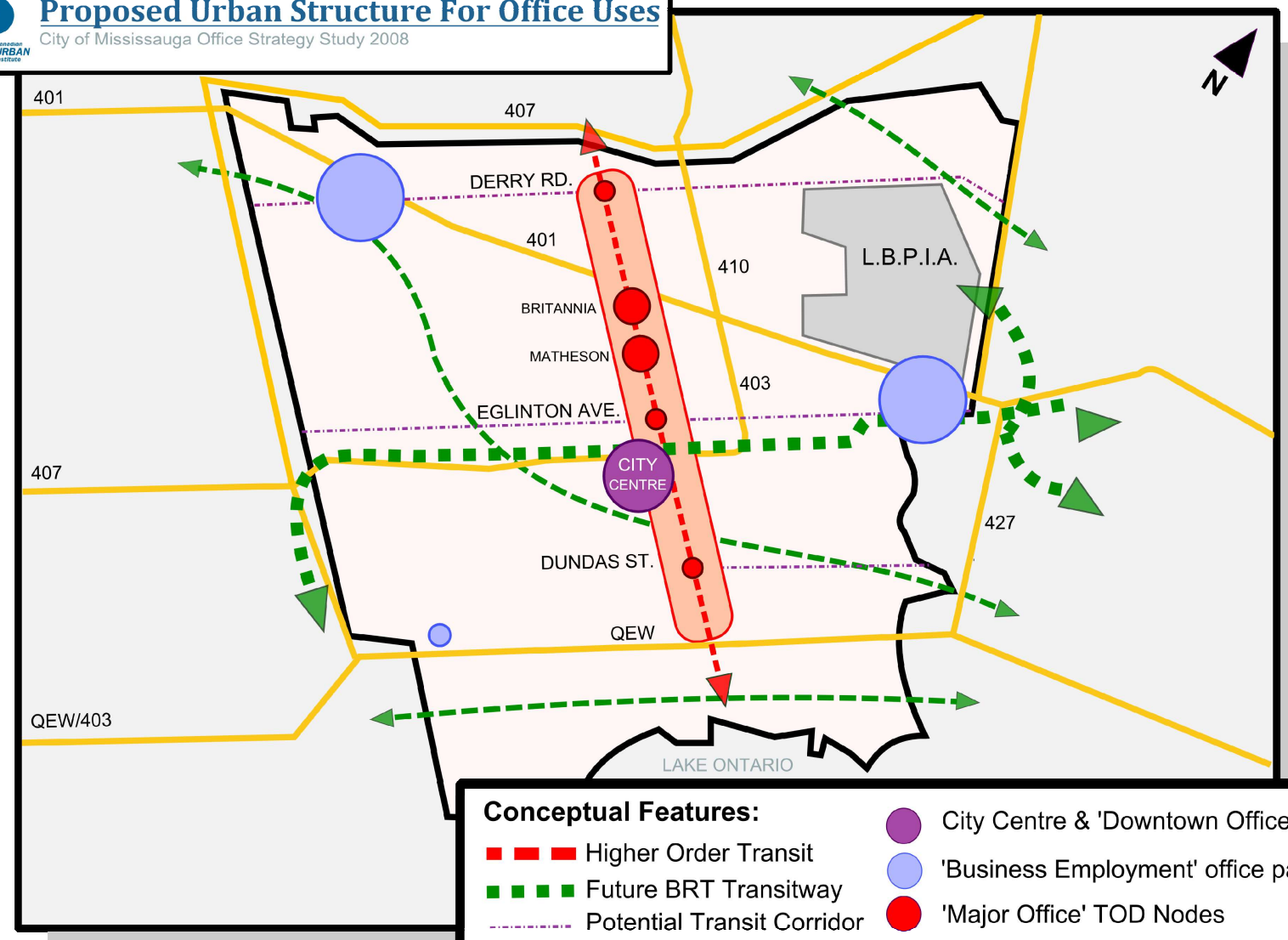
The recommendation:

6.6.1 Review the Urban Structure:

The City should review and adopt the proposed revised urban structure map (next page).

Proposed Urban Structure For Office Uses

City of Mississauga Office Strategy Study 2008



Conceptual Features:

- Higher Order Transit
- Future BRT Transitway
- Potential Transit Corridor
- Major Highways
- GO Transit Commuter Rail
- City Centre & 'Downtown Office'
- 'Business Employment' office park
- 'Major Office' TOD Nodes
- Hurontario Transit Corridor and 'Major Office' area

Note: Nodes on Hurontario are for illustrative purposes only.

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6.7 Support the continued success of the City's key employment districts

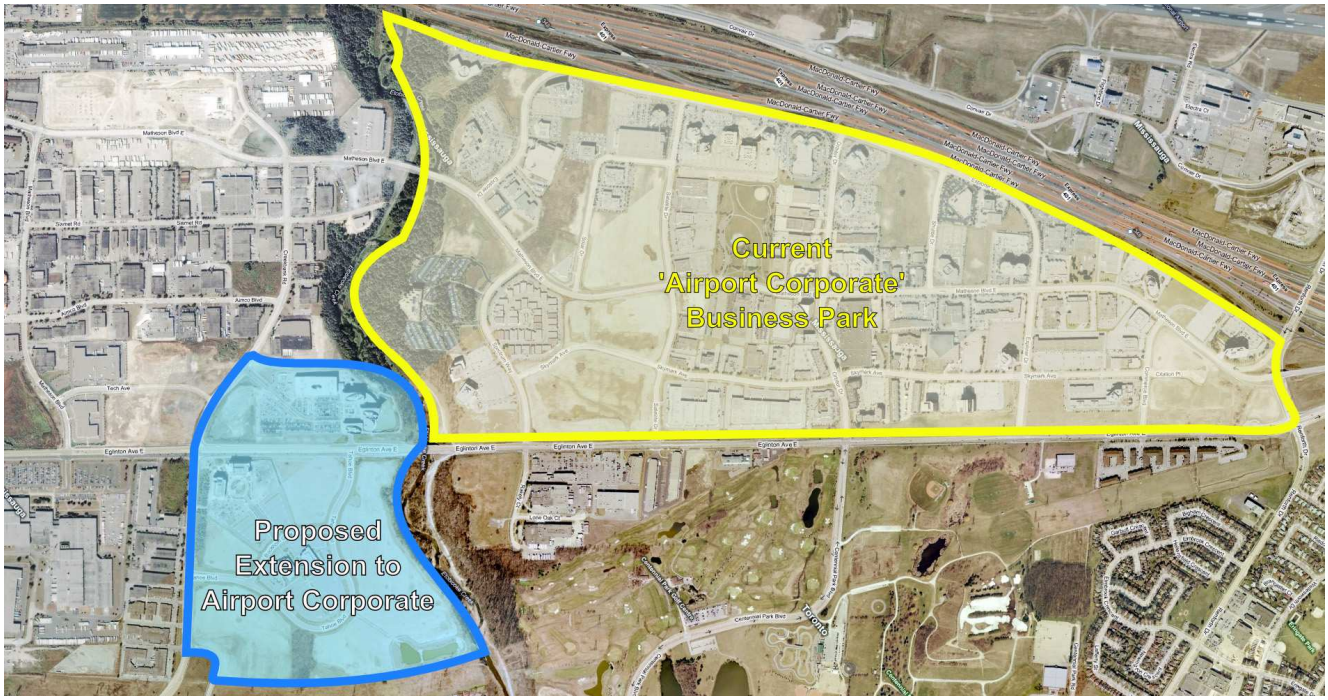

FIGURE 6.4: Proposed Extension to Airport Corporate Planning District
The market already regards the lands west of Airport Corporate to be part of the same office district. Mississauga should consider adjusting its planning area and policies to match demand for office land in this area.
SOURCE: CANADIAN URBAN INSTITUTE & MICROSOFT LIVE EARTH, 2007

The challenge:

Airport Corporate Centre is the City's most successful office node but much of the recent development has taken place on lands west of Etobicoke Creek. In discussions with landlords, developers and tenants, it is clear that these lands, although officially part of Northeast district, are viewed as being part of Airport Corporate Centre. Presently the City does not recognize this market trend in its planning documents.

The opportunity:

In Airport Corporate Centre/Northeast, expanding the boundaries of Airport Corporate Centre into Northeast would create one cohesive planning district that better matches market demands. Across those employment districts most suited for Office uses, the city can continue to support their growth and ongoing success by limiting industrial uses.

The recommendations:

6.7.1 Airport Corporate Extension:

The City should adjust the boundaries of Airport Corporate Centre to include lands west of Etobicoke Creek as illustrated in figure 6.4.

6.7.2 Limit Industrial Uses on Lands Best Suited for Office:

Delete the current permission for the expansion of existing industries with outside storage in Airport Corporate and Meadowvale.

6.8 Meadowvale and Airport Corporate Centre are attracting the majority of Mississauga's new office development but currently have low transit modal share and limited amounts of prime vacant land.

The challenge:

Our analysis suggests that both these areas have been developed at relatively low densities. The Toronto Transportation Survey (TTS) data indicate low modal splits – i.e. low levels of transit use – and concerns have been voiced about growing congestion. Projects developed with surface parking lots will continue to use up valuable space. In Meadowvale the employment density is a modest 31 workers per hectare.

The opportunity:

Meadowvale has recently gained additional access to GO Transit, and Airport Corporate will soon benefit from an east-west BRT service. In the long-term it is expected that the Milton GO Line will provide all-day two-way service and, therefore, space around the station area should to be intensified as much as possible. The goal, in selected areas of the district where transit service can be further enhanced, would be to increase the number of workers per hectare to between 50 and 75 in order to support better transit service.

Office intensification strategies for both districts would help the City achieve the maximum utility from these locations in ways that support transit use and improved pedestrian connectivity over the long term. Without affecting the campus-like environment that has served these areas well in the past. Encouraging structured parking for all new development in this district would facilitate the development of larger buildings, thereby extending the marketability of the districts over time, while also generating higher employment densities more capable of supporting transit.

The recommendations:

6.8.1 Undertake intensification strategies for Meadowvale and Airport Corporate Centre that include requirements or incentives to construct parking structures.

6.8.2 Intensification strategies for Meadowvale and Airport Corporate Centre should recognize the future potential of two-way all-day service on the Milton line and the future east-west BRT route along Eastgate Pkwy. and Eglinton Ave. Higher intensities created by structured parking for new development can help make these districts more transit supportive while not affecting the type of office development taking place in these Business Employment areas.

6.9 *Sheridan Park developed as a science and technology park and maintains a unique campus-like environment, but is the City's only employment district with visibility from the Queen Elizabeth Way.*

The challenge:

Most of the buildings in this district are classified as office industrial (according to data provided by Real Estate Search Corporation). Although there is considerable turn over among tenants, the area continues to be attractive for its tenant base.

The opportunity:

Given its strategic location as the only office area in southern Mississauga with partial visibility from the Queen Elizabeth Way, Sheridan Park still has untapped development potential; over the very long term it may warrant a reinvestment initiative.

The recommendation:

6.9.1 Secondary Plan Review:

The City should acknowledge the longer-term development potential of Sheridan Park by incorporating the district into the revised urban structure and by undertaking a secondary plan review in conjunction with development of the new official plan.

6.10 *Conclusions*

The sum of the above recommendations is intended to provide the City with a basis for retaining and expanding its office development potential in ways that support city building and which are consistent with reurbanization and intensification.

CLOSING COMMENTS | THE MISSISSAUGA OFFICE STRATEGY STUDY:

This report provides the City with a comprehensive analysis of the office market in Mississauga, as well as advice on recommended changes to the City's Official Plan. These are accompanied by a number of strategies designed to compliment the policies.

As identified at the outset, in order to ensure the City staff and Council have an opportunity to discuss our findings in some detail, we suggest holding a workshop at a mutually convenient time. We can then incorporate any modifications in a final report.

GLOSSARY

General:

Spec Build	Speculative buildings: The construction of a building with less than 50% pre-leased. The speculative builder anticipates that a demand exists or will develop by the time the leasing is completed.
Competitive Space	Multi-tenant buildings with space offered for lease on the open market.
Non-competitive buildings	Buildings which are purpose built and or often occupied by one tenant in either the corporate or public sectors.
Net Present Value	Net Present Value (NPV) compares the value of a dollar today to the value of that same dollar in the future, taking inflation and returns into account.
NPV	See Net Present Value

Types of buildings in which office space is researched by RESC:

Office	A building which is principally (80% or more) used for office space by one or more tenants. All other uses: retail, storage, shipping and limited industrial use (i.e. printing facilities) are normally complementary to the office space and are not counted as office area. Also referred to as 'stand-alone' offices.
Flex space/ Office Flex	A 'flex' building maybe used for office space or industrial space with very little capital investment to convert from one use to the other. The building is classified as office when occupied as office and visa versa for industrial classification.
Office Industrial	An office building which is principally (80% or more) used for office space by one or more tenants and is located in a predominantly industrial area. The differentiating factor from an industrial building is that the building can be used by a tenant not related to the industrial component of the site. The building is normally detached from the industrial facility.
Multi-Unit Office Facility (MOF)	An office building(s) whose principal use is office (80% or more) and is low rise, suitable for smaller tenants (less than 5,000 sq. ft). Units or suites may be sold or leased and often have street identity for tenants. MOFs can be stand alone structures with multiple entrances to separate units or many structures with common parking and access. MOFs often have one common name but may have multiple municipal addresses or one address with multiple unit identity. They often have common management.

Conversion Office	A building, which is principally (80% or more) used for office space by one or more tenants but was originally, used for another purpose, i.e. warehousing, manufacturing, residential, retail etc. The building was emptied and fully converted. It is recorded as an 'office conversion' when the construction is completed and ready for office occupancy. Unlike 'flex' buildings, the building has undergone a complete renovation converting it to office use and would require extensive renovation to convert it to another use.
Medical Office	An 'Office Building' in which over 50% of the office space is occupied by medical service providers. The building is not included in researched office space if it is attached or on the same property as medical facilities such as hospitals.

Types of buildings in which office space is *not* researched by RESC:

Minor office	Office space located above retail outlets or part of an industrial building.
Purpose built/ Design build	A building built for specific use purposes i.e. churches, schools, courts, entertainment facilities. These building may have office space in them but is not included as office space for research purposes.
Industrial	A building whose principal use is industrial (80% or more). There may be office space related to the industrial space. Typically, industrial buildings are known as 90% industrial with 10% office. This office is not included as office space for research purposes.

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City of Mississauga
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Mississauga Office Strategy Study

APPENDICES

MISSISSAUGA PLAN REVIEW

Canadian URBAN Institute

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The Mississauga Office Strategy Study has been prepared for the City of Mississauga

LIST OF APPENDICES

APPENDIX A | SUSTAINABLE OFFICE BUILDINGS & LEED® OFFICES

The LEED® program has become a standard for evaluating and certifying green/sustainable buildings in Canada. As firms, big and small, begin paying attention not only to accounting bottom-lines but what has become known as 'Triple Bottom Line' (a sense of corporate responsibility that relates to People, the Planet, and Profits) demand for 'green' office space is increasing. The short case studies below provide a brief overview of a number of recent LEED® Certified office building projects across North America.

Bank of America Tower – New York City

Building Size:

- 64 Storeys;
- 2,200,000 square feet of office (204,000 m^2);

Development Cost: $1 billion

Incentives:

- $38.5 million in real estate tax subsidies from City
- $3.5 million in annual energy benefits
- $650 tax-free, low-interest bonds for financing from the federal government

Green Considerations:

- Deep double-walled insulated façade
- Rooftop rain collection
- Translucent insulating glass
- 4.6 megawatt cogeneration plant

Project Overview:

The Bank of America Tower in New York City, slated to be completed in 2009, will bring over 2.2 million square feet (204,000 m^2) of office space to the downtown Manhattan office market. It is going to be the largest LEED® Platinum office building in the United States, and the first high-rise building to pursue the Platinum designation. With the building not scheduled to be complete until 2009, 89% of the building is already leased.

The building will feature several green features, including a deep double-walled insulated façade, rooftop rain collection, translucent insulating glass, floor-to-ceiling windows that permit maximum daylight and optimum views. It will also include a 4.6-megawatt *co-generation plant*, providing a clean efficient power source for a vast majority of the building's energy requirements. The buildings owners expect to consume just 50% of the energy of a similarly sized building.

The City has provided several incentives to help the development of the building. There are $38.5 million in real estate tax subsides spread over 25 years, and $3.5 million in annual energy benefits provided to the developers.

Bank of America is getting $650 million in Liberty Bonds to finance the project. These bonds are tax-exempt, low-interest bonds, which offer major savings to recipients, who assume no risk.

4 Times Square – New York City

Building Size:

- 48 Storeys;
- 1,600,000 square feet of office (148,000 m^2);

Development Cost: $500 million

Incentives:

- $250,000 from New York State Energy Research and Development Authority
- $10.75 million in tax incentives for a large anchor tenant (Conde Nast)[1]

Green Considerations:

- Translucent window glazing
- Photovoltaic panels help supply the building's electrical needs
- Two 200kW fuel cells, with waste heat recovery.

Project Overview:

Four Times Square is a 1.6 million square foot office building (148,000 m^2) built in 1995, in midtown Manhattan, and is one of the first projects of its size to adopt standards for energy efficiency, indoor ecology, sustainable materials, and responsible construction, operations and maintenance procedures. There are several green considerations in the building, both in terms of equipment (two 200kW fuel cells fulfill a significant portion of the buildings power requirements), and in design (the use of glass, with a translucent window glazing to keep solar heat out, and let natural light in)

The building uses 40% less energy than the same building otherwise built to the NY State Energy Code. Annual energy costs savings are $1,760,000 ($1.10 per square foot), and energy use savings are nearly 21 million kWh/year. Annual CO2 emissions reductions amount to 9,191 tonnes per year. [2] Operational costs are expected to be 10-15% lower than a comparable project.

The office building was the first speculative office building to be built in Manhattan since 1988. It cost a total of $500 million.

[1] New York Times, "Reuters Steps Ups Its Talks on Times Square Building", August 1, 1997, http://query.nytimes.com/gst/fullpage.html?res=9B02E3DE173DF932A3575BC0A961958260

[2] New York State Energy Research and Development Authority, "New Construction and Green Buildings Programs: Four Times Square" URL: www.nyserda.org/programs/Green_Buildings/casestudies/**4-times_square**.pdf

La Capitale Delta 3 – Quebec City

Building Size:

- 11 Storeys
- 143,000 square feet (13,285 m^2) of office space.
- 23,000 square feet (2,136 m^2) commercial use

Development Cost: $41 million

Incentives:

- Unknown

Green Considerations:

- Will use 17.5% less energy than benchmark standards
- 40% potable water consumption reduction
- 75% of construction waste diverted from landfill
- Heat Island impacts minimized by moving *parking underground*
- Green Roof
- Encourage Cycling: many bike racks and/or lockers

Overview:

La Capitale's Delta 3 building is aiming for LEED Gold Certification. Part of this office development project will involve the renovation and retrofitting of two older phases, Delta 1 and Delta 2. Construction will commence before the end of 2007 and the building is expected to open in 2009.

*image: http://www.lacapitale.com

RBC Centre – Toronto Ontario

Building Size:

- 43 Storeys
- 1,200,000 square feet of office (111,483 m^2)

Development Cost: $400 million

Green Considerations:

- Floor to ceiling windows, with automatic blinds on a sensor system
- Green roof
- Deep lake water cooling
- District steam heating
- Encouraging cycling with indoor bike lockers and cyclist changerooms/showers

Overview:

The 1.2 million square feet (111,483 m^2) RBC Centre is being developed by Cadillac Fairview, and will be the first major downtown office development in 15 years. 410,000 square feet (38,090 m^2) of office is to be leased by RBC and RBC Dexia together. [3] The building will have only 400 parking stalls. Retail space will exist at street level and will make up only 15,000 square feet (1,393 m^2) of gross floor space. The building has been designed by Kohn Pedersen Fox (KPF) Associates Architects and Planners, based in New York

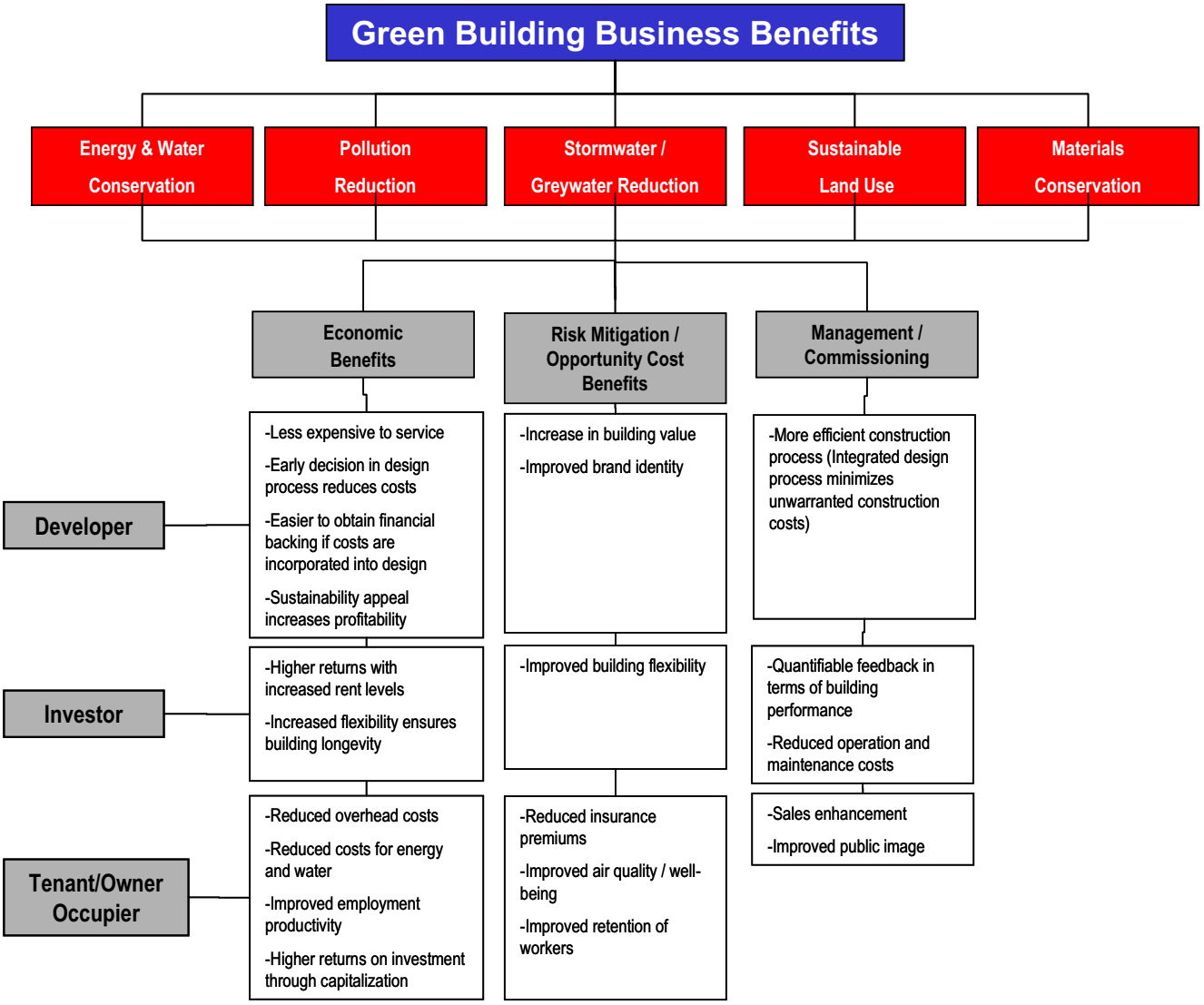
RBC Centre will be the first LEED silver accredited building in the GTA, and is expected to generate energy savings of 35 to 50 percent. [4]

*image: RBC Centre/Cadillac Fairview

[3] Cadillac Fairview: http://www.cadillacfairview.com/client/Cadillac/CF_UW_V500_MainEngine.nsf/page/77DBF2A8E02550118525713E0064EC08?OpenDocument
[4] Toronto Observer, "New Toronto tower LEEDS the pack in commitment to sustainable lifestyle", April 20, 2007, http://www.tobserver.com/CYCLEAPRIL07/07-19-04-StefanieRBC.html

Benefits to Green Development

(Appendix A Continued)



Source: Canadian Urban Institute (2004). Moving Forward Market Transformation for Green Buildings

APPENDIX B | EMPLOYMENT GROWTH ASSUMPTIONS (BY NAICS SECTOR) FOR THE CITY OF MISSISSAUGA

Sector & NAICS	Projected Allocation
Retail Trade NAICS Code 44-45	Growth between 2000 and 2005 averaged 0.9% per year and was driven primarily by population growth. Future employment growth in the retail sector expected to slow over the 2000 to 2005 period, averaging 0.8% annually to 2031. While the retail sector is a major employer in the City, only approximately 15% of jobs in this sector currently reside in office space in the City of Mississauga, therefore this sector is not expected to be a major contributor to future office space demand. The past five-years saw positive office space occupancy of approximately 400,000 sq. ft. of floor space. However, this increase in floor space within the sector was represented almost entirely by the new Loblaws property constructed in the Meadowvale Business Park, which would appear to represent an anomaly rather a consistent trend. (The Loblaws building is actually located in Brampton, but is seen as part of Meadowvale by the industry.)
Accommodation & Food Services NAICS Code 72	Employment growth in this sector over the 2000 to 2005 period averaged 1.2% annually. Growth in airport traffic is expected to drive strong growth in the future. However like retail, only a small proportion (5%) of the total jobs in this sector occur in leasable office space which does not make this sector a major driver of office floor space demand. Occupancy growth in this sector saw positive increases over the past five years, however this represented an increase of less than 40,000 sq. ft. Future growth in employment is expected to average 1.5% per year to 2031.
Management of Companies & Enterprises NAICS Code 55	This sector saw strong growth in employment over the past five years averaging 3.9% annually. Going forward, it is expected that growth will average 1.8% to 2031. However, given the small number of jobs in this sector currently (4,740) this growth translated to only about a 5,000 sq. ft. increase in total office floor space occupancy. A small base employment (despite strong expected growth) will mean that this sector will be only a modest contributor to office space demand in the city.
Professional, Scientific & Technical Services NAICS Code 54	This sector saw strong past growth of 2.2% per year over the 2000 to 2005 period. This sector was also a significant driver of office floor space demand, showing positive occupancy of approximately 550,000 sq. ft. over the same period. Given the number of jobs in this sector (21,250), and that roughly 85% of jobs in this sector have traditionally occurred in office locations, it is expected that this sector will be a major driver of future office floor space demand. Future employment growth is projected to slow slightly but still average a strong 1.8% over the 2005 to 2031 period.
Finance & Insurance NAICS Code 52	This sector saw strong past growth of 2.3% per year over the 2000 to 2005 period. Future growth is projected to average 2.0% to 2031 period. This sector was also a significant driver of office floor space demand, showing positive occupancy of approximately 850,000 sq. ft. Also a large sector in terms of employment (21,210), with almost all of jobs in this sector occurring in office locations, it is expected that this sector will also be a major driver of future office floor space demand.
Real Estate & Rental & Leasing NAICS Code 53	Also saw strong growth over the past five years, averaging 2.2% per year. Future growth is forecast to average 1.9% annually. While this sector is a significant driver of office demand with 80% of jobs occurring in multi-tenant commercial office sites, a relatively small number of jobs in this sector (6,345) will mitigate its impact on total office space demand. This sector saw 150,000 sq. ft. of increased occupancy during the 2000 to 2005 period.
Other Services NAICS Code 81	A major "catch-all" category, this sector saw growth of only 1.5% per year over the past five years. As this sector represents a wide-array of jobs primarily related to population-serving industries. The varied nature of this sector makes it difficult to determine future growth, therefore expansion in this sector was assumed to continue at a rate representing a slight decrease over previous growth rates, reflecting the modest population growth expected over the next two decades or so. Future growth is forecast to average 1.0% annually.
Administrative & Support Services NAICS Code 56	This sector saw relatively strong growth over the 200 to 2005 period of 1.9% annually. Continued productivity gains (which have mitigated growth in this sector over the past decade) can be expected to moderate future growth to approximately 1.6% per year. However, given the large number of jobs in this area, this sector is expected to drive demand for office space as 75% of jobs occur in office locations larger than 20,000 sq. ft.
Information & Cultural Industries NAICS Code 51	The Information and Cultural Industries sector in Mississauga saw moderate growth of 1.3% per year over the 2000 to 2005 period despite significant restructuring during the 2001 to 2003 period. Given expected future growth nationally within this sector, and Mississauga's established role as location for information-sector businesses, it is expected that future growth will be strong averaging 1.8% per year to 2031. Office space occupancy within this sector was also modestly positive increasing by 200,000 sq. ft. over the period (however the development of Microsoft's new headquarters in Meadowvale accounts for approximately 160,000 sq. ft. of the net increase). This sector is a major driver of office demand with 80% of employment occurring in office locations.

Arts, Entertainment & Recreation NAICS Code 71	This sector represents only 2,865 jobs in the city and occupies only 6,500 sq. ft. of office space in the city. Past growth occurred at an average rate of 1.6%, future growth is projected to occur at 1.5% annually. Despite moderate expected growth rates, less than 5% of jobs in this sector tend to locate in office locations, therefore this sector is not expected to have any impact on office space demand.
Public Administration NAICS Code 91	Past growth has occurred at an average rate of 0.9% per year however, reinvestment by federal and provincial governments after more than a decade of cost cutting meant positive occupancy of more than 250,000 sq. ft. over the 2001 to 2005 period. Future growth is expected to grow only at the rate of population growth averaging 0.7% annually. Despite some growth over the past several years, a relatively small existing employment base (7,135 jobs), coupled with slow expected growth, and only 50% of jobs traditionally occurring in office locations larger than 20,000 sq. ft. indicate that this sector is not expected to be a major driver of office space demand.
Health Care & Social Assistance NAICS Code 62	Strong past growth observed in this sector posting average annual employment increases of 1.3%. Past growth in this sector drove approximately 60,000 sq. ft. of increased occupancy in the city. Going forward an aging population is expected to drive higher average growth of perhaps 1.5% annually. However, only 25% of total employment tends to locate in office locations, therefore future impact on office demand is limited.
Educational Services NAICS Code 61	Past growth has occurred at an average rate of 0.6% per year. Future growth is expected to grow only at the rate of population growth averaging 0.8% annually. 2001 to 2006 period saw a decrease in occupancy in this sector of approximately 60,000 sq. ft. Slow expected growth coupled with only 10% of jobs traditionally occurring in office locations larger than 20,000 sq. ft. indicates that this sector is not expected to be a major driver of office space demand.
Wholesale Trade NAICS Code 41	The 2001 to 2006 period saw declines in employment in the Wholesale sector in the city averaging 3.2% annually and relatively flat occupancy levels. Going forward it is expected that this sector will continue to see modest declines in employment averaging 0.9% annually due to increasing land costs that will push these uses to less expensive areas of the region. Given expected declines in employment, this sector is not expected to drive demand for office floor space.
Manufacturing NAICS Code 31-33	While the City did see an increase in total occupancy in this sector, much of this increase was due to 200,000 sq. ft. of space taken added by Maple Leaf Foods earlier this year. This sector actually saw modest declines in total employment over the past five years and future growth is expected to continue to see modest declines of 0.6% per year. Therefore this sector should not contribute to demand for office space.
Transportation & Warehousing NAICS Code 48-49	A major contributor to the local economy, this sector saw growth of 2.0% over the past five years and future growth is expected to average a strong 1.6% annually. Recent occupancy has been flat, and only a small proportion (5%) of jobs in this sector occur in office locations. Therefore this sector is expected to contribute only modestly to overall office floor space demand.
Construction NAICS Code 23	The real estate boom has driven strong growth (3.2%) in this sector over the past several years. However, long-term growth is expected to be more modest (due to the cyclical nature of the construction industry) averaging near the rate of population growth at 0.8% annually. A small number of jobs in this sector (8,295) and historic distribution which has seen only 10% of jobs in this sector accrue to office areas, suggests that little demand for office floor space derived from this sector.
Utilities NAICS Code 22	This sector represents only a very small number of jobs in the local economy (590) and is expected to grow, though at a rate slower than the overall rate of population growth (averaging 0.4% annually). Given the size of this sector it is not expected to generate significant demand for new office space in the city.
Primary Industry NAICS Code 11 and 21	Also represents only a very small proportion of the local economy (approximately 20 jobs) and it expected to see negative growth (1.6% annually) over the forecast period. Therefore this sector is not expected to contribute to city-wide demand for office space.

SOURCE: HARRIS CONSULTING INC. (2007)

APPENDIX C | MARKET ANALYSIS

METHODOLOGY

Projected Population and Employment Growth in the GTAH

1. The base forecast used was Hemson's "Growth Outlook for the Greater Golden Horseshoe," January 2005. This assumed an annual growth rate of 1.3% until 2031. The analysis was applied only to the "inner core" of the region – the Greater Toronto Area plus Hamilton (GTAH). This growth rate is expected to take the GTAH to approximately 8.6 million people, and 4.3 million jobs.

2. The base for Mississauga's share of this growth was a Hemson report prepared for the City in January 2006. This assumed an annual rate increase of 0.4% residential growth and 0.7% employment. This is expected to result in an increase in population from 693,800 in 2005 to 768,800 in 2031; employment will increase from 381,380 (estimated 2005) to 459,800 in 2031.

Office Floor Space Demand

3. The next step was to forecast office space for the GTAH. This was done using the sector projections in "Flash Forward," prepared by Strategic Projections in 2002 which were adjusted to reflect actual demand for office space. These macro scale estimates were then converted to office floor space requirements, first by estimating the proportion of employment that each sector is known to occupy in office space in buildings larger than 20,000 sq. ft. (1,800 m^2) (relying on data for the GTAH provided by Real Estate Search Corporation), and then by utilizing floor space per employee standards gleaned from a variety of sources (Canada-wide, U.S. and U.K.). The total amount of office space to be developed in the GTAH by 2031 is forecast to be 96 million sq. ft (8,900,000 m^2). Note that because this estimate is constructed *by sector*, the total amount of office floor space is not divisible by any single number representing an average amount of floor space per employee. The sectors principally responsible for influencing demand in the GTAH are summarized below:

4.

Sector	**Projected floor space by 2031**	**Illustrative example**
Professional, Scientific & Technical	2,796,531 m^2 (30.1M sq. ft.)	KPMG
Finance & Insurance	2,275,292 m^2 (24.5M sq. ft.)	ING
Information & Cultural	875,199 m^2 (9.4 M sq. ft.)	IBM
Total	8,941,206 m^2 (96.1M sq. ft.)	

Employment Growth Sectors in Mississauga

5. The next task was to examine the prospects for employment growth in the GTA with a view to identifying those sectors likely to influence demand for office space. Harris Consulting determined the distribution of sector-specific growth within the economy for the GTAH, relying upon

disaggregated data and forecasts contained in Strategic Projections (2002) in order to identify growth rates per sector referencing these sector-based growth rates to the overall employment growth forecast identified by Hemson Consulting.

The following sectors were determined to be the major drivers of demand for office space (a complete discussion of all sectors, including those not expected to influence demand for office space is noted in Appendix A):

Fast growth sectors:

Sector description	Growth rate 2000-2005	Contribution to office growth 2000-2005	Forecast growth rate to 2031	Requirement for office space
Professional, Scientific & Technical	2.2%	550,000 sq. ft.	1.8%	Very strong, with 85% of employment in offices
Finance & Insurance	2.3%	850,000 sq. ft.	2.0%	Very strong, with 80% of employment in offices
Admin & Support Services	1.9%	n/a	1.6%	Strong, with 75% of employment in offices
Information & Cultural	1.3%	200,000 sq. ft. (mostly one company)	1.8%	Strong, with 80% of employment in offices

Sources: "Flash Forward," Strategic Projections (2002) and Real Estate Search Corporation (2007)

Mississauga's Office Demand Forecast

6. The next task was to allocate these office space forecasts to the City of Mississauga. Hemson's estimate of 78,400 jobs by 2031 was disaggregated using an assessment of past growth (2001 to 2005 provided in Hemson's annual employment profiles) by sector and some assumptions related to anticipated future growth areas in the local economy.

Sector	Projected floor space by 2031	Illustrative example
Professional, Scientific & Technical	192,641 m^2 (2.1 M sq. ft.)	Pricewaterhouse Coopers
Finance & Insurance	265,391 m^2 (2.9 M sq. ft.)	Edward Jones
Information & Cultural	97,759 m^2 (1.1 M sq. ft.)	Redknee
Total	972,405 m^2 (10.5 M sq. ft.)	

MARKET ANALYSIS – DETAILED RESULTS

Greater Toronto Area & Hamilton

	Greater Toronto Area & Hamilton			
	2005 Employment (est.)	2031 Employment*	2005 - 2031 Employment Change	Forecasted Growth Rate**
Manufacturing	477,000	650,000	173,000	1.2%
Professional, Scientific & Technical Services	318,000	519,000	201,000	1.9%
Retail Trade	327,000	424,000	97,000	1.0%
Finance & Insurance	223,000	345,000	122,000	1.7%
Health Care & Social Assistance	236,000	339,000	103,000	1.4%
Wholesale Trade	181,000	240,000	59,000	1.1%
Administrative & Support Services	154,000	233,000	79,000	1.6%
Transportation & Warehousing	152,000	230,000	78,000	1.6%
Other Services	140,000	217,000	77,000	1.7%
Educational Services	170,000	204,000	34,000	0.7%
Accommodation & Food Services	164,000	197,000	33,000	0.7%
Construction	148,000	190,000	42,000	1.0%
Information & Cultural Industries	123,000	186,000	63,000	1.6%
Public Administration	103,000	137,000	34,000	1.1%
Real Estate & Leasing	70,000	105,000	35,000	1.6%
Arts, Entertainment & Recreation	58,000	79,000	21,000	1.2%
Utilities	23,000	28,000	5,000	0.7%
Management of Companies & Enterprises	6,000	10,000	4,000	1.7%
Primary Industry	8,000	4,000	-4,000	-3.0%
Total	3,081,000	4,337,000	1,256,000	1.5%

Table C1: Detailed Employment Forecasts by Sector – Greater Toronto Area & Hamilton

	Greater Toronto Area & Hamilton							
	2005 - 2031 Employment Change	Employment Density Ratio		Warranted Floorspace		Percentage Office - based	Office Floorspace Demand	
		m^2 per employee	ft^2 per employee	m^2	ft^2		m^2	ft^2
Manufacturing	173,392	41.8	450	7,248,889	78,026,400	5%	362,444	3,901,320
Professional, Scientific & Technical Services	200,677	18.6	200	3,728,700	40,135,400	75%	2,796,525	30,101,550
Retail Trade	96,635	30.2	325	2,917,748	31,406,375	5%	145,887	1,570,319
Finance & Insurance	122,455	18.6	200	2,275,288	24,491,000	100%	2,275,288	24,491,000
Health Care & Social Assistance	102,936	32.5	350	3,347,073	36,027,600	5%	167,354	1,801,380
Wholesale Trade	59,449	69.7	750	4,142,244	44,586,750	5%	207,112	2,229,338
Administrative & Support Services	78,921	16.3	175	1,283,100	13,811,175	25%	320,775	3,452,794
Transportation & Warehousing	77,784	58.1	625	4,516,481	48,615,000	5%	225,824	2,430,750
Other Services	76,893	23.2	250	1,785,898	19,223,250	25%	446,475	4,805,813
Educational Services	33,774	25.5	275	862,869	9,287,850	5%	43,143	464,393
Accommodation & Food Services	32,609	55.7	600	1,817,685	19,565,400	5%	90,884	978,270
Construction	42,551	20.9	225	889,451	9,573,975	10%	88,945	957,398
Information & Cultural Industries	62,804	23.2	250	1,458,671	15,701,000	60%	875,202	9,420,600
Public Administration	33,862	23.2	250	786,471	8,465,500	50%	393,235	4,232,750
Real Estate & Leasing	35,606	16.3	175	578,883	6,231,050	75%	434,163	4,673,288
Arts, Entertainment & Recreation	21,162	23.2	250	491,504	5,290,500	5%	24,575	264,525
Utilities	4,659	32.5	350	151,492	1,630,650	15%	22,724	244,598
Management of Companies & Enterprises	3,554	23.2	250	82,544	888,500	25%	20,636	222,125
Primary Industry	-4,638	30.2	325	-140,037	-1,507,350	--	--	--
Total	**1,255,085**	**--**	**--**	**38,224,956**	**411,450,025**	**--**	**8,941,193**	**96,242,208**

Table C2: Detailed Office Floor space Demand Forecasts by Sector – Greater Toronto Area & Hamilton

Mississauga

	Mississauga			
	2005 Employment (est.)*	2031 Employment*	2005 - 2031 Employment Change	Forecasted Growth Rate**
Manufacturing	83,295	71,230	-12,065	-0.6%
Professional, Scientific & Technical Services	21,250	33,447	12,197	1.8%
Retail Trade	25,530	31,407	5,877	0.8%
Finance & Insurance	21,210	35,493	14,283	2.0%
Health Care & Social Assistance	15,820	23,298	7,478	1.5%
Wholesale Trade	57,315	45,309	-12,006	-0.9%
Administrative & Support Services	15,110	22,830	7,720	1.6%
Transportation & Warehousing	42,425	64,100	21,675	1.6%
Other Services	10,680	13,833	3,153	1.0%
Educational Services	15,160	18,650	3,490	0.8%
Accommodation & Food Services	16,695	24,534	7,839	1.5%
Construction	8,295	10,204	1,909	0.8%
Information & Cultural Industries	8,915	14,176	5,261	1.8%
Public Administration	7,135	8,554	1,419	0.7%
Real Estate & Leasing	6,345	10,350	4,005	1.9%
Arts, Entertainment & Recreation	2,865	4,219	1,354	1.5%
Utilities	590	655	65	0.4%
Management of Companies & Enterprises	4,740	7,537	2,797	1.8%
Primary Industry	20	13	-7	-1.6%
Other	17,985	19,954	1,969	0.4%
Total	381,380	459,793	78,413	0.7%

Table C3: Detailed Employment Forecasts by Sector – Mississauga

	Mississauga							
	2005 - 2031 Employment Change	Employment Density Ratio		Warranted Floorspace		Percentage Office - based	Office Floorspace Demand	
		m^2 per employee	ft^2 per employee	m^2	ft^2		m^2	ft^2
Manufacturing	-12,065	41.8	450	--	--	15%	--	--
Professional, Scientific & Technical Services	12,197	18.6	200	226,628	2,439,400	85%	192,634	2,073,490
Retail Trade	5,877	30.2	325	177,447	1,910,025	15%	26,617	286,504
Finance & Insurance	14,283	18.6	200	265,387	2,856,600	100%	265,387	2,856,600
Health Care & Social Assistance	7,478	32.5	350	243,155	2,617,300	25%	60,789	654,325
Wholesale Trade	-12,006	69.7	750	--	--	30%	--	--
Administrative & Support Services	7,720	16.3	175	125,512	1,351,000	75%	94,134	1,013,250
Transportation & Warehousing	21,675	58.1	625	1,258,546	13,546,875	5%	62,927	677,344
Other Services	3,153	23.2	250	73,231	788,250	25%	18,308	197,063
Educational Services	3,490	25.5	275	89,164	959,750	10%	8,916	95,975
Accommodation & Food Services	7,839	55.7	600	436,960	4,703,400	5%	21,848	235,170
Construction	1,909	20.9	225	39,904	429,525	10%	3,990	42,953
Information & Cultural Industries	5,261	23.2	250	122,191	1,315,250	80%	97,753	1,052,200
Public Administration	1,419	23.2	250	32,957	354,750	50%	16,479	177,375
Real Estate & Leasing	4,005	16.3	175	65,113	700,875	80%	52,091	560,700
Arts, Entertainment & Recreation	1,354	23.2	250	31,448	338,500	5%	1,572	16,925
Utilities	65	32.5	350	2,114	22,750	10%	211	2,275
Management of Companies & Enterprises	2,797	23.2	250	64,962	699,250	75%	48,722	524,438
Primary Industry	-7	30.2	325	--	--	--	--	--
Other	1,969	--	--	--	--	--	--	--
Total	**78,413**	**--**	**--**	**3,254,718**	**35,033,500**	**--**	**972,378**	**10,466,585**

Table C4: Detailed Office Floor space Demand Forecasts - Mississauga

APPENDIX D | FORECASTED OFFICE GROWTH IN AIRPORT CORPORATE CENTRE & MEADOWVALE

In order to better understand the dynamics of land supply in Mississauga, we undertook an analysis of Meadowvale Business Park and Airport Corporate Centre – the two locations attracting the most new office development since 2000 (63.9% of all office growth located in those two areas).

Meadowvale: Prime vacant lands could be fully developed within a decade.

The total area of Meadowvale is 1,326 hectares (3,278 acres). As a result of rapid development over the past 25 years, only approximately 262 ha (648 acres) remain vacant. If development were to continue at historic levels (the average amount of office development per annum since 1980 is approximately 16,444 m^2 or 177,000 sq. ft), and assuming a building size of 14,865 m^2 (160,000 sq. ft.; based on the size of a typical building constructed since 2000), it would appear that there would be sufficient land for more than 50 years of growth. However, two key issues suggest that the practical growth potential is considerably less:

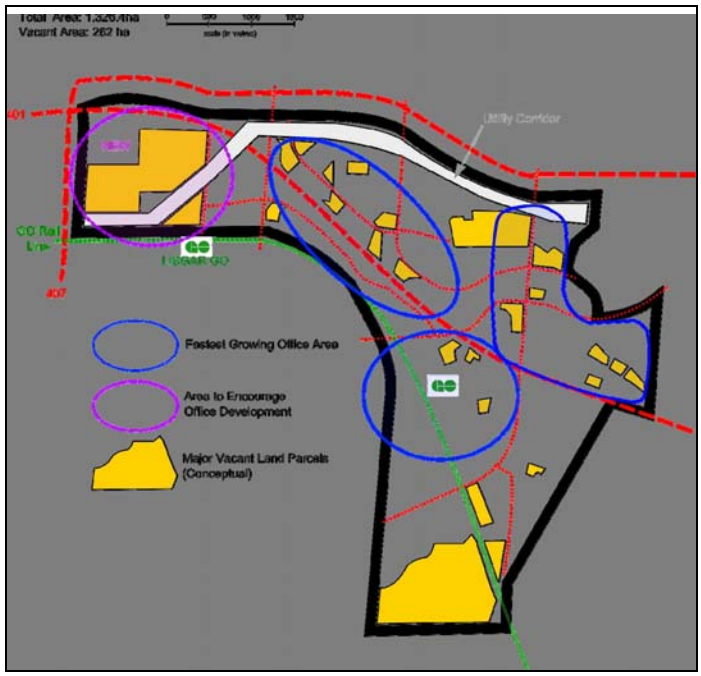


FIGURE D1: Meadowvale Business Park Vacant Land Distribution (Conceptual)
This map identifies fast growing office areas in Meadowvale Business Park. Because of market and land-use reasons, The largest vacant parcels remain outside of the fast growing areas.
SOURCE: City of Mississauga Vacant Land Report, Real Estate Search Corporation, Canadian Urban Institute

- First, many of the remaining parcels scattered throughout the district are too small to accommodate buildings of the desired size (a building of 14,865 m^2 (160,000 sq. ft.) in Meadowvale typically uses approximately 3.3 ha/8.2 acres of land). Their configuration also precludes assembly of adjacent sites to increase developable area.
- Second, many vacant properties in Meadowvale are in less desirable locations within the district. This is illustrated in Figure D1. Taking into account desirable attributes such as accessibility and visibility from the highway, as well as proximity to existing office development, but excluding two large vacant areas at either end of the business park, the "most desirable" vacant land in Meadowvale would be fully developed within a decade.

- The large vacant parcel at the south end of the district is likely to be developed for industrial purposes (so is effectively excluded from the inventory of vacant land). The second large vacant parcel at the north end of the district, adjacent to the Lisgar community, is bisected by a Hydro corridor and is at present somewhat isolated from other office development. When this area is included, we estimate that an additional 18 buildings could be accommodated at current development levels. Since the new Lisgar GO station has now opened, it is important that the area be carefully planned in order to ensure that the lands meet their new potential.

In summary, although on paper the Meadowvale district has sufficient vacant land to accommodate growth for some time, our analysis suggests that the area's potential will only be realized if action is taken to intensify development patterns.

Airport Corporate Centre: Approximately only a decade worth of prime vacant sites are still available

As indicated elsewhere in this report, Airport Corporate Centre (ACC) is assumed by the market to include a portion of the adjacent district, west of Etobicoke Creek. This analysis addresses the combined larger area of the two districts. The combined area is 598 hectares, 98 ha of which is vacant. Unlike Meadowvale, most vacant sites will be relatively straightforward to develop. Buildings in ACC have a wider variety of sizes than in Meadowvale and also rely for the most part on surface parking but also have a number of parking decks. Assuming a building size of 14,865m^2 (160,000 sq. ft), ACC has sufficient vacant land for 10 years. (This estimate does not take into account traffic issues, and assumes that improvements to road access and local transit would be made over time in order to preserve the area's accessibility.)

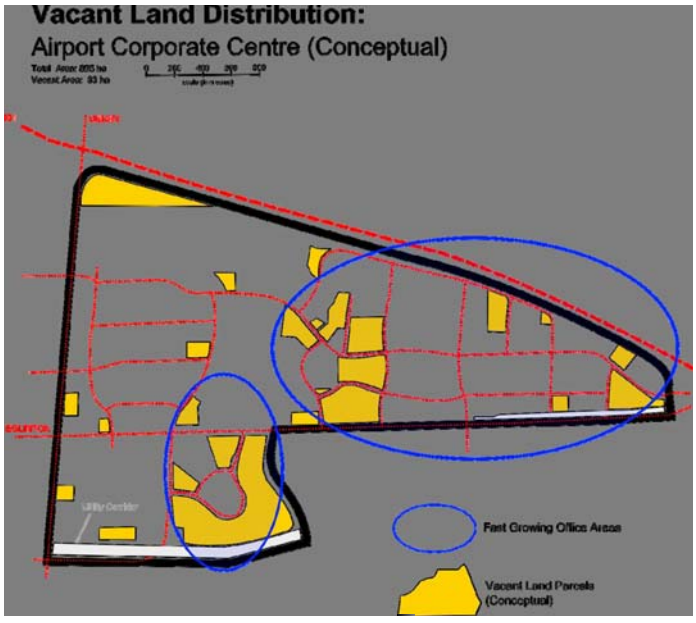


FIGURE D2: Airport Corporate Vacant Land Distribution (Conceptual)

SOURCE: City of Mississauga Vacant Land Report, Real Estate Search Corporation, Canadian Urban Institute

It is worth noting that Airport Corporate Centre is one of the most successful office locations in the GTA, having contributed 40 percent of Mississauga's inventory of new office development since 2000. In light of this, it is worth asking how the City might maximize the district's potential since the market clearly sees qualities in this location that put it in a class of its own.

The employment density of the district is

estimated to be approximately 75 employees per ha (office and other workers, Mississauga Employment Survey). This is more than twice the density of Meadowvale (estimated to be 31 employees per ha). Developing suitable vacant land for office uses at historic levels (based on a linear projection of growth trends between 1980 and 2006) would add approximately 23,500 jobs, increasing employee density for the area to 114 per ha.

The addition of the BRT service will most likely enhance the attractiveness of ACC by encouraging developers to build at higher densities. If vacant lands within 500 m of the BRT were to be developed more intensely at a minimum of 1.0 FSI, this would increase worker density in the BRT corridor to 215 per ha, raising the overall density of ACC to 150 workers per ha.

	Current			Vacant Land Projections			
	Area (ha)	Current Employment (Office + Other Jobs)	Total Employees per ha	Vacant Land (ha)	Potential Office Employees from Vacant Land	Potential Employees from Vacant Land per ha	Total
Airport Corporate (at historic development trends)	598.0	44,735	75	83.2	23,500	39	114
Airport Corporate w/ BRT	598.0	44,735	75	83.2	44,794	75	150

Data Sources:
Mississauga Employment Survey, 2005
Real Estate Search Corp., 2007
Mississauga Vacant Employment Lands, 2007
Mississauga Aerial Photo, 2006

APPENDIX E | TAX INCREMENT FINANCING ANALYSIS

Tax Increment Financing (TIF) is a tool that has had broad application across United States jurisdictions over a long period of time. It has been applied in nearly all states, at least 49 states, under various forms of legislation and terminology for over 50 years. However, in the Ontario context, it is still a new and relatively untried financing tool in Ontario. Used in various forms and legislative applications, it is basically a method that may be used to finance the capital costs of infrastructure or remediation to facilitate or encourage development opportunities that might not take occur, or take place as quickly, without the financial assistance provided by the TIF.

The TIF financial assistance is created by the reallocation of increased property tax revenues that are generated from the new or increased development that would not accrue, or at least accrue as early without the TIF funding being used. In many jurisdictions the "but for" test is applied to approve TIF applications, in that the development would not take place (now or in the near future) "but for" the TIF funding that is used to support the infrastructure or remediation required for the development. The TIF funding is essentially the reallocation of the anticipated increased property taxes generated by the development in the TIF district resulting from the development. Typically the TIF authority will issue bonds to finance the triggering infrastructure and then the TIF revenue (increased property tax revenue) is allocated to pay the debt service for the TIF bond(s). The description above generally describes the TIF mechanism. However, there are variations in the application across the many jurisdictions that permit TIF funding.

Generally, the application of TIF requires the following steps:

- Identification of a TIF opportunity,
- Identify and establish the TIF authority,
- Define the TIF district,
- Undertake a study to ensure that the TIF application is feasible and will be ultimately successful,
- Issue the TIF Bond,
- Undertake the identified TIF works,
- Administer the collection and application of the TIF revenues.

Depending upon the jurisdiction and legislation, a number of approvals may be required at various stages in the above noted generic process.

Ontario Legislation

In Ontario, after a test case was undertaken in applying TIF to the West Donlands Development, the Province passed the Tax Increment Finance Act in 2006. This legislation sets out a number of the key elements required for

a jurisdiction to apply TIFs. The first consideration is to identify what is meant by eligible projects for TIF applications.

The legislation has the following provisions for identifying projects:

An "eligible project" means,

(a) The construction of municipal infrastructure or amenities to assist in,

(i) The redevelopment or intensification of previously developed areas, or

(ii) The development of an urban growth centre identified in a growth plan under the *Places to Grow Act, 2005*,

(b) The environmental remediation of land in a previously developed area, or

(c) The construction of a municipal public transit facility.

Once an eligible project has been identified the Province requires that the jurisdiction undertake a feasibility study that is undertaken to include a number of prescribed elements**:**

Contents of feasibility study

(2) The feasibility study must satisfy the following requirements:

1. The study contains a description of the proposed project.
2. The study identifies the proposed tax increment finance district in which tax increments are expected to occur as a result of the proposed project and contains information relating to the amount of the expected tax increments.
3. The study contains an analysis of the nature and timing of any new development that can reasonably be expected to occur in the proposed tax increment finance district in the absence of the proposed project.
4. The study identifies as the proposed financing authority for the proposed project,
    i. One or more of the municipalities in which the proposed tax increment finance district is located,
    ii. A local board of one of the municipalities referred to in subparagraph i,
    iii. A municipal business corporation created by one or more of the municipalities referred to in subparagraph i, or
    iv. An entity that satisfies the prescribed conditions.
5. The study contains such additional information as may be required by the regulations. 2006, c. 33, Sched. Z.7, s. 2 (2)."

Once the feasibility study has been accepted the project can actually be designated as described below:

"Designation of proposed project

3. (1) After consideration of a feasibility study prepared in accordance with section 2, the Lieutenant Governor in Council may, if the Lieutenant Governor in Council considers it to be in the public interest,

(a) Designate the proposed project for the purposes of being partly funded by the Crown in right of Ontario through tax increment financing if the proposed project is an eligible project;

(b) Establish the tax increment finance district for the designated project;

(c) Authorize the Minister to enter into a funding agreement with respect to the designated project; and

(d) Specify the last year that education tax increments may be used to finance the designated project. 2006, c. 33, Sched. Z.7, s. 3 (1)."

In addition to the specifications in the legislation, it also permits the Minister to make regulations in the areas specified below:

Regulations

6. (1) The Minister may make regulations,

(a) Governing payments by the Minister under a funding agreement;

(b) Prescribing the manner in which tax increments are calculated;

(c) Prescribing types of information and documents to be included in a feasibility study;

(d) Prescribing conditions for the purposes of subparagraph 4 iv of subsection 2 (2);

(e) Prescribing additional restrictions or limits on payments by the Minister under a funding agreement or restrictions or limits on the time or manner of those payments;

(f) Prescribing terms and conditions for the purposes of subsection 4 (3). 2006, c. 33, Sched. Z.7, s. 6 (1)."

Provincial Applications

Although the Provincial legislation does not include an explicit "but for" test, the Province maintains control because any TIF application must be approved by the Province and in order to do so it must follow the requirements set out in the legislation. This, however, does leave some grey areas in situations where TIFs may be applicable. A large part of the Provincial approval and regulations reflects the fact that the Province has an economic stake in TIFs, as it will forgo education property tax revenue for the duration of the TIF funding.

As TIF applications in Ontario are still very new, there is not a history to assess what kinds of initiatives will be permitted, and/or acceptable to the Province in terms of approvals. In discussions with the Province, including those held with the Markham, it would appear that TIF funding would be acceptable for a Municipal Parking Authority application. This application is consistent with, and supports the general goals and objectives of the

Places to Grow Act. In York Region, it would also support the Centres and Corridors initiative, which is also consistent with the Provincial initiatives.

The Parking Authority Application

The rationale for using TIF funding for a parking authority is premised on the fact that the municipality does not wish to have surface parking (which is the cheapest alternative) for a number of design or planning objectives. On the other hand, requiring developers to provide below grade parking may not be financially viable and as seen in Chapter Five, can negatively impact the developer's pro forma. The premise is that all or part of the requisite parking can provided either in deck or below grade parking by a municipal parking authority, which will issue TIF Bonds to finance all or part of the non surface parking. The parking authority could also use undeveloped sites to provide some of the parking at surface level until the site is to be developed. At that point the replacement spaces could be below grade or deck parking. The sources of capital funding for the parking infrastructure would be some combination of TIF Bonds and developer contributions for parking. The bonds would be repaid via TIF revenues and parking revenues that accrue to the authority. Rather than paying the full cost of each non-surface parking space required for their development, developers would make a parking contribution for each space that they are required to provide. As this contribution would be less than the full cost of providing the required parking spaces, their pro-forma becomes more fiscally advantageous and they have the incentive to develop the site.

Risks

As TIF financing is a tool that is new in Ontario in terms of its application, there are some risks that must be considered in undertaking its application. First, will the Province approve the use of TIF for this purpose and will the study be acceptable to the Province? Second, there may be some risk in issuing one of the first TIF Bonds in the Province. In US practice they are widely accepted and bear interest rates very close to the rates of general obligation bonds for each municipality in which they are applied. Third, there is the risk that the anticipated development in the TIF district will not proceed as rapidly as expected which may result in lower TIF revenues than anticipated in the feasibility study. This would lead to problems in meeting the obligations of the TIF bonds. If this occurs the TIF bonds may need to refinanced or extended. However, risk can be managed successfully as has been evidenced in a number of US jurisdictions where TIFs have been applied and proven to be a successful financing mechanism.

APPENDIX F | TRANSIT CASE STUDIES & IMPACTS OF HIGHER ORDER TRANSIT ON DEVELOPMENT AND PROPERTY VALUES

LRT Case Studies

Skytrain/CanadaLine/Evergreen – Vancouver, B.C.

Project Facts:

Date Constructed:	*Expo86 Line*: 1986 *Millennium Line*: 2002 *Canada & Evergreen Lines*: Under Construction[5]
Length of line:	50km (operating)
No. of stations	33
Type of area serviced:	*Urban & suburban*

Project Description

Vancouver's transit system continues to be built around the use of LRT Technology. The Expo86 and Millennium Lines offer SkyTrain service to 49.5km of Greater Vancouver.

SkyTrain is operated by TransLink, the Greater Vancouver Transportation Authority. SkyTrain service operates on elevated tracks thus by-passing traffic and keeping the automated rapid transit system operating on time. Trains operate every 2-8 minutes. Today, two new LRT/Subway lines are being constructed: the Canada Line and the Evergreen Line. The new rapid transit Canada Line will be underground in Vancouver and elevated in Richmond with some segments operating at grade. Presently, the Canada Line (19.5km) is being constructed connecting the SkyTrain system to the Vancouver International airport (opening 2009). [6] The Canada Line is expected to have 100,000 daily riders and has an expected project cost of $2 billion. The Evergreen line connects downtown Vancouver with Port Moody adding an additional 11 km of light rail to the city. Unlike SkyTrain, Canada and Evergreen will operate at-grade.

Figure: TOD and SkyTrain

Transit Oriented Design

The City, TransLink and the Province have teamed up to develop a series of Transit Villages along new LRT and exiting SkyTrain lines. The TransLink Website outlines the design objectives for each transit village based on a typical walking radius to stations. This type demonstrates that LRT can have a significant impact on the urban space through which it passes from a development, intensification, public art, greenway/bikeway, safety, and comfort standpoint.

Impact on Property Values and Development

There are reports that the new Canada Line is already impacting property values in the downtown and along its alignment. It is expected that the Cambie Street corridor from 7th Avenue to Broadway will rapidly redevelop to include intense retail and other uses. [7]

[5] Greater Vancouver Transportation Authorities: http://www.translink.bc.ca/Transportation_Services/SkyTrain/
[6] Canada Line Overview: http://www.canadaline.ca/documents/20070323CanadaLineOverviewversionno5.pdf
[7] Avison Yonge (2007): http://www.avisonyoung.com/library/pdf/Van_Research/AY2007Forecast_-_Vancouver.pdf

Hiawatha - Minneapolis/St. Paul, Minnesota

Project Facts[8]:

Date Constructed:	2004
Length of line:	*Hiawatha Line:* 12 miles
No. of stations	17
Ridership:	10.9 M in first year and a half (65% above projected ridership)
Costs:	*Operating:* $19.9M *Fares (revenue):* $7.2M *Capital/Construction*: $715M
Type of area serviced:	*Urban*

Project Description

The Minneapolis/St. Paul LRT links three major destinations in the twin-city area: the international airport, downtown Minneapolis, and the Mall of America. 16% of the line is shared on-street, 14% in dedicated median, 22% parallel to road, 40% fully separate, and 8% tunnel (airport connection).[9]

Modal Split

Within the first year and a half of operations, rider-ship grew to 10.9 million person-trips, a full 65% above projected targets. Of the riders on the line, 50% of them had switched to transit from another mode of transportation.[4] By October 2005 rider ship had surpassed projections for 2020, reducing competition for parking spaces in the downtown core and road congestion.[10]

Impact on Property Values and Development

In a real estate study conducted as part of the feasibility study for the LRT line, it was determined that the following development and impacts would be caused directly as a result of the of the new LRT line by 2020[4]:

- 7,150 new housing units
- 19,000,000 sq. ft. new commercial/office space
- 68,000 new jobs.

Like the rider ship projections these estimates are already being surpassed. By 2008 more than 12,400 residential units, already approved for development, will be built. For those downtown, the Hiawatha line is considered a huge success, restoring life and activity in the downtown core. Restaurants and retail along the line report significant increases in sales and customers. Finally, the LRT has generated a new attitude and market demand for transit-oriented development (TOD) in Minneapolis, particularly with the aging boomer demographic, younger adults, and immigrants, all of which prefer denser, more compact urban form.[6]

[8] Minneapolis/St. Paul Metro Area, Metro Transit: http://www.metrotransit.org/rail/facts.asp
[9] Toronto LRT Information Page: http://lrt.daxack.ca/Minneapolis/index.html
[10] Metro Council: http://www.metrocouncil.org/directions/transit/transit2006/hiawatha_TODMar06.htm

Tramlink – Croydon, UK

Project Facts[11]:

Date Constructed:	May 2000
Length of line:	29.8 km
No. of stations	39 Stations, 9 with bus/rail interchanges, 1 with London Underground
Ridership:	Approx. 400,000 riders per week. Has increased 46% since first year of operation. Car-use has dropped 19% since introduction of tramway
Costs:	200 million pounds
Type of area serviced:	Suburban

Project Description

Croydon Tramlink[12] is a 29.8 km light rail network serving Croydon, a major population centre in the south of Greater London. The nucleus of the system is a one-way loop through the streets of the town centre, with three lines radiating from the town centre out to Wimbledon, Addington and Beckenham Junction. Much of the network uses former rail lines. There are 24 tramcars in the fleet. During Monday-Saturday, trams run every 6-7 minutes on the Addington line, and every 10 minutes on the other two lines, combining to give a tram every 1-6 minutes along the town centre loop.

Modal Split

There are approximately 400,000 riders per week. Ridership has increased 46% since the first-year of operation, while car-use has dropped 19%.

Impact on Property Values and Development

The Croydon light rail scheme has encouraged an excess of 2 billion pounds of inward investment into the area, including two major retail developments, an arena and office developments, a rebuilt and redeveloped major concert hall, two multi-screen cinema complexes, and a myriad of bars, restaurants, and housing developments.

Since the Tramway was built, residential property prices in Croydon have increased by 14% more in those areas close to the tram.

[11] Croydon Tramlink Website: http://www.thetrams.co.uk/croydon/
[12] Light Rapid Transit Forum: http://www.lrtf.org.uk/facts.php

Luas – Dublin, Ireland[13]

Project Facts[14]:

Date Constructed:	2004
Length of line:	23km across two lines.
No. of stations	36 stations
Ridership[15]:	26 million in 2006 (~500,000 week), up 18% from 2005.
Costs[16]:	$775 million Euros
Type of area serviced:	*Urban*

Project Description

The first two routes of the "Luas" light rail network (Luas is the Gaelic word for 'speed') in Dublin opened in 2004, with several more planned over the next decade. The initial two lines are independent of each other, both terminating in the City Centre, but are not interconnected yet. There are plans to connect the two lines by 2008. As well as linking to national and suburban rail services, Luas is designed to integrate with buses, cycling, and pedestrian routes.

Modal Split

As of 2005, the modal split in Dublin was 44% car, 56% transit.[17] Of the transit riders, 30% were using the new Luas service. The remaining 70% were still using the existing bus service during their daily commute. Just 8 years ago, the modal split in Dublin was 27% transit, 73% car during the AM peak hours. [18]

Impact on Property Values and Development

There have been several new mixed-use developments proposed within short distances of the new Luas stations. The first, Arena Court, at the terminus of the Red Line, is a development that consists of residential, retail, office space, and a four-star hotel and leisure centre. Another new development, "the Paddocks at Adamstown" is in a 'strategic development zone', which is an area slated to be revitalized through various government incentives and initiatives. The development will also see new apartment complexes and neighbourhood amenities built.

Homes close to proposed Luas lines saw an additional 15% rise in value over and above the general increase in Dublin during the period of 2002-2004. Data since the lines have been complete is unavailable.

[13] http://www.trekearth.com/gallery/Europe/Ireland/photo227978.htm
[14] Railway Technology – Dublin Luas Project Overview: http://www.railway-technology.com/projects/dublin/
[15] Metro Ireland: http://www.metroireland.ie/sowhy.htm
[16] Railway Procurement Agency, Annual Report, 2007: www.rpa.ie/upload/documents/RPA%202004%20Annual%20Report%20Supplement.pdf
[17] http://www.metroireland.ie/sowhy.htm
[18] Finfacts Ireland, Juy 13, 2007 http://www.finfacts.com/irelandbusinessnews/publish/article_1010589.shtml

San Diego Trolley – San Diego, California

Project Facts[19]:

Date Constructed:	Two lines constructed 1981, new third line opened in 2005.
Length of line:	Three lines combine for 85.3km
No. of stations	67 stations
Ridership:	25.4 million riders in 2002, ~489,000 per week.
Costs[20]:	$751 million
Constructed:	Two lines constructed 1981, new third line opened in 2005
Type of area serviced:	*Urban*

Project Description

The San Diego Trolley light rail system has been in operation for over 25 years, with the newest line, the Orange Line, built in 2005. Trains run every 15 minutes, with 7.5-minute frequencies on the Blue Line during the AM and PM peak commute.

Modal Split

San Diego currently sees only 7% of its peak hour commutes taken on transit.[21]

Impacts on Property Values and Development

The addition of the Orange Line has coincided with a large-scale revitalization plan for downtown San Diego. So far, the City's Strategic Framework Element has seen the arrival of a new, 42,000-seat state-of-the-art baseball stadium, thousands of condominium units, hotels and apartment buildings in the downtown. There are many more plans to incorporate housing, shopping, and jobs into mixed-use projects along transportation corridors.

[19] San Diego Metropolitan Transit System, San Diego Trolley Technical Fact Sheet, http://www.sdcommute.com/agencies/MTS/SDTI/PDFs/sdtiTechFSsept2002.pdf
[20] Reason Public Policy Institute: "Does Transit Really Work?" http://www.rppi.org/transportation/ftebrief101.html
[21] Centre for Neighbourhood Technology, San Diego Case Study: www.nhc.org/pdf/chp-pub-hl06-**sandiego**.pdf

Finch and Yonge Looking North from the South-west Corner, 1972.

Comparison 1: Finch Avenue and Yonge Street, 1973-2007.

The Yonge Street subway line was extended to Finch Avenue in 1974. Strip-malls and low-density development lined Yonge Street until after the line was introduced (above). By 1986, phase one of the North American Centre had been completed adding more than 500,000 square feet of office space to the North York office market (below). Shortly thereafter another 500,000 square feet would be added with the construction of the Centre's North Tower. A number of other high-density office and residential developments were built during the same time period. The area continues to attract development today.

Finch and Yonge Looking North from the South-west Corner at the North American Centre's south tower, built in 1986. (2007)

Facing north on Yonge towards Davisville[22] (1923)

Facing South on Yonge from Davisville[23] (1954)

Facing south-west towards 'Brentwood Towers' from atop the new TTC Head Office, built in 1959[24] (1961)

Comparison 2: Davisville Avenue, 1923-1961, 2007.

Development in the Davisville area was limited until after the opening of the new transit system in 1954. As these images demonstrate, north-Toronto remained under-developed prior to the introduction of a transit system. Even the mass-adoption of the automobile did not affect the area's growth significantly (top right). As the benefits of the rapid transit system became obvious, developers rushed to construct new office buildings and housing. By 1960 the entire area was transformed into a high-density neighbourhood (bottom left). The five building apartment tower complex, Brentwood Towers (shown), entered construction shortly after the opening of the subway and was completed within five years. The development of the new TTC Head Office in 1959 helped to incubate additional office development along Yonge Street. Today (bottom right) the neighbourhood has become intensified and is a vibrant mixed use (office, residential, and retail) area.

Facing South on Yonge from Davisville (2007).
TTC Head Office is seen on the far right.

[22] City of Toronto Archives, Fonds 1231, f1231_it1684, 1923.
[23] City of Toronto Archives, Series 381, s381_fl0281_id11462-2, 1954.
[24] City of Toronto Archives, Series 648, s0648_fl0087_id0001, 1961.

Densities at Yonge & Eglinton: 420 residents & jobs / ha

Yonge & Eglinton

2001 Estimates

Residents

People: 17,108

Area: 85 hectares

People per hectare: 201.3

Office Jobs

Office Square Footage: 3,731,195 square feet

Employment Density: 200 sq. ft per worker

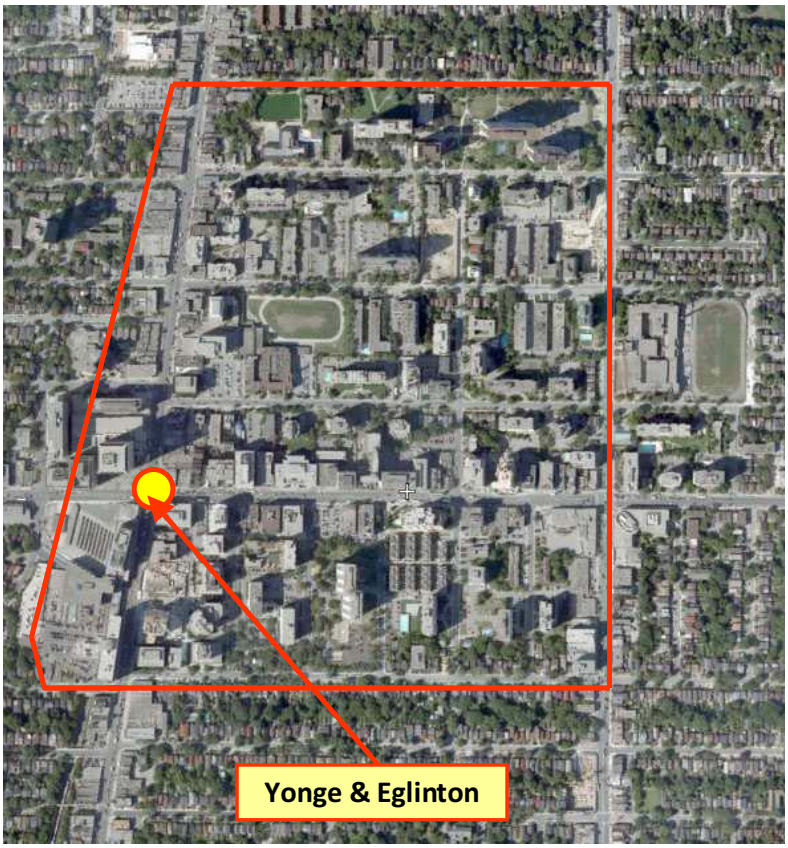
Estimated # of Office Jobs: 18,665

Office Jobs per hectare: 219.5

Office Jobs & People per hectare: 420.8

Source: Statistics Canada, 2001 Census

Census Tracts: 136.01, 136.02



An example of 200 residents & jobs / ha

Hypothetical downtown streetscapes depicting the Growth Plan's density targets for urban growth centres (above: density of approximately 200 residents and jobs combined per hectare)

This visualisation demonstrates the scale and density of buildings required to achieve the 200 residents and jobs per hectare target set by the provincial government. Currently, Mississauga's Urban Growth Centre has achieved 80% of this target.

Source: Ontario Growth Secretariat, Ministry of Public Infrastructure Renewal.

Review of Literature Associated with Transit and Land Value Impacts:

Land values are impacted by a number of factors including location, safety and nuisance. They are the product of the land's perceived benefit, such as accessibility, versus those factors that are considered to be detrimental, such as pollution. When studying residential property value the accessibility of residents to employment, cultural, and retail destinations becomes the major influencing factor. For example, benefits such as a shorter commute time between the home and work positively impact land values. However, commute time is but one feature of the accessibility equation and a number of other factors exist, including convenience, comfort, mode, and frequency (for public transit).

For commercial retail and office properties, improved accessibility to transit implies greater access to store patrons and superior access to the labour force. Office properties often experience larger land value increases than other land uses as a result of transit provision "because office buildings tend to cluster more in dense concentrations".[25] Today, new value-added services and technologies on transit such as the provision of wireless-internet may further enhance the perceived benefits of transit, encourage readership, and impact office and residential land values.

However, any study of land values as they relate to transit must also take into account nuisance and safety factors as well as other benefits that may be related to new infrastructure such as the up-zoning of adjacent properties. Moreover, transit infrastructure, if implemented without appropriate consideration for urban design, noise mitigation and vibration control, along with a number of other nuisance factors, can have a negative influence on land values in certain areas and land uses. One study conducted by Price Waterhouse Coopers for the City of Vancouver demonstrate, on a micro level, that adjacent single-family homes could experience a decline in land value as a result of these nuisance impacts.[26]

On a macro level, average property values surrounding station areas consistently increase for both office and residential uses in studies conducted in Atlanta, [27] Boston,[28] New York, Portland,[29] San Francisco,[30] and Washington D.C.[31] For office properties and prospective office developers land values are affected not only by increased accessibility and the market but also the relative attractiveness of locations near stations.[32] Therefore, urban design must be taken into account in conjunction with the installation of transit infrastructure in order to have the greatest impact on land values.

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[25] Roderick Diaz (1999). Impacts of Rail Transit on Property Values from the conference proceedings of the *American Public Transit Association*.
[26] Price Waterhouse Coopers (2001). Review of Property value Impacts at Rapid Transit Stations and Lines. Technical Memorandum 6. Richmond: Vancouver Rapid Transit Project, April 3, 2001.
[27] D. Bows, & R. Ihlanfeldt, (2001). Identifying the Impacts of Rail Transit Stations on Property Values. *Journal of Urban Economics*, Vol. 50.
[28] N. Baum-Snow & M. Kahn (2001). The Effects of Public Transit Projects to Expand Urban Rail Transit in *Journal of Public Economics,* Vol. 77, No. 1.
[29] M. Al-Mosaind, et. al. (1992). Light Rail Transit Stations and Property Values: A Hedonic Price Approach presented to *Transportation Research Board*, 72nd Annual Meeting, Portland
[30] Cambridge Systematics (1998). *Economic Impact Analysis of transit Investments: Guidebook for Practitioners.* TRB Report 35, Transit Cooperative Research Program, Transportation Research Board.
[31] J. Benjamin & S. Sirmin (1996). Mass Transportation, Apartment Rent, and Property Values in *Journal of Real Estate Research*, Vol. 12, No. 1.
[32] P. Brinkerhoff (2001), The Effects of Rail Transit on Property Values: A Summary of Studies, research carried out for NEORail II, Cleveland, Ohio.

The literature demonstrates that transit provision improves accessibility and therefore impacts land values. Lands zoned for office uses are most directly impacted because of the agglomeration tendencies that office centres experience. Cities with clearly defined transit centres often experience "lower vacancy rates, high absorption rates, and larger office buildings" where permissive zoning and a growing economy exist than cities without a transit presence.[33] Furthermore, higher order fixed transit (LRT, heavy rail) provides developers and financiers a higher level of certainty when calculating accessibility relative to bus routes where service can easily be altered.[34] As risks associated with a property are reduced the development of that property becomes increasingly feasible.

In Buffalo, homes within a one-quarter mile radius of an LRT station experience land values between four and eleven percent higher than the city's median assessed value[35]. In San Francisco, per square foot rents for office space are thirteen cents higher for buildings located within 2,000 feet of a transit station. Finally, a new LRT in Santa Clara was responsible causing significant "capitalization benefits" in "commercial-retail and office properties… on the order of 23% for a typical … parcel."[36] Such statistics demonstrate the positive impact transit can have on land values in cities and thus the important role that higher order transit can play in the development and intensification of land uses within those cities. While increased land values encourage development they also provide a higher assessment base for municipalities and new financing tools for infrastructure through the use of land value capture techniques.

[33] R. Cervero (1994). "Rail Transit and Joint Development: Land Market impacts in Washington, D.C and Atlanta" in *Journal of the American Planning Association,* Vol. 60, No. 1.
[34] W. Barker (1998). Bus Service and Real Estate Values presented for the 68th Annual meeting of the Institute of Transportation Engineers, Toronto.
35 D. Hess & T. Almeidaa (2006). Impact of Proximity to Light Rail Rapid Transit on Station-Area Property Values produced for the Transportation Research Board's 85th Annual meeting.
36 R. Cervero & M. Duncan (2002). "Transit's Value Added: Effects of Light Commercial Rail Services on Commercial Land Values" presented at Transportation Research Board, 82nd Annual Meeting.

APPENDIX G | PRO FORMA ANALYSIS

A pro forma analysis was undertaken to compare two development scenarios: one to compare office development in two areas of Mississauga (City Centre and Airport Corporate) and the other to compare office to residential development in the City Centre.

In recent years, most office development in Mississauga has occurred around highway 401, in the Meadowvale and Airport Corporate areas. While Airport Corporate has seen over 128% growth in the amount of office space since 1993, City Centre has not seen any new office construction during that time.

The second pro forma analysis was also undertaken to investigate the relative feasibility of office development versus residential development in Mississauga City Centre. Instead of recent development of office space in City Centre there has been a large amount of high-rise residential developments. This analysis was undertaken to see if residential is more profitable than office in City Centre, as it appears it is given the current trend of development in the area.

Each of these scenarios was compared to determine how a hypothetical office development fares in terms of attractiveness to an investor, relative to the current development trends taking place in Mississauga.

Methodology

The office portions of the pro forma analyses (hard and soft costs) were undertaken by collecting information from three types of sources:

1) Interviews with developers
2) Market-specific consulting reports
3) Municipal sources

Mississauga-specific characteristics (rents and vacancy rates) for both the City Centre and Airport Corporate districts were taken from recent consulting studies and Real Estate Quarterly reports. Municipally influenced inputs, such as permit fees, development charges, and parking requirements were taken from the City of Mississauga online resources. These streams of information were gathered together and carefully laid into a time-horizon, with transformations made to reflect the time-cost of money (discount rate), and the financing component of the investment from the developer's perspective.

The bulk of the figures used in the residential portions of the pro forma analysis were largely derived from interviews with residential developers and industry reports on the Mississauga condominium market. Given the nature of condominium development from a developer's perspective, the time-horizon of the residential pro-forma was much shorter, and only focused on the period up until the building is completed and then turned over to a condo management firm. From these inputs, an overall project feasibility was determined using Internal Rate of Return (IRR), and the directional component of Net Present Value (NPV).

Results of Scenario 1: Office Development in City Centre and Airport Corporate Centre

Description

The comparison of the development feasibility of sites in both Airport Corporate and Mississauga City Centre show that the Airport Corporate development site would be a better investment given the development of a hypothetical 170,000 sq. ft. office building on a 1.36-acre site in City Centre, and a 5.5-acre site in Airport Corporate.

Assumptions

There are several assumptions at the centre of the baseline scenario. First, parking is assumed to not be a revenue generator for the building operators. Second, each office building is to be sold after the 10th year, to incorporate the project's value appreciation into the developer's overall return. The building value is based on the average net operating income generated by the revenue sources of the building, meaning that it incorporates all of the revenue generated by the operation of the building, without taking any debt financing into account. The third assumption is that the parking structure is built and operated by the developer. The parking structure is also included in the price going to the developer upon the assumed sale of the building. Fourth, it was assumed that the parking requirements in the new draft zoning by-law would come into effect unchanged.

Scenario Distinctions

The key difference between the two developments is the cost of land. While land costs are higher per acre within City Centre ($1.5 million versus $850,000 per acre for Airport Corporate), the additional land required to accommodate a development with surface parking in Airport Corporate creates a total land cost nearly three times that of City Centre. Another key difference is the vacancy rate, which is lower for office sites in Airport Corporate, at 9.0%, versus 11.5% for sites in Mississauga City Centre, according to a JJ Barnicke Q1 2007 Report. Finally, the costs of building the parking lot for each building vary, at $35,000 per space for the underground structure at City Centre, and just $1,500 for the surface lot in Airport Corporate. Land costs have not been included in this cost per parking space figure, as they have been broken out separately in the pro forma.

Results

To compare the relative feasibility of each scenario, the difference in revenues and costs per square foot were compared, providing a return per developable square foot. In addition, the percent return each development provided above costs was used to see the return on investment a developer could expect in each scenario. The results for the initial run of the pro forma show that despite significantly higher land costs, an office development in Airport Corporate with surface parking is more economically desirable than a similarly sized development in City Centre with underground parking.

Sensitivity Analysis

A sensitivity analysis reveals that if the rents in City Centre were to increase from $30.00 to $33.25 per sq. ft. (an increase of 10.8%), the City Centre scenario would match Airport Corporate in terms of desirability for an investor. Conversely, a drop in rent in the Airport Corporate scenario to $26.83 per sq. ft. / per month would also make the two scenarios roughly equivalent to one another.

Office Development in the City Centre vs. Airport Corporate

		Mississauga - City Centre - Office Development		Mississauga - Airport Corporate - Office Development	
Office Building & Area Statistics	Units				
Size of Building	sq ft	170,000		170,000	
Gross Floor Area	m^2	15,802		15,802	
Parcel Size	acres	**1.36**		**5.50**	
Parcel Size	ha.	**0.55**		**2.23**	
Land Value	$	1,359,000		3,850,000	
Gross Leasable Area	sq ft	139,400		139,400	
Vacant Area	sq ft	16,031		12,546	
Net Leased Area	sq ft	123,369		126,854	
Number of Parking Spaces	#	506		506	
Capitalization Rate	%	6.50%		6.50%	
Surface Parking Cost	per stall	$1,500.00		$1,500.00	
Deck Parking Cost	per stall	$25,000.00		$25,000.00	
Underground Parking Cost	per stall	$35,000.00		$35,000.00	
Land Value	per acre	**$1,500,000.00**		**$850,000.00**	
Vacancy Rate	%	**11.5%**		**9.0%**	
Percentage Rentable Area	%	82.0%		82.0%	
Carrying/Construction Period	months	26		26	
(4) Parking Requirement	spaces/100m^2 GFA	**3.2**		**3.2**	
Discount Rate	%	7.0%		7.0%	
Financing Rate	%	6.25%		6.25%	
Percent Equity Provided	%	20.0%		20.0%	
Years on Loan	yrs	25		25	
Escalator: Operating Costs	%/yr	2.5%		2.5%	
Escalator: Rental Rates	%/yr	3.0%		3.0%	
Revenues					
Gross Monthly Rent	$	$2.50		$2.50	
(1) Gross Revenue Per Parking Stall Per Month	$	$0.00		$0.00	
(2) Building Sale After Year	years	10		10	
Discounted Building Sale Price	$	$26,165,404		$17,675,831	
Costs of Operation					
Property Tax	$/month	$126,775.55		$85,642.22	
Operating Costs	$/month	$107,454.17		$107,454.17	
Total Monthly Ongoing Costs	per sq ft / total	**$234,229.72**		**$193,096.39**	
Construction Hard Costs					
Base Building Cost	per sq ft / total	$130.00	$22,100,000.00	$130.00	$22,100,000.00
Land Purchase Costs	per acre / total	$1,500,000.00	$2,038,500.00	$850,000.00	$4,675,000.00
Parking Type		Underground		Surface	
(3) Is Parking Structure Paid for by Developer?		YES		YES	
Total Cost of Parking Structure			$17,698,786.00		$758,519.40
Total Hard Costs	per sq ft / total	**$246.10**	**$41,837,286.00**	**$161.96**	**$27,533,519.40**
Construction Soft Costs					
Development Charges	per ft^2 / total	$11.96	$2,033,200.00	$11.96	$2,033,306.07
Architects Fees	per ft^2 / total	$2.00	$340,000.00	$2.00	$340,000.00
Consultants Fees	per ft^2 / total	$2.00	$340,000.00	$2.00	$340,000.00
Permits	per ft^2 / total	$0.21	$35,039.85	$0.21	$35,039.85
Realty Taxes per month	per ac. / total	$6,000.00	$85,794.98	$6,000.00	$347,220.28
Legal Costs	flat fee	$50,000.00	$50,000.00	$50,000.00	$50,000.00
Planning Consultant	flat fee	$25,000.00	$25,000.00	$25,000.00	$25,000.00
Marketing Program	flat fee	$40,000.00	$40,000.00	$40,000.00	$40,000.00
Project Management	flat fee	$40,000.00	$40,000.00	$40,000.00	$40,000.00
Broker's Commission	per ft^2 / total	$7.00	$1,190,000.00	$7.00	$1,190,000.00
Contigency	per ft^2 / total	$10.00	$1,700,000.00	$10.00	$1,700,000.00
Developers Fee	% of land value	3%	$40,770.00	3%	$115,500.00
Listing Broker Fee	per ft^2 / total	$10.00	$1,700,000.00	$10.00	$1,700,000.00
Tenant Improvement	per ft^2 / total	$30.00	$5,100,000.00	$30.00	$5,100,000.00
LEED	per ft^2 / total	$7.00	$1,190,000.00	$5.00	$850,000.00
Project Financing	per ft^2 / total	$7.00	$1,190,000.00	$7.00	$1,190,000.00
Total Soft Costs	per sq ft / total	**$88.82**	**$15,099,804.83**	**$88.80**	**$15,096,066.20**
Total Costs	per sq ft / total	**$334.92**	**$56,937,090.82**	**$250.76**	**$42,629,585.60**
Results					
NPV of Investment Revenue	**per square ft**	$295.49		$249.68	
NPV of Development Cost	**per square ft**	$296.07		$231.64	
Surplus	**per square ft**	-$0.58		$18.04	
Return on Investment	%	**-0.196%**		**7.789%**	

Assumptions:

(1) Free Parking for building occupants (no parking revenues)

(2) Building Sale is assumed after the 10th year

(3) Parking Structure is built and developed by Office developer, and included in the assumed sale after the 10th year

(4) The new draft zoning by-law comes into effect as currently constructed, bringing the parking requirement in City Centre development down to 3.2 spaces/100m^2 Gross Floor Area, from 4.57

Results of Scenario 2: Comparing Office with Residential Development in City Centre

Description

The office development in Scenario 2 was taken to be the same as in Scenario 1, a 170,000 sq. ft. building, on a 1.36-acre plot of land in Mississauga City Centre. The residential building is assumed to be built on the same site as the office building, but to a size of 360,000 sq. ft., which is a fairly typical condominium development size for Mississauga City Centre over the past several years. The residential building is assumed to contain 433 units.

Assumptions

The pro forma model was based upon several key assumptions. First, parking was assumed to be free for office tenants (and their employees) and, for the residential building, bundled into the price of the condo unit by the residential developer, as is currently the case for nearly all of the condominiums built in Mississauga today. Second, a sale of the office building is assumed after the 10th year, helping incorporate the project's value appreciation into the developer's overall return. Third, it is assumed that the parking requirements in the new draft zoning by-law will come into effect as they are proposed, at 3.2 spaces per $100m^2$. Fourth, the residential building size used (360,000 sq. ft.) is a fairly typical development size for the projects already built, or proposed for City Centre. Fifth, all of the condominium building's units are assumed to be sold prior to construction, with a 25% down payment arriving at the first month of construction, and the remaining 75% arriving in the final month of the construction period. Sixth, all costs (construction and otherwise) for the residential buildings were assumed to arrive in uniform increments across the entire construction period of 26 months. Lastly, the size of the units in the building, the proportion of unit types, and the estimated sale price (based on per sq. ft.) were taken from a March 2007 RealNet Sub-Market Report, which outlined such key characteristics of condo development in Mississauga.

Scenario Distinctions

Aside from the type of land-use, the key distinction between the two developments is building size. The smallest building (by number of units) currently proposed for City Centre would contain 274 units, with many exceeding 400 units. The office scenario is based on a much smaller building size of 170,000 sq. ft., similar in size to some of the office buildings on site there today. The second key distinction is the amount of parking required. Based only on the spaces required for the unit occupants, the residential building would require slightly fewer spaces overall, at just 489, compared to 506 for the office building. When visitor-parking requirements are included in the parking provision, an additional 108 parking spots are required, bringing the total for the building up to 597. However, while the absolute number of spaces is higher than the office building, the number of spaces actually allotted per 100 square metres of for the residential building GFA is just 1.78, compared to 3.2 for the office building.

Results

The results of the Scenario 2 pro forma proves that residential development in Mississauga City Centre is more desirable for investors, given the larger buildings that residential developers have been constructing in City Centre, and are likely to continue building. The residential development in City Centre is 360,000 sq. ft., 111% larger in size than the office development used in this scenario (170,000 sq. ft.). Yet with a cost that is 127% higher than the office development. In spite of these cost disadvantages, the residential development in City Centre is still a significantly better investment, yielding a return on investment of 8.904%, compared to -0.196% for the office development. This result can be attributed to the amount of revenue each type of development

can attract, and the timelines in which the respective revenues are received. Within 10 years of operation, based on a rent price of $30.00 per square foot per year, the office developer will receive rent revenues (in present value terms) at $232.22 per occupied square foot. This pales in comparison to the condo developer who will receive $340.00 per square foot. The residential developer will receive 25% of this amount during the first month of construction, and the remaining 75% at the end of the construction period, so they avoid the problems with discounted value of their revenue stream that the office developers encounter across the much longer investment period an office building has. This disparity in the amount, and timing of revenues, is the primary reason why a residential development is more attractive to investors than office development in Mississauga City Centre.

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Office vs. Residential Development in City Centre

Office Building & Area Statistics	Units	Mississauga - City Centre - Office Development		Mississauga City Centre - Residential Development		Units	Office Building & Area Statistics
Square Footage of Building	ft^2	170,000		360,000		ft^2	Square Footage of Building (4)
Square Metres of GFA	m^2	15,802		33,445		m^2	Square Metres of GFA
Gross Acres of Development	acres	**1.36**		**1.36**		acres	Gross Acres of Development
Gross Hectares of Development	ha.	**0.55**		**0.55**		ha.	Gross Hectares of Development
Total Land Cost	$	1,359,000		1,360,000		$	Total Land Cost
Gross Leasable Area	ft^2	139,400		313,200		ft^2	Gross Leasable Area
Vacant Area	ft^2	16,031		46,800		ft^2	Common Area
Net Leased Square Footage	ft^2	123,369					
Number of Parking Spaces	#	506		580		#	Number of Parking Spaces
Capitalization Rate	%	6.50%					
Underground Parking Cost	per stall	$35,000.00		$35,000.00		per stall	Underground Parking Cost
Land Value	per acre	**$1,500,000.00**		**$1,500,000.00**		per acre	Land Value
Vacancy Rate	%	**11.5%**					
Percentage Rentable Area	%	82.0%		87.0%		%	Percentage Non-Common Area
Carrying/Construction Period	months	26		26		months	Carrying/Construction Period
(4) Parking Requirement	spaces/100m^2 GFA	**3.2**					
Discount Rate	%	7.0%		7.0%		%	Discount Rate
Financing Rate	%	6.25%		6.25%		%	Financing Rate
Percent Equity Provided	%	20.0%		20.0%		%	Percent Equity Provided
Years on Loan	yrs	25		433		#	Number of Units
Escalator: Operating Costs	%/yr	2.5%		219		#	Number of 1-Bedroom Units
Escalator: Rental Rates	%/yr	3.0%		196		#	Number of 2-Bedroom Units
Percent Equity Provided	%	20.0%		18		#	Number of 3-Bedroom Units
				706		ft^2 (incl common area)	Size of 1-Bedroom Units
				936		ft^2 (incl common area)	Size of 2-Bedroom Units
				1,200		ft^2 (incl common area)	Size of 3-Bedroom Units
Revenues							**Revenues**
Gross Monthly Rent	$	$2.50		$240,040.00		per unit	1-Bedroom Unit Sales
(1) Parking Revenue	per stall/month	$0.00		$318,240.00		per unit	2-Bedroom Unit Sales
(2) Building Sale After Year	years	10		$408,000.00		per unit	3-Bedroom Unit Sales
Discounted Building Sale Price	$	$26,165,404		$52,632,000.00		$	Total Revenues - 1-Bedroom
				$62,424,000.00		$	Total Revenues - 2-Bedroom
				$7,344,000.00		$	Total Revenues - 3-Bedroom
				$122,400,000.00		$	Total Revenues (5)
Construction Hard Costs							**Construction Hard Costs**
Base Building Cost	per ft^2 / total	$130.00	$22,100,000.00	$146.00	$52,560,000.00	per ft^2 / total	Base Building Cost
Land Purchase Costs	per acre / total	$1,500,000.00	$2,038,500.00	$1,500,000.00	$2,040,000.00	per acre / total	Land Purchase Costs
Parking Type		Underground		Underground			Parking Type
Total Cost of Parking Structure	$		$17,698,786.00		$20,306,814.67	$	Total Cost of Parking Structure
Total Hard Costs	per ft^2 / total	**$246.10**	**$41,837,286.00**	**$208.07**	**$74,906,814.67**		**Total Hard Costs**
Construction Soft Costs							
Development Charges	per ft^2 / total	$11.96	$2,033,306.07				
Architects Fees	per ft^2 / total	$2.00	$340,000.00				
Consultants Fees	per ft^2 / total	$2.00	$340,000.00				
Permits	per ft^2 / total	$0.21	$35,039.85	$15.45	$5,562,717.00	per ft^2 / total	Permits & Charges
Realty Taxes per month	per ac. / total	$6,000.00	$85,794.98	1.5%	$1,836,000.00	%	Agent Fees
Legal Costs	flat fee	$50,000.00	$50,000.00	1.0%	$1,224,000.00	%	Promotion
Planning Consultant	flat fee	$25,000.00	$25,000.00	0.2%	$183,600.00	%	Conveyancing
Marketing Program	flat fee	$40,000.00	$40,000.00	$85.00	$30,600,000.00	per ft^2 / total	Soft Costs
Project Management	flat fee	$40,000.00	$40,000.00				
Broker's Commission	per ft^2 / total	$7.00	$1,190,000.00				
Contigency	per ft^2 / total	$10.00	$1,700,000.00				
Developers Fee	% of land value	3%	$40,770.00				
Listing Broker Fee	per ft^2 / total	$10.00	$1,700,000.00				
Tenant Improvement	per ft^2 / total	$30.00	$5,100,000.00				
LEED	per ft^2 / total	$7.00	$1,190,000.00				
Project Financing	per ft^2 / total	$7.00	$1,190,000.00	$33.41	$12,026,415.93	per ft^2 / total	Project Financing / Interest Costs
Total Soft Costs	per ft^2 / total	**$88.82**	**$15,099,910.89**	**$142.87**	**$51,432,732.93**	per ft^2 / total	**Total Soft Costs**
Total Costs	per ft^2 / total	**$334.92**	**$56,937,196.89**	**$350.94**	**$126,339,547.60**	per ft^2 / total	**Total Costs (6)**
Results							**Results**
NPV of Investment Revenue	**per square ft**	$295.49		$298.17		**per square ft**	**NPV of Investment Revenue**
NPV of Development Cost	**per square ft**	$296.07		$273.79		**per square ft**	**NPV of Development Cost**
Surplus	**per square ft**	-$0.58		$24.38		**per square ft**	**Surplus**
Return on Investment	%	**-0.196%**		**8.904%**		%	**Return on Investment**

Assumptions:

(1) Free Parking for building occupants (no parking revenues)

(2) Building Sale is assumed after the 10th year

(3) The new draft zoning by-law comes into effect as currently constructed, bringing the parking requirement in City Centre development down to 3.2 spaces/100m^2 Gross Floor Area, from 4.57

(4) Residential Building Size based upon typical development in Mississauga City Centre

(5) Condominium Units are assumed to be sold before construction commences, with 25% down payment arriving at beginning of construction, remaining 75% during last month of construction

(6) All costs were assumed to arrive in uniform increments across the entire construction period

Results of Scenario 3: Comparing the Effects over Various Incentive Options

Chapter five of the report proposes a number of financial and non-financial tools that the City of Mississauga can use to offset the current low (negative) rate of return to developers interested in constructing offices in the City Centre as scenarios 1 and 2 above identify. Each of the financial tools have been weighted to determine how they will affect the feasibility of office development in the downtown. The results of this comparison are presented in the table below:

		Mississauga - City Centre - Office Development		Exemption from Peel & School Board property taxes		Tax Increment Financing / Tax Increment Equivalent Grant		Municipal Investment in Underground Parking		Elimination of Property Tax Payable on Newly Constructed Vacant Office Space		Granting of relief from development charges	
Office Building & Area Statistics	Units												
Square Footage of Building	ft^2	170,000		170,000		170,000		170,000		170,000		170,000	
Square Metres of GFA	m^2	15,802		15,802		15,802		15,802		15,802		15,802	
Gross Acres of Development	acres	**1.36**		**1.36**		**1.36**		**1.36**		**1.36**		**1.36**	
Gross Hectares of Development	ha.	**0.55**		**0.55**		**0.55**		**0.55**		**0.55**		**0.55**	
Total Land Cost	$	1,359,000		1,359,000		1,359,000		1,359,000		1,359,000		1,359,000	
Gross Leasable Area	ft^2	139,400		139,400		139,400		139,400		139,400		139,400	
Vacant Area	ft^2	16,031		16,031		16,031		16,031		16,031		16,031	
Net Leased Square Footage	ft^2	123,369		123,369		123,369		123,369		123,369		123,369	
Number of Parking Spaces	#	506		506		506		506		506		506	
Capitalization Rate	%	6.50%		6.50%		6.50%		6.50%		6.50%		6.50%	
Underground Parking Cost	per stall	$35,000		$35,000		$35,000		$35,000		$35,000		$35,000	
Land Value	per acre	**$1,500,000**		**$1,500,000**		**$1,500,000**		**$1,500,000**		**$1,500,000**		**$1,500,000**	
Vacancy Rate	%	**11.5%**		**11.5%**		**11.5%**		**11.5%**		**11.5%**		**11.5%**	
Percentage Rentable Area	%	82.0%		82.0%		82.0%		82.0%		82.0%		82.0%	
Carrying/Construction Period	months	26		26		26		26		26		26	
(4) Parking Requirement	spaces/$100m^2$ GFA	**3.2**		**3.2**		**3.2**		**3.2**		**3.2**		**3.2**	
Discount Rate	%	7.0%		7.0%		7.0%		7.0%		7.0%		7.0%	
Financing Rate	%	6.25%		6.25%		6.25%		6.25%		6.25%		6.25%	
Percent Equity Provided	%	20.0%		20.0%		20.0%		20.0%		20.0%		20.0%	
Years on Loan	yrs	25		25		25		25		25		25	
Escalator: Operating Costs	%/yr	2.5%		2.5%		2.5%		2.5%		2.5%		2.5%	
Escalator: Rental Rates	%/yr	3.0%		3.0%		3.0%		3.0%		3.0%		3.0%	
Percent Equity Provided	%	20.0%		20.0%		20.0%		20.0%		20.0%		20.0%	
Revenues													
Gross Monthly Rent	$	$2.50		$2.50		$2.50		$2.50		$2.50		$2.50	
(1) Parking Revenue	per stall/month	$0.00		$0.00		$0.00		$0.00		$0.00		$0.00	
(2) Building Sale After Year	years	10		10		10		10		10		10	
Discounted Building Sale Price	$	$26,165,404		$26,165,404		$26,165,404		$20,867,427		$26,165,404		$26,165,404	
Gross Monthly Rent	$	$2.50		$2.50		$2.50		$2.50		$2.50		$2.50	
TIEG Grant/TIF(10-year property tax discount)/Subsidy (Present Value)		$0.00		$0.00		$6,912,792.39		$5,459,724.52		$6,117,821.26		$2,033,200.00	
Costs													
Operating Costs	$ per year	$7.59	$1,289,450.00	$7.59	$1,289,450.00	$7.59	$1,289,450.00	$7.59	$1,289,450.00	$7.59	$1,289,450.00	$7.59	$1,289,450.00
Property Taxes	$ per year	$9.04	$1,536,176.09	$1.38	$234,431.74	$9.04	$1,536,176.09	$7.14	$1,213,272.12	$8.00	$1,359,515.84	$8.90	$1,512,706.22
Total Operating & Property Taxes	$ per year	$16.62	$2,825,626.09	$8.96	$1,523,881.74	$16.62	$2,825,626.09	$14.72	$2,502,722.12	$15.58	$2,648,965.84	$16.48	$2,802,156.22
Construction Hard Costs													
Base Building Cost	per ft^2 / total	$130.00	$22,100,000.00	$130.00	$22,100,000.00	$130.00	$22,100,000.00	$130.00	$22,100,000.00	$130.00	$22,100,000.00	$130.00	$22,100,000.00
Land Purchase Costs	per acre / total	$1,500,000.00	$2,038,500.00	$1,500,000.00	$2,038,500.00	$1,500,000.00	$2,038,500.00	$1,500,000.00	$2,038,500.00	$1,500,000.00	$2,038,500.00	$1,500,000.00	$2,038,500.00
Parking Type		Underground		Underground		Underground		Underground		Underground		Underground	
Total Cost of Parking Structure	$		$17,698,786.00		$17,698,786.00		$17,698,786.00		$7,585,194.00		$17,698,786.00		$17,698,786.00
Total Hard Costs	per ft^2 / total	**$246.10**	**$41,837,286.00**	**$246.10**	**$41,837,286.00**	**$246.10**	**$41,837,286.00**	**$186.61**	**$31,723,694.00**	**$246.10**	**$41,837,286.00**	**$246.10**	**$41,837,286.00**
Construction Soft Costs													
Development Charges	per ft^2 / total	$11.96	$2,033,306.07	$11.96	$2,033,306.07	$11.96	$2,033,306.07	$11.96	$2,033,306.07	$11.96	$2,033,306.07	$0.00	$0.00
Architects Fees	per ft^2 / total	$2.00	$340,000.00	$2.00	$340,000.00	$2.00	$340,000.00	$2.00	$340,000.00	$2.00	$340,000.00	$2.00	$340,000.00
Consultants Fees	per ft^2 / total	$2.00	$340,000.00	$2.00	$340,000.00	$2.00	$340,000.00	$2.00	$340,000.00	$2.00	$340,000.00	$2.00	$340,000.00
Permits	per ft^2 / total	$0.21	$35,039.85	$0.21	$35,039.85	$0.21	$35,039.85	$0.21	$35,039.85	$0.21	$35,039.85	$0.21	$35,039.85
Realty Taxes per month	per ac. / total	$6,000.00	$85,794.98	$6,000.00	$85,794.98	$6,000.00	$85,794.98	$6,000.00	$85,794.98	$6,000.00	$85,794.98	$6,000.00	$85,794.98
Legal Costs	flat fee	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00
Planning Consultant	flat fee	$25,000.00	$25,000.00	$25,000.00	$25,000.00	$25,000.00	$25,000.00	$25,000.00	$25,000.00	$25,000.00	$25,000.00	$25,000.00	$25,000.00
Marketing Program	flat fee	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00
Project Management	flat fee	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00	$40,000.00
Broker's Commission	per ft^2 / total	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00
Contigency	per ft^2 / total	$10.00	$1,700,000.00	$10.00	$1,700,000.00	$10.00	$1,700,000.00	$10.00	$1,700,000.00	$10.00	$1,700,000.00	$10.00	$1,700,000.00
Developers Fee	% of land value	3%	$40,770.00	3%	$40,770.00	3%	$40,770.00	3%	$40,770.00	3%	$40,770.00	3%	$40,770.00
Listing Broker Fee	per ft^2 / total	$10.00	$1,700,000.00	$10.00	$1,700,000.00	$10.00	$1,700,000.00	$10.00	$1,700,000.00	$10.00	$1,700,000.00	$10.00	$1,700,000.00
Tenant Improvement	per ft^2 / total	$30.00	$5,100,000.00	$30.00	$5,100,000.00	$30.00	$5,100,000.00	$30.00	$5,100,000.00	$30.00	$5,100,000.00	$30.00	$5,100,000.00
LEED	per ft^2 / total	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00
Project Financing	per ft^2 / total	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00	$7.00	$1,190,000.00
Total Soft Costs	per ft^2 / total	**$88.82**	**$15,099,910.89**	**$88.82**	**$15,099,910.89**	**$88.82**	**$15,099,910.89**	**$88.82**	**$15,099,910.89**	**$88.82**	**$15,099,910.89**	**$76.86**	**$13,066,604.83**
Total Costs	per ft^2 / total	**$334.92**	**$56,937,196.89**	**$334.92**	**$56,937,196.89**	**$334.92**	**$56,937,196.89**	**$275.43**	**$46,823,604.89**	**$334.92**	**$56,937,196.89**	**$322.96**	**$54,903,890.82**
Results													
NPV of Investment Revenue	**per square ft**	$295.49		$295.49		$295.49		$262.82		$295.49		$293.12	
NPV of Development Cost	**per square ft**	$296.07		$243.23		$267.80		$250.76		$288.89		$288.64	
Surplus	**per square ft**	-$0.58		$52.26		$27.69		$12.06		$6.60		$4.48	
Return on Investment	%	**-0.196%**		**21.486%**		**10.340%**		**4.809%**		**2.285%**		**1.552%**	

Assumptions:

(1) Free Parking for building occupants (no parking revenues)
(2) Building Sale is assumed after the 10th year
(3) The new draft zoning by-law comes into effect as currently constructed, bringing the parking requirement in City Centre development down to 3.2 spaces/$100m^2$ Gross Floor Area, from 4.57
(4) Residential Building Size based upon typical development in Mississauga City Centre
(5) Condominium Units are assumed to be sold before construction commences, with 25% down payment arriving at beginning of construction, remaining 75% during last month of construction
(6) All costs were assumed to arrive in uniform increments across the entire construction period

APPENDIX H | District Energy

Potential for District Energy in Mississauga

District Energy (DE) systems function best in compact medium-to-high density communities where a variety of different land uses exist to meet thermal load requirements. As corporate social responsibility has become mainstream, and as firms adopt the principle of the triple bottom line, being connected to DE can help business owners promote themselves as eco-friendly while also reducing their operating costs. DE can also improve energy security, contribute to the efficient use of energy sources, keep dollars spent on energy within the community, and promote compact urban form and better air quality. This appendix contains two tables charting the benefits of DE for communities and business/economic development.

In a recent study conducted by the Canadian Urban Institute for Infrastructure Canada, Mississauga's City Centre was identified as one of ten communities that has the potential to operate a successful DE system. The City Centre was identified for the following reasons:

- **Favourable Demographics and Potential Residential Clients**
  - City Centre is expected to reach a density of 200 residents and jobs per hectare by 2021 and has already achieved approximately 80% of this target while continuing to exhibit fast population growth. Numerous new high-rise residential buildings have recently been constructed or are in the pipeline and future buildings could be immediately connected to a DE system.

- **Potential for Existing Commercial Clients to Balance Thermal Load**
  - Square One mall and existing office buildings could be connected to the DE network to help balance the thermal load in the community thereby increasing the efficiency of a DE system.

- **Future Commercial/Office Potential:**
  - The operating expenses for an owner or tenant can be greatly reduced with the use of a district energy system and the long-term economic savings achieved. Owners and tenants save money because district energy systems generate termal energy and electricity more efficiently than conventional building heating and cooling systems. Capital costs for buildings are lower because there is no need to build boilers and chillers in a building – this also means lower maintenance and labour costs. Because the City of Mississauga has planned the downtown to be a mixed-use district and is promoting office development in the downtown, and because encouraging office development will further balance thermal load, DE could work well in the City Centre and help attract future commercial and office to the downtown.

- **Land Availability & Energy Intensity:**
  - The City's past reliance on surface parking has created large parcels of land that could be redeveloped. If these lands are intensified over the long-term, the district has the potential energy intensity of 9.71 GJ/yr/m^2 and an annual reduction in green house gas (GHG) emissions of almost 52,500 tonnes.[37] Mississauga had the second strongest energy intensity factor among the communities that the study considered best suited for DE.

[37] Energy intensity represents the estimate of space heating and cooling and hot water energy that will be consumed annually per square metre of land at full development after losses in the transmission of energy. A high energy intensity factor typically results in lower infrastructure costs per unit of building development.

Benefits	Energy utilization & efficiency	Environmental enhancement	Economic development	Community design & growth management	Resiliency & adaptability	Infrastructure advancement
Regional level	Contributes to reducing utility infrasctructure needs by load profile reshaping.	Improves regional air quality by reducing the need to rely on central plants fuelled by coal.	Achieves distribution savings. Capacity development and reductions can be made in small increments, closely matched with demand.	Encourages local utilities to invest in distribution network.	Delays or eliminates need to build large central generating plants, transmission corridors and distribution lines.	Improves overall system reliability by reducing peak loads.
	Reduces distribution losses by managing the demand for thermal load.	Reduces the consumption of fossil fuels and associated impacts of extraction.	Strengthens local markets by encouraging production of services and technologies for district energy.	Allows for the integration of thermal and electrical power growth into a community energy plan.	Increases diversity of fuel supply, thereby improving energy security and use of existing grid assets.	Decreases vulnerability to catastrophic disruptions of central supply and generation stations.
	Improves overall supply reliability.	Reduces the amount or requirement for heat discharge from large central generation stations into freshwater bodies.	Encourages liberalization and competition in energy markets.	Reduces the impact on land area required for rights-of-way and land required for central generation stations.	Improves resiliency of critical infrastructure sectors.	Ensures better system stability due to multiple inputs and reduced consequences of system failure.
Local level	Contributes to meeting established community energy-reduction goals.	Reduces harmful air emissions (NO_x, SO_x, CO_2 and PM).	Promotes local job creation (e.g., construction, manufacturing, technicians, installers/ operators).	Reduces the size of ecological (energy) footprints.	Ensures more reliable local energy delivery and ancillary benefits (voltage support, contingency reserves – for peaking).	Offers "hot swap" capability – opportunity to easily switch between various forms of energy production services.
	Improves the performance of district energy system and building energy efficiency when land use development is planned around a district energy system.	Uses waste-to-energy technologies to offset solid waste management challenges.	Achieves long-term reduction of energy costs (capital and operating).	Aids with brownfield remediation by attracting investors and contribute to urban revitalization, particularly for downtown environments.	Reduces reliance on single sources of energy production/ fuel disruption risk.	Can support or use municipal infrastructure services – such as sewers – for heat capture and provides fresh potable water from deep lakewater cooling.
	Encourages the use of local fuel sources – biomass, solid waste, biogas (landfills), and naturally cold water.	Contributes to direct and indirect education of public regarding issues of sustainability, energy, and the environment.	Increases energy dollars reinvested into the local economy.	Creates minimal impact on aesthetics through screening, soundproofing, and urban design.	Replaces grid-based generation.	Allows for faster permitting than traditional upgrades.

Table H-1: Community Benefits of District Energy

Source: CUI, 2007 (The New District Energy: Building Blocks for Sustainable Community Development)

Benefits	Economic attractiveness	Risk mitigation	Energy management/ Commissioning	Design flexibility and space optimization	Improved competitiveness
Building owners and tenants	Increases revenue-generating space (removal of auxiliary systems and building heating and cooling equipment).	Improves safety of operation by removal of on-site fuel storage.	Eliminates commission requirements and maintenance associated with in-building systems.	Provides an opportunity to develop a green roof that can further reduce heat or cooling demands and improve energy efficiency becuase of removal of building cooling equipment from the roof.	Improves public image – heightens environmental reputation of building owners/developers through demonstrable environmental benefits.
	Eliminates capital costs, interest payments, property taxes, insurance costs and annual maintenance contracts associated with new in-building heating and cooling systems.	Lowers insurance rates because of reduced fire hazard and improves resiliency.	Maintains tenant comfort throughout the year with heat, cooling or electricity through similar process as in-building systems.	Improves indoor air quality by controlling humidity more efficiently (reduces mould, mildew and bacteria build-up).	Ability to receive a high quality thermal and electrical service that minimizes impact on sensitive electrical and operating equipment.
	Lowers ongoing, operating and maintenance, and labour costs.	Reduces vibration and noise problems and eliminates stacks going up through a building.	Reduces vibrations and noise that can annoy building occupants through the removal of in-building systems.	Simplifies building design due to reduced mechanical equipment; allows clear design focus on building energy performance.	Tenants receive the benefit of protection for revenue stream through continued supply of thermal and electricity support in the event of a major electrical disruption in the grid.
	Offers better marketability of building space due to lower electricity and power costs, as a result of district energy being less vulnerable to energy price volatility.	Removes requirement to have in- building reserve boilers and electric generators when CHP available.	Reduces the dependency of heating and cooling services on grid, potentially resulting in higher service reliability, particularly for sensitive building use	Reduces space for mechanical equipment and allows designers to incorporate functions of building more effectively and efficiently.	Capital value of building may increase relative to conventional buildings as the costs of conventional energy sources rise above district energy costs.
Investors	Offers long-term stable returns through competitive energy rates.	Expands use of low-cost or renewable fuels.	-	-	Systems can compete with existing utilities at a low-cost in urban regions.
	Represents proven technology and operating performance with a long and useful operating life.	Achieves economies of scale with volume fuel purchasing.	-	-	Systems can meet a variety of user needs from short-term contracts for emergency power to long-term (20+ years) contracts for service and fuel supply that provide predictable cash flow.

Table H-2: Business Benefits of District Energy

Source: CUI, 2007 (The New District Energy: Building Blocks for Sustainable Community Development)

For more information on district energy see the Canadian District Energy Association On-line Handbook (produced by the Canadian Urban Institute) at http://www.cdea.ca.

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