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Office Location Patterns: A Comparison of Office Location Patterns in London and Hamilton Ontario to the model of Toronto Ontario

by

Candice Sarnecki

A Thesis
Submitted to the Faculty of Graduate Studies and Research
through the Department of Geography
in Partial Fulfillment of the Requirements for
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ABSTRACT

Since the early 1920s, geographers have been interested in the office location patterns that have come to characterize many major CBDs throughout the world. From the numerous published articles on this subject, two models have emerged. The first characterizes these patterns in a very general way, attributing certain key characteristics to the process of suburbanization and office location patterns. The second model is the case city of Toronto, to which many North American cities are compared. This particular model sets forth more detailed and specific characteristics for both suburbanization and the movement of offices within a city. This thesis seeks to utilize both of these models in investigating the office location patterns of London and Hamilton Ontario. It also evaluates the applicability of these two models and the degrees to which each of these cities fit the models or are different from them.

In order to do so, data were gathered on office floor space, vacancy rates and employment trends within the core and suburban areas of Toronto, London and Hamilton. These data were analyzed using a series of tabulations, percentages, and comparisons of trends over time. These findings were then further supplemented with personal interviews conducted in each city, with corporate executives, local government officials and real estate firms. The analysis concluded that the City of London is similar to the model of office location patterns in Toronto, as well as the literature, however, there is a real difference in the scale of these patterns between these two cities. The City of Hamilton proved to be quite different and unique. Therefore, it was further determined that office location patterns are influenced by the geographic proximity of a city to a major metropolis and also by more specific and unique factors to each city (eg. economic specialization)
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1. Introduction

At one time, manufacturing and industrial production dominated the urban composition of North America and Europe. The urban core contained factories, manufacturing plants and similar operations. The suburbs were reserved for pleasure, retreat and residence. However, as the postwar era developed, this distinction between core and suburbs became less apparent. Early suburbanization consisted of houses, factories and shopping centers, in that order. Office buildings did not appear in the suburbs until after World War II.

The last three decades have experienced changes in the traditional definition of the urban form. There has been an increasing shift in economic sector investments, a changing employment composition and location of economic growth in metropolitan areas (Huang, 1989). Office location patterns can be defined as the spatial movement, and/or clustering of office buildings, office functions and office employment within the core, within the suburbs, or from the core into the suburbs or vice versa. There is a general agreement that office suburbanization has occurred in stages of form (scattered buildings, office parks and suburban downtowns) and of functions (consumer services, regional and back offices, standard product and only recently head offices).

Urban planners are interested in the effects that office location shifts are having on the core areas of major cities, the economies of metropolitan areas, the effects on the distribution of office related jobs and locational pressures being exerted on things like
transportation and communication systems (Huang 1989, Kutay, 1985, Gad 1985, Matthew 1993b, Pivo 1993). They are also interested in the reasoning behind these decisions, the resulting patterns, developing widely applicable models, and the increasingly selective movement of functions and jobs to the suburbs (Gad 1985, Holloway & Wheeler 1991, Schwartz 1995, Semple & Phipps 1982). As such, it is unavoidable that the stand taken within the literature and methods of evaluation often depend on the emphasis given to such things as back offices, partial decentralization and occupational mix (Huang, 1989).

Whether one supports the ideas of Peter Muller (1986) who contends that the suburbs are the leading zones of intra-urban employment and the central city has lost its hold and drawing abilities:

As the nation completes its transition to a post-industrial economy and society in the closing years of the twentieth century .. the quaternary (information-related) and quinary (managerial-decision-making-based) economic activities that will increasingly dominate the American labour force have already demonstrated locational preferences that assume that the outer ring will continue to be the essence of the contemporary American city for a long time to come. (Muller 1986, p.44),

or, those of J.D. Kasarda (1988) who suggests the idea of a suburban shift and emergence of urban growth industries within the city center:

... just as older, larger U.S. cities have lost their competitive strength to hold or attract jobs in their traditional blue-collar industries, many are exhibiting new competitive strengths as locations for a variety of post-industrial growth industries. These emerging strengths are in the administrative
office, communication, financial, professional, and business sectors and in cultural, leisure, and tourist industries. (Kasarda, 1988, p.58),

the overwhelming issue remains the same. There is a definite shift of office concentration from the central core to the suburbs and in the arguments suggesting the factors leading up to this shift and the impact of the results.

The literature describes various theories, frameworks, and taxonomies that have been employed to understand and explain the underlying factors that have created those office location patterns. Therefore, Matthew (1993b), Pivo (1993), and Hartshorn and Muller (1989), suggest that there must be a synthesis of the theories and taxonomies already developed in order to formulate the beginnings of answers to the questions surrounding office location patterns.

Much of the research into the location of offices and office building locations has been focused on the CBDs (Central Business Districts) of large metropolitan areas in Europe the United States and Canada. In Canada, the suburbanization of offices has been examined for three CMAs: Toronto, Montreal and Vancouver (with some research related to Edmonton and Thunder Bay) which represent only 52.7 percent of the population in Canadian CMAs. There is virtually no research into what the patterns and processes of office locations are in medium sized, Canadian metropolitan areas. These medium sized cities represent 47.3 percent of the Canadian population in CMAs. This research was intended to address this void in both the office location literature and knowledge of almost half of Canada's metropolitan areas
1.1.0 Research Objective

This thesis accepts that there is a general model regarding office location patterns, which is characterized by the office patterns in the City of Toronto. This model, in general, is that office space, functions and employment, which originated in the core, are now increasingly locating in the surrounding suburbs and are driven by various factors. It also predicates that the suburban areas of large metropolises are increasingly becoming an alternative location to new and relocating office functions and hence developing into what are now known as ‘suburban downtowns’.

Therefore, the hypothesis states that medium sized Canadian cities have also experienced similar office re-locations, however, there are varying degrees to which they fit the model outlined in the literature and defined by the City of Toronto. The research of this thesis is directed to investigating how the cities of London and Hamilton fit this model and the type and degree of differences each has to the model.

Because medium sized cities are not scaled down large metropolises, it is important to investigate the differences of their office development compared to the established models of office location patterns which are based on larger less specialized CBDs. The following factors will be used to determine how similar the office patterns of London and Hamilton are to those of Toronto, and to what degree they fit the model of office location patterns: (1) Office Floor Space Supply, (2) Office Vacancy Rates, and (3) Employment Trends, each categorized by time and location.

These findings will be compared to the findings in the literature on office location patterns to establish an understanding as to why London and Hamilton are similar or different from the patterns in the base city of Toronto; and how readily they fit the
characteristics of office location patterns. Expert opinions and personal interviews concerning each city will also be utilized to further explain the findings of this thesis.

More specifically, the following components are included in this study:

1. a literature survey and a summation of the factors, or characteristics that have been academically deemed to describe and explain office location patterns;

2. a literature survey and a description of the trends (1988 to 1997) in the City of Toronto. Information is presented for the establishment of Toronto as the base case to which the cities of London and Hamilton will be compared;

3. the amount and distribution of office floor space in office buildings in Toronto, London and Hamilton between 1988 to 1997;

4. the trends of vacancy rates in each city over the 1988 to 1997 time period;

5. the labour force patterns, and patterns of concentration of office employment by location in each city in the three census years 1971, 1981, 1991;

6. a summary of the factors influencing the location choices of offices in each of the three cities, based on a series of interviews conducted in London, Hamilton and Toronto;

7. a comparison of how the trends found relate to the literature on office location patterns;

8. conclusions drawn from the comparisons of London and Hamilton to Toronto.

Once field research was underway, it became evident that the data for the City of Hamilton were different from the data for both London and Toronto. It also became evident that much of the data were incomparable with one another, but still allowed
general conclusions to be made. As a result, the degree to which the City of Hamilton fits the model of Toronto or the literature, and its similarities to Toronto were quickly discerned.

Because office location patterns are no longer a geographical pattern of decentralization affecting only the largest CBDs in Canada, it can be concluded that London and Hamilton’s suburban labour forces are increasingly becoming office oriented. It can also be concluded that office space developed is increasing in the core and suburbs of the City of London due to a newly developing demand; and remaining limited in the suburbs of the City of Hamilton as a result of public policy and the Official Plan. The economic specialization, public policy, agglomeration economics, viability of office areas, locational options, and the search for the optimal location within the city have also proven to be influential in creating these similarities and differences between London and Hamilton to Toronto. They have also been directly responsible for the variances between the office location patterns in the cities of London and Hamilton when compared against the model of Toronto and the pattern determining characteristics of the literature.
2. Literature Review

The basic groundwork for understanding office location patterns was laid in the 1920s. One very important urban geographer, Robert M Haig wrote a pivotal article in 1926, “Towards an Understanding of the Metropolis” in which he initiated much of the thinking for the numerous articles on office location patterns that followed in the mid 1950s. Haig remarked that “…by observing what is actually happening in the competitive struggle for urban sites, it might be possible to glimpse the outlines of an economically ideal pattern or plan; that, by examining what was being crowded out of the choice central locations and what was doing the crowding, it might be possible to infer where ‘things belonged’” (Haig, 1926, p.406).

In the literature concerning office location patterns, businesses or companies are regarded as clusters of functions. Depending on what these functions are, many can and are relocated from the urban core to less expensive peripheral or suburban locations. It is also argued that the degree of success these functions achieve is directly related to what these functions are and how they operate. Haig discovered these trends in the City of New York 70 years ago. “Every business is a packet of functions, and within limits those functions can be separated and locate at different places. … The extent to which a business may, with profit separate physically certain of its functions from the others varies greatly” (Haig, 1926, p.416).
Haig also found in the 1920s that there is a definite clustering of like activities resulting in specialized centers, or a ‘cohesion of functions’. Haig recognized that “...certain advantages flow from a cohesion of functions in a given district, and the result is a number of specialized centers with definite unities of interest rather than a single diversified center” (p.418).

From this argument arises the much debated advantages of the core location. As long as there is a core and a periphery within the boundaries of a city, the debate will continue on why corporations should or should not locate in the central ‘core’. Clear distinctions are made early in the research as to what advantages the center really offers and how corporations that are located there succeed or fail. Haig wrote that

…the essential quality which the center possesses is physical proximity, or accessibility, to all parts of the area. All activities with concentric circles of influence coinciding with these centers will find the center most convenient as a location. ... But these activities differ in the degree to which they can make effective use of the quality of physical proximity or accessibility possessed by the center into profits (p.420).

It is this constant desire to minimize the costs of friction (transportation costs and site rentals) that determines the layout of a metropolis. However, regardless of whether a corporation locates completely in the core or the suburbs or some combination of the two, the “…theoretically perfect site for the activity is that which furnishes the desired degree of accessibility at the lowest costs of friction” (p.423).

Charles Colby, (1933), pursued this last idea of Haig’s in his article “Centrifugal and Centripetal Forces in Urban Geography”. Colby focuses solely on these two very theoretical terms in an attempt to explain why certain functions are being ‘pulled’ into the core or suburbs, and others are being ‘pushed’ out of the core. Colby defines
centrifugal forces as those which "...are made up of a combination of uprooting impulses in the central zone and attractive qualities of the periphery" while centripetal forces are those which "...focus on the central zone and make that zone the center of gravity for the entire urbanized area" (p.1).

The push or pull factors at work in present day society are really not all that different from those factors influencing firm site selection 65 years ago. Colby sets very basic ideas on inward and outward migration that have led to the current classification of our modern day cities. These include the fact that the suburban fabric is a composition of residential, manufacturing and warehouse land uses, whereas the inward movement in our cities is characterized largely by the localization of head offices of many companies (p.1). Colby also recognizes that the outward movement from the cities causes the outer zone to soon become urbanized, setting the true periphery in a constant state of retreat.

Much of this movement, whether it be in or out of the central zone, Colby attributes to a number of conditions. Uprooting conditions in the central zone include (1) increasing land and property values and high tax rates in the central zone; (2) traffic congestion and high costs of transportation in the central zone; (3) difficulty in securing space, not only to permit expansion of facilities and rearrangement of activities, but also to secure light and air; (4) a desire of many manufacturing concerns to avoid nuisance complaints or other controversies; (5) a difficulty or an impossibility of acquiring in the congested central zone a special type of site such as water frontage or of modifying a site to meet present-day needs; and (6) items such as tiresome legal restrictions, out grown laws, inherited customs, decline of the social importance of
certain areas, and the like, all of which work together, or separately, to promote
migration out of the designated central area (p.4-5).

However, there are also a number of attractive qualities of the peripheral zone
that Colby identifies: (1) the presence of large parcels of unoccupied land which can be
obtained at relatively low cost; (2) the presence of transportation services suited to the
migrating functions; (3) the attractive site qualities possessed by particular areas in the
outer zone such as level land, good drainage, wooded slopes or water frontage; and (4)
control or relative control of a sizeable area (p.7).

Colby explains that there are two sides in the ‘movement’ of offices. Not only
are portions of, or entire corporations moving out of the urban area, but there are also
those choosing to move back in. Like the periphery, the central area also has attractive
qualities (1) site attraction, (2) functional convenience, (3) functional magnetism, (4)
functional prestige, and (5) something Colby terms the human equation (p.11). What is
important from both these ‘historic’ papers is the understanding of where the ideas that
are pursued today, concerning office location decision making and office location
patterns, originated and that these phenomenon are not unique to the 1990s.

Both of these authors approach this subject of office location patterns in
different manners. Haig utilizes an extensive amount of numerical data to draw his
conclusions, where as Colby approaches the subject on a theoretical and empirically
void level. Regardless of the approach, both authors were able to formulate the
beginnings of the foundations upon which todays researchers have built on and upon
which future researchers will depend.
The last 40 years have seen numerous studies on the topic of office location decision making and office suburbanization. Within these studies there have emerged two models of either an empirical or theoretical focus. It also appears that the theoretical explanations being suggested are relying on the empirical work for an indisputable foundation.

One empirical study, by Semple and Phipps (1982), sought to investigate the persistent issue of the spatial distribution of corporate headquarters. As is repeatedly suggested, the dominance of the CBD in such places as Toronto, New York, Los Angeles, and Chicago has declined steadily since the late 1950s until the present day (Gad 1985, Holloway and Wheeler 1991, Schwartz 1995, Semple and Phipps 1982). Semple and Phipps (1982) and Holloway and Wheeler (1991) attribute this decline of dominance to the increased dispersion of corporate headquarters across the United States (U.S.); where the average number of regions containing the head offices of one or more of the 50 largest corporations in the U.S. increased (Semple and Phipps, 1982, p.267).

There appears to be a decreasing need for entire corporations to locate in these information hubs. As both Semple and Phipps (1982) and Holloway and Wheeler (1991) found, there is a definite movement of firms (in whole and in part) to ‘exurban’ areas which are functionally linked to New York and, or to the formerly peripheral Western and Southern areas of the United States. Between 1980 and 1987 there continued to be a significant deconcentration of both Fortune firms and aggregate corporate assets from these once dominant CBDs and older industrial type centers to Sunbelt type areas. Holloway and Wheeler (1991) offer the explanation that these smaller centers of the United States have begun to join in the national integration, because their individual
infrastructures are now of the appropriate magnitude to meet the needs of these
fragmentating large corporations. Thus, according to Holloway and Wheeler (1991)
perhaps these trends of corporate dispersion are partly the result of local corporations
now being large enough to meet the *Fortune* threshold size.

A second key issue that arises in the empirical literature is the issue of
agglomeration economies and optimum office location (Kutay 1985, Ihlanfeldt and Raper
today's urban form, offices appear to play a far more important role in urban
agglomeration than do manufacturing plants (Mun and Hutchinson 1995, DiPasquale and
Wheaton 1996). With the development of new offices in suburban areas and the search
for optimum locations, there appears to be a change in the forces driving office
agglomeration. Mun and Hutchinson suggest that these new office developments are
what are changing the productivity and profits of firms by changing the spatial interaction
among firms and recreating the interactive opportunities in the CBD at external locations.

The issue of agglomeration economies is perhaps the most basic theory behind
office location patterns; without it, there would be no need to search for an optimum
location. DiPasquale and Wheaton (1996), make very general statements about
agglomeration, that are fundamental to its understanding. They suggest two arguments
for its purpose. First, it has been noted that, historically, there may have been
productivity gains to an individual firm which are realized when all of its divisions or
functions are located at the same point; but more recently, there has been a move
expressed by firms of different natures to cluster together. The distinguishing factor now
is whether the communication being pursued is between similar firms, between firms and
their suppliers, or between firms and their clients (DiPasquale and Wheaton, 1996, p.109). The distinction between these three is important because it indicates the nature of the firms that are able to gain advantages from co-locating in the same cluster (DiPasquale and Wheaton 1996, Schwartz 1992).

The clustering of office functions has become a major issue, not only for researchers but also for the newly evolving suburban forms (Gad 1985, Hartshorn and Muller 1989, Matthew 1992, Pivo 1993, Archer and Smith 1993). Over the past two and a half decades, the CBDs, not only of Toronto and New York, but also of Los Angeles and Chicago, have witnessed a definite separation of high order, low order and intermediate services (Semple and Phipps 1982, Gad 1985).

The main function of all offices, whether they be in the core or outer suburbs, is the construction, broadcasting and exchange of information in an efficient and economical fashion. The goal is to find the ideal location from which to do so (Kutay 1985, Mun and Hutchinson 1995). Kutay (1985) proposes two distinct scenarios from which offices chose their location. His results concluded that those offices which give more weight to their contacts with CBD firms are the ones that stay close to the CBD. Those offices that are more labour intensive and, therefore, give weight to labour costs will chose to move away from the CBD.

The optimum office location takes on a new meaning, when telecommunications are considered (Kutay 1985, Mun and Hutchinson 1995, DiPasquale and Wheaton 1996). Increasing mobility of information due to telecommunications translates to desired locations that have the desired access to information and seek to derive the maximum overall benefits: in terms of wage and transit rates, distance to customers, land prices and
labor (Ihlanfeldt and Raper 1990, Kutay 1985). Some feel this new found mobility will result in an urban fragmentation while others believe that it is simply the current evolution of office morphology (Mun and Hutchinson 1995). Regardless, the empirical data indicates clearly that telecommunications will continue to erode the friction of geographic space, accelerating trends like those found by Semple and Phipps in 1982.

The issues of telecommunications is often alluded to, but rarely are the advances and effects of this technology directly addressed (Hartshorn and Muller 1989, Matthew 1993a, 1993b). It has been evident since the invention of the telephone in 1876 that telecommunications would and have had a significant impact on the development of both the urban and suburban form. Telecommunications have also increasingly allowed companies and firms to relocate without fear that they will be ‘out-of-touch’ or isolated from the activities going on around them and in the CBD. Telecommunications have bridged the distance between companies within the CBD and on the fringe as well as those in different cities, provinces and countries. With the continued developments of telecommunications, and particularly computer networks, it is inevitable that firms would become more footloose, and the need to locate in the CBD would diminish as telecommunications compensated for the spatial separation (Hartshorn and Muller 1989, Kutay 1985 Matthew 1993b).

Face-to-face contacts, though still very important to many facets of a company, can be achieved by other means (eg. video conferencing), making the world of business more accessible and capable, regardless of individual location. Telecommunications have also introduced a new option for many companies, telecommuting, making suburban locations and their own unique advantages even more appealing. The effects of
telecommunications have not been fully researched or realized as yet, but they are already playing an increasing role in both the attractiveness of suburban locations and in corporate location decision making to these more ‘remote’ areas of the city.

The findings of the research on telecommunications and office location patterns are consistent with the goals and thoughts of one of North America’s largest telecommunications companies – Nortel. In a recent interview with John Roth, President and CEO of Nortel (1998), it was his feeling that the recent deregulation of the telecommunications system has led to an increased freedom and potential of what the technologies of this system can do. It is Mr. Roth’s opinion that telecommunication technology has successfully moved traditionally CBD bound work to new areas, making the costs of office location trivial, created an international networking system and essentially brought the work to the people. However, Mr. Roth is also emphatic, as is the literature, that despite these advantages, telecommunications will never replace face-to-face contact, and could never completely replace the traditional role and importance of the CBD, or core area. Mr. Roth also adds that there will come a point where the advances and advantages of telecommunications will not be viewed as the imperative necessity that they currently are. At the present Mr. Roth does observe that without telecommunications, it would be impossible for companies, of any size, to have successfully made the locational choices that they currently have.

2.1.0 Base Case Study: Toronto

For decades now, Toronto’s central business district has persisted as the locus of high order functions (Gad 1985, Huang 1989, Matthew 1993a). Gad (1985), suggests that Toronto's offices can be characterized by a vigorous growth of offices in both the
CBD and suburbs resulting in a 'complex mosaic'; which Huang (1989) suggests has a strong degree of differentiation by economic sector. Nevertheless, this division between CBD and suburbs has not always existed.

It has been found that in 1951, five-sixths of Toronto's office building space was in the central core (Gad 1985, Huang 1989, Matthew 1993a). It was also at about this time that various offices began relocating to non-central locations. Office suburbanization began to take root firmly in the 1960s, primarily in designated industrial parks and office sub-centers resulting in a relative loss for the CBD (Gad 1985, Huang 1989).

Increasing office suburbanization in Toronto is recorded in the 1970s, decreasing the central district's share of office floor space even further. Huang (1989), notes that even though the central district maintained its growth throughout this period (1960-1980), its share of total office space declined steadily from 93.6 percent in 1961, to 57.2 percent in 1988. Similarly, the amount of office space developed annually in the suburbs is now greater than in the central district (amounting to almost one and a half times as much new space in the suburbs annually than in the central district).

In effect, between 1960 and 1980, the suburbs surrounding Toronto experienced a number of dramatic phases of change. In the earliest phase, a large number of small offices servicing the newly emerging suburban consumer and business markets were established. This phase was followed by sales and head offices of manufacturing companies, and the offices of engineering and architect consultants, insurance companies, investment dealers and accounting firms. The final phase of this transformation was marked by the partial decentralization of large clerical job pools and the move of
insurance companies with large work forces (Gad 1985, Matthew 1993a). Thus, Gad concludes that the overall composition of the suburbs is being dominated by low-order service functions such as, routine data processing and only modestly by higher-order decision making. However, Huang (1989), in her dissertation under the guidance of Gad, strongly questions the notion that ‘back offices’ are staffed mainly by semi-skilled female workers, and that the work in them is predominantly clerical.

Conversely, Gad suggests that Toronto’s CBD retained head office departments, newly arriving executive offices, high order business services (executive, managerial and professional jobs) and those firms with a high proportion of male executive and professional employees. Overall, it is clear that Toronto’s central district is becoming more and more exclusively a high order decision making center, gradually shedding much of its traditional components, be they categorized in terms of low order service functions, branches of various rank and size or clerical labour (Gad 1985).

Numerous suggestions have been offered in general towards these office location patterns, and in particular to Toronto. Matthew (1993a) offers four conclusions about suburban office location in Toronto: (1) improvements in the cost and efficiency of telecommunications have led to a significant relaxation in the need for closely linked offices to be near one another; (2) the suburbs have become self-generators of office enterprises, so the growth of suburban office centers no longer depends on offices moving outward from central locations; (3) suburban offices seek exceptional highway access, good public transit access and generous parking in that order and; (4) Toronto’s office decision makers assume that the appropriate staff for their offices can be attracted
to jobs at locations anywhere in the Toronto CMA, so that proximity to particular labour pools is seldom a factor in the choice of a location (p.304).

Gad (1985), in common view with Matthew, concluded that “no particular single reason would appear to account for office suburbanization in Toronto” (p.347). He stated that at different times, different forces combined to account for these patterns of broad suburbanization; and he offers four principal factors supporting this idea: the nature of linkages; labour demand and supply conditions; rent differentials; and public policy. It is in these respects that the events of office location patterns in Toronto are very similar to the events throughout the United States as Hartshorn and Muller (1989) discovered identical functions and patterns in the suburbs of Atlanta, as did Schwartz (1995) in Chicago.

However, employment clustering is not the only type of cluster being formed through suburban office relocation. It has been found that the actual physical buildings which house those companies and firms also exhibit a clustering effect (Matthew 1992, Wheeler 1990, Pivo 1993, Sui and Wheeler 1993). The number and locations of offices, especially primary offices, are emerging as key, strategic elements which affect the economic performance of major and minor metropolitan areas (Sui and Wheeler 1993, Wheeler 1990).

Researchers attribute this ‘clustering’ of offices within suburbs to what is known as agglomeration economies (Matthew 1992, Schwartz 1995, Pivo 1993, Sui and Wheeler 1993). In the case of Toronto and Vancouver, the municipal governments have actually taken steps to encourage suburban office location and agglomeration economies through transit benefits to improve the ‘livability’ of such areas (Matthew 1992). It is assumed
that offices seeking a suburban location take into consideration the companies already located within office centers to determine the benefits they offer, as well as the type of benefits they in turn may offer the area. Matthew observed that, "...each office that locates in a new center will add marginally to the information potential there" (1992, p.42). Schwartz (1995) also suggests that there are several reasons or advantages to be gained from localization economies associated with suburbanization: specialized labor markets attuned to specific skills and requirements of the industry, availability of specialized subcontractors, printers, trade organizations and other support services. They also facilitate convenient and fast access among individuals in firms involved in frequent face-to-face interactions which potentially reduces each firms transaction costs. It appears from the previous findings that these issues of agglomeration economies hold true since the same types of employment, firms, and companies are locating in proximity to one another in varying densities in the suburbs (Pivo 1993, Matthew 1998).

Unfortunately, there are no empirical data to prove this to be true. What is known is that many of these suburban companies remain dependent on the metropolitan area's central city for specialized professional services. However, suburbanization is still young, and from the evidence presented has the potential to be economically self-sufficient in the near future (Schwartz 1995).

2.1.1 Office Floor Space Trends

The Toronto office market can be disaggregated into the core and suburban markets. The core Toronto office market is characterized by high-rise buildings housing head offices of industrial corporations, insurance companies and financial institutions which is consistent with the established ideas of Gad in 1985. The central market
typically attracts firms that are willing to pay premium rents for the prestige of a ‘downtown’ address and for maximum accessibility to a dispersed clientele (Toronto, CB Commercial, 1997). Because of this, Toronto’s core and suburban office supply increased continually between 1988 to 1993, at which point they both stabilized.

Figure 2.1, shows that the largest increases in office floor space for both the core area and suburbs, after the initial exodus of office services to the suburbs between 1960 and 1980, occurred between 1988 and 1992. As was indicated in the literature review, the accumulations of office space within this time period resulted in more office space being developed in the suburbs than in the central area (1,446,707m² were developed in the suburbs compared to 1,139,157 m² in the core area).

Figure 2.1 Total Toronto Office Supply 1988-1997

(CB Commercial Toronto, 1997)

At present, the Greater Toronto office market is comprised of approximately 11,197,200m² of competitive office floor space. Of this 6,240,300m² (55.7 percent) of competitive office space is contained in the core area, and the remaining 4,956,900m² (44.3 percent) is contained in the two suburban regions (Suburban West and Suburban Northeast) of Toronto. However, as Figure 2.1 also indicates, a portion of the core office
stock was lost through residential conversions between 1993 and 1994, and again between 1996 and 1997, amounting to a total loss of 154,504m². However, 52,080m² of the previously lost core office stock was regained in 1997, and an additional 18,600m² of core competitive office space is projected to be added in 1998.

The Suburban Northeast market currently has 2,910,900m² of competitive office space. The City of Toronto has suggested that there are a number of proposed office projects, that would add a noteworthy (though undisclosed) amount of space to the area if they were built. However, developers are currently awaiting market justification before proceeding (Toronto CB Commercial, 1997). Likewise, the Suburban West market area, which retains 2,046,000 m² of competitive office space, gained approximately 18,600m² of office building space through 'design-build office projects' in 1997 and 1998 securing the third largest proportion of office space in the Toronto area (Toronto CB Commercial, 1998).

2.1.2 Vacancy Trends

As the core and suburban areas of Toronto's office market experienced a growth of office space between 1988 and 1992, so too did the vacancy rates rise in each area. As Figures 2.2 and 2.3 show, vacancy rates in the core and in both suburban markets reached their highest percentage in 1992 with the Suburban West experiencing the highest rate in the over all Toronto area (20 percent in the core, 23 percent in the Suburban Northeast and 29 percent in the Suburban West). However, between 1993 and the present, these percentages have declined. In 1996, the overall vacancy rate for the core areas was 15.3 percent and was expected to decline to 11.0 percent by 1998. The primary reason for the
decline in the core areas' vacancy rates in the three year period between 1996 and 1998 was the recovery of the most active node in the core area, the Financial Core.

**Figure 2.2 Toronto Core Vacancy Rates 1988-1997**

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<thead>
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<tbody>
<tr>
<td>Percent Vacancy Rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>25</td>
<td>20</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>GTA</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>25</td>
<td>20</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

(CB Commercial Toronto, 1997)

In 1996, 882,328m² (17.8 percent) of the total competitive suburban office space remained vacant. Figure 2.3 indicates that the Suburban Northeast and Suburban West office markets did not experience identical vacancy rates or recoveries from their high vacancy trends between 1988 and 1997. Toronto’s Suburban West office market, between 1988 and 1994 experienced consistently higher vacancy rates than did the Suburban Northeast or total Suburban office market. However, between 1994 and the present, vacancy rates in the Suburban West market decreased to below both the total and northeast markets, registering the lowest vacancy (11 percent) rate for 1996-1997 in either the suburban or core areas.
Figure 2.3 Toronto Suburban Vacancy Rates 1988-1997

(CB Commercial Toronto, 1997)

It has been suggested by CB Commercial in Toronto that the Suburban Norheasts' slow recovery from high vacancy rates between 1993 and the present is due in part to the numerous corporate mergers and government downsizings that occurred in this market. However, this is expected to change in the following two years because the Suburban Northeast area is the only suburban market approved for the development of large contiguous blocks of space currently in demand (Toronto, CB Commercial, 1997).

Though the Suburban West market's vacancy rates were less extreme over this same period, as Figure 2.3 shows, the Suburban West area was unable to recover as quickly or as completely as the Suburban Northeast market was during the latter 1990s and registered a vacancy rate of 15 percent in 1998.

Market analysts in the Toronto region have concluded that all sectors of the office market in Toronto are expected to experience growth over the next few years due to the steadily improving market. This has translated into increases in investments in office
properties in the core by institutional and private investors and pension fund investors in the suburbs (Toronto, CB Commercial, 1997)

2.1.3 Employment Trends

Toronto’s labour force is concentrated in the core and two suburban areas. Table 2.1 indicates that the proportion of the top employment functions are similar in Toronto’s Census Metropolitan Area (CMA), suburbs and core areas. In the CMA and suburbs, Clerical functions rank first of all functions in the area whereas in the core, Managerial and Administrative functions rank first. It is also evident, that more than 70 percent of the top employment functions in each area are traditionally classified ‘white’ collar office jobs.

Table 2.1 The Employment Functions Found Most Frequently in Each Area: Toronto 1991

<table>
<thead>
<tr>
<th>Function</th>
<th>Toronto CMA</th>
<th>Toronto Suburbs</th>
<th>Toronto Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Employment</td>
<td>2,229,090</td>
<td>1,800,525</td>
<td>378,145</td>
</tr>
<tr>
<td>Managerial, Administrative</td>
<td>2=16.2</td>
<td>2=16.1</td>
<td>1=17.1</td>
</tr>
<tr>
<td>Teaching</td>
<td>9=4.0</td>
<td>9=3.7</td>
<td>7=5.0</td>
</tr>
<tr>
<td>Medicine, Health</td>
<td>8=4.1</td>
<td>8=4.0</td>
<td>8=4.7</td>
</tr>
<tr>
<td>Natural, Soc. Sci.</td>
<td>5=9.9</td>
<td>6=8.8</td>
<td>3=15.5</td>
</tr>
<tr>
<td>Clerical</td>
<td>1=21.0</td>
<td>1=21.9</td>
<td>2=16.8</td>
</tr>
<tr>
<td>Sales</td>
<td>6=9.7</td>
<td>4=9.9</td>
<td>6=8.5</td>
</tr>
<tr>
<td>Services</td>
<td>4=10.1</td>
<td>5=9.7</td>
<td>4=12.3</td>
</tr>
<tr>
<td>Total ‘White Collar’</td>
<td>75.0</td>
<td>74.1</td>
<td>79.9</td>
</tr>
<tr>
<td>Primary</td>
<td>11=1.0</td>
<td>11=1.0</td>
<td>11=0.7</td>
</tr>
<tr>
<td>Manufacturing, Machine</td>
<td>3=14.2</td>
<td>3=14.8</td>
<td>5=11.2</td>
</tr>
<tr>
<td>Fabrication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td>10=2.9</td>
<td>10=3.4</td>
<td>10=1.8</td>
</tr>
<tr>
<td>Total</td>
<td>18.1</td>
<td>19.2</td>
<td>13.7</td>
</tr>
<tr>
<td>Other</td>
<td>7=5.4</td>
<td>7=5.6</td>
<td>9=4.6</td>
</tr>
</tbody>
</table>

Explanatory Note: Numbers 1 to 11 represent the ranking of each function within the city. The percentages given represent the percent of the total labour force involved in each function. (Statistics Canada 1991)
The employment proportions shown in Table 2.1 are further explained by the sectoral shares of the labour force in Toronto between 1971 and 1991, shown in Table 2.2. The percentage of the Managerial/Professional/Technical labour force increased between 1971 and 1981, and continued to increase to 1991. After 1981 this sector commanded the largest percentage of the labour force, accounting for 44.4 percent of it in 1991. Conversely, Toronto's Clerical labour force declined during this 20 year period and currently accounts for 21 percent of the CMA's labour force though it remains the second largest employment category. Likewise, the sectoral share of the labour force concentrated in Secondary type employment has also declined between 1971 and 1991. By declining 17 percentage points between 1971 and 1991, and accounting for 13.9 percent of the total labour force in 1991, it is apparent that the focus of Toronto's labour force has shifted from primarily Secondary to Managerial/Professional/Technical occupations, which are supported by the Clerical employment sector.

Table 2.2 Sectoral Share of the Labour Force: Toronto 1971-1991

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Man/Pro/Tec</td>
<td>21.2</td>
<td>27.6</td>
<td>44.4</td>
</tr>
<tr>
<td>Clerical</td>
<td>24.7</td>
<td>24.5</td>
<td>21</td>
</tr>
<tr>
<td>Services</td>
<td>10.5</td>
<td>10.4</td>
<td>10.1</td>
</tr>
<tr>
<td>Sales</td>
<td>11.5</td>
<td>9.6</td>
<td>9.7</td>
</tr>
<tr>
<td>Secondary</td>
<td>30.9</td>
<td>26.9</td>
<td>13.9</td>
</tr>
<tr>
<td>Primary</td>
<td>1.2</td>
<td>1.0</td>
<td>0.9</td>
</tr>
</tbody>
</table>


It is reasonable that this shift in the focus of Toronto's employment sectors would translate into an increased proportion of the office employment labour force in both the suburbs and core area during this same time period. Table 2.3 shows that the office employment shares of the total employment have increased over this 20 year period, in both the core and suburbs, resulting in the overall percentage of office employment
within the entire CMA increasing. It should also be noted that the 1991 office employment shares of the total employment in the suburbs and core areas are almost identical (68 percent).

Table 2.3 Office Employment in Toronto CMA, Suburbs and Core 1971-1991

<table>
<thead>
<tr>
<th>Year</th>
<th>Total CMA Empl.</th>
<th>Office Empl.</th>
<th>% of Total CMA Empl.</th>
<th>Total Suburb Empl.</th>
<th>Office Empl.</th>
<th>% of Total Suburb Empl.</th>
<th>Total Core Empl.</th>
<th>Office Empl.</th>
<th>% of Total Core Empl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>1,244,850</td>
<td>396,145</td>
<td>31.8</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>359,145</td>
<td>104,030</td>
<td>29.0</td>
</tr>
<tr>
<td>1981</td>
<td>1,678,565</td>
<td>665,210</td>
<td>39.6</td>
<td>863,780</td>
<td>318,370</td>
<td>36.9</td>
<td>343,780</td>
<td>166,565</td>
<td>48.5</td>
</tr>
<tr>
<td>1991</td>
<td>2,229,090</td>
<td>1,458,670</td>
<td>65.0</td>
<td>1,800,525</td>
<td>1,235,855</td>
<td>68.6</td>
<td>378,145</td>
<td>257,060</td>
<td>68.0</td>
</tr>
</tbody>
</table>


The trends presented above are reasonable given the type of office occupants currently dominating the core and suburban office markets. During the first half of 1996, the FIRE (Finance, Insurance, Real Estate) and high technology sectors were the leaders in space absorption in the Greater Toronto area. Moreover, the FIRE sector effectively occupied 29.1 percent of the total space leased during the first six months of 1997 (Toronto CB Commercial, 1997). Of this, 57.1 percent of the absorbed space was in the suburban areas, and 42.9 percent was in the core (Toronto CB Commercial, 1997).

The high technology and computer-related sectors occupied an additional 22.2 percent of the total space leased during these same six months. The majority (62.2 percent), of these high technology firms located in the suburban areas (Toronto CB Commercial, 1997). Similarly, 56.1 percent of the business services, which are a large proportion of both the core and suburban employment percentages and occupied 21.5 percent of space leased, chose to establish themselves in the suburbs. The FIRE sector behaved in a similar way.
Thus, it is evident that these current trends of office location in Toronto are consistent with the findings in the latter 1980s and early 1990s of Gad and Matthew respectively. Thus the core has become the decision making center and the suburbs a compilation of the office functions providing services to those in the core. These findings are further supported by the expert opinions of Mr. Wally Pollock, Vice President CB Commercial Toronto (1998). According to Mr. Pollock, the core area of Toronto will continue to be the locational preference of head office and executive functions and the suburbs will increasingly experience industrial and FIRE build up. Mr. Pollock forecasts that, in the future, the office development of the suburbs will increasingly resemble a ‘campus like’ setting, and experience increasing office sprawl. Also, as the core continues to be ‘leased-up’, Mr Pollock foresees the suburbs experiencing an even greater demand for existing office space, and a demand for new office development that may surpass the overall development in the core area of Toronto.

The current trends and literature discussed above formulate the base case study for the City of Toronto. These trends and literature findings will be used to compare the events and trends of London and Hamilton in order to determine the degree of similarity or difference each of these medium sized cities have to Toronto and it’s model. The literature will also be used as the foundation upon which suggestions and reasonings for these similarities and differences will be made.
3. **Case Study Methodology**

It is important to achieve a comprehensive understanding of the trends and events that have been occurring in the London and Hamilton office markets over the last two decades and how they fit the models previously discussed; particularly in terms of office floor space development, vacancy rates, employment trends and the thought processes regarding location decision making and office location patterns in each city. Knowledge of these factors is particularly important in order to make comparisons between the events experienced by Toronto and the ones London and Hamilton have, and are experiencing. Each city has initially been examined as a whole and in geographical sections (core, suburbs); subsequently, interviews were conducted with office executives, in suburban clusters and, relocating offices and with city officials as a supplement to the more general trends of the region shown by published data. Comparisons were also made for London and Hamilton, individually, to Toronto, using the above outlined factors to determine the degree of similarity or difference between them. This chapter provides information on:

1. Type of data employed
2. The sources of data employed
3. Reasons for collecting data on these particular factors
4. Analysis of the data
4. Interview studies in each city.
3.1.0 Data Types

Time series data of three different, yet comparable sets of quantitive data were utilized in the investigation of each city. These series involved:

(1.) Office floor space data in meters squared in one year intervals between 1988 and 1997 for the City of Toronto, London and Hamilton;

(2.) Vacancy rates, as percentages, within each city, in one year intervals between 1988 and 1997;

(3.) Labour force and employment data, broken down into major sectors and subsections for each city, in ten year census intervals between 1971 and 1991.

3.2.0 Data Sources

Office floor space data for each city were compiled using a variety of different sources. Within the City of London, office floor space data between 1970 and 1992 were compiled using an office study by the City’s Planning Department. Additional data between 1993 and 1997 were compiled using annual reports published by the firm currently responsible for tracking office floor space data – CB Commercial. In the City of Hamilton, core office space data were obtained from an annual report published by the City. Data in this report recorded yearly totals of core office space between 1988 and the present. However, only limited data has been tracked and is available for office space in the suburbs, therefore comparisons of the suburbs to the core were limited for the City of Hamilton. For office floor space data for the City of Toronto, between 1988 and 1997, the author relied on annual publications on core and suburban office floor space, distributed by the Toronto division of CB Commercial.
To gain a more economic and demographic view of the trends occurring within each of these three cities, vacancy rates were collected and evaluated using annual reports by CB Commercial in London and Toronto between 1988 and 1997. The City of Hamilton had also published an annual report with similar data, albeit only for the core, for the same period 1988 to 1997 which was incorporated into the evaluation.

To supplement the data above Statistics Canada catalogues for the censuses of 1971, 1981 and 1991 were utilized to identify employment totals as well as employment subcategories for London, Hamilton and Toronto CMA's, core and suburban areas. As far as was possible, the total employment has been collected, and then grouped into 'office functions', and 'other', and then further divided into 'Managerial/Professional', 'Clerical', 'Service', 'Primary', and 'Secondary' so as to establish the degree of employment specialization, and the geographic concentration of each field within each city.

3.3.0 Reasons for Collecting Data

Office floor space data, for each city (by core and suburban areas) were collected in order to establish how each area of the city has evolved over time, and to what degree each area contributes to the overall office floor space of the city. These data were also collected to further determine whether the core or suburban area is gaining a larger proportion of demand for office space than the other. Office floor space data allow for comparisons and conclusions to be made on the degree of similarity of London and Hamilton and Toronto based on how similar the proportion of office space in the core and suburban areas are, the periods of growth, the areas of growth and thus the overall nature of the office markets in London and Hamilton compared to Toronto.
It was anticipated that by collecting data on the vacancy rates within each city, by area (core and suburban), a further understanding of the office location patterns within each city and their degree of similarity to the model of Toronto would be achieved. Vacancy rates effectively provide information on the city’s ability to absorb the additions of office space. Vacancy rates also suggest the locational preferences of office functions and firms. By comparing core and suburban vacancy rates, it is possible to conclude whether vacancy rates are rising in one area of the city as they are declining in another suggesting which areas of the city firms are preferring. They also provide information on the health of the office market, long periods of high vacancy rates indicate a city core or suburban area that is not making effective use of its office space, or attracting firms that could make use of the available space.

Lastly, the changes in the labour force and office employment were carefully followed over the 20 year study period to gain a clearer understanding of the geographic concentrations of certain functions, their contribution to the total employment in each city, and the overall focus of the labour force. Labour force data were evaluated in order to determine if the trends of the city’s labour force were consistent with the trends of office floor space and vacancy rates. This would allow for conclusions to be drawn on which areas of the city are becoming more office specialized and where the growth of office functions and office space will occur in the future. Employment data also allow for comparisons to be made on how similar the employment structure and trends are and have been in the cities of London and Hamilton in comparison to those employment trends and concentrations in Toronto.
3.4.0 Data Analysis

For each variable being evaluated, a time series analysis was run by individual variable. The floor space data were classified by core and suburban areas, in one year intervals between 1988 and 1997. These trends were then plotted on graphs to gain a pictorial view of the major additions and any losses experienced over the nine year period. This investigation was intended to determine: (1) the growth of office building space, (2) the changes in the demand for office space in the broad geographic areas, (3) in which areas of the city was the majority of office space development occurring, and (4) to assess whether or not the trends in office space development and total office building space of London and Hamilton were similar to the office space trends of Toronto over the nine year period.

Vacancy rates were also categorized by area in single year intervals between 1988 and 1997. Comparisons were made between the vacancy trends and office floor space trends to establish the stability and responsivness to demand and change of the market as well as to determine the area of the city in which office occupants were increasingly locating. The trends established from this area of evaluation were also compared to the vacancy trends in Toronto to establish similarities and differences and to suggest reasons for any differences in the office floor space trends between London, Hamilton and Toronto.

The labour force data were classified into core and suburban areas, as the above two factors were, but were subsequently categorized as specified by Statistics Canada for each of the three census years being evaluated. Initially, general conclusions were drawn concerning the six employment functions most frequently found in each area, and then
further evaluated over the three census years to determine the shift of the labour force from one focus to another. Lastly, comparisons were made of the office employment in the CMA, core and suburbs over the three census years to determine the areas of concentration as well as which areas are acquiring this concentration faster. These trends were then compared to those in Toronto to establish any similarities or differences between London’s and Hamilton’s labour forces and Toronto’s.

3.5.0 Sample Interview Survey

Within the cities of Toronto, London and Hamilton, executives in office clusters, and relocating offices, city officials and real estate firms were interviewed to gain an overview of the office functions, the impact that distance from the core has had on suburban office facilities and the factors influencing location decisions of various office firms. The interviews that were conducted sought to identify why firms were locating in suburban or core areas, what features firms seek when choosing office locations, and which factors proved to be most advantageous or disadvantageous about their chosen location. The last objective of these interviews was to gain information on the impact firms have had on the local economy. Thus the specific questions explored involved:

1. The type of business conducted?
2. Who made the location decision and what was the process?
3. Why was a CBD location not chosen?
4. How important is the relative distance to the CBD?
5. What were the key attributes sought and considered of the location?
6. How important is the image of the chosen city?
7. To what degree was local skilled labour an issue?
(8) Was there considerable importance or consideration placed on the activities and firms located around them?

(9) What role does telecommunications play in their business?

(11) Has their location choice been the right one for their company?

(12) What are their views of the future trends of office location patterns?

This type of interview information is instrumental in providing further explanations to the data and trends sought above. The data obtained from these interviews provide links between the discovered trends of London and Hamilton and the literature that characterizes office location patterns, as well as providing a basis on which to compare London and Hamilton to Toronto.
4. Case Studies

The intent of this research is to evaluate the office dynamics of London and Hamilton, two medium sized, rapidly growing cities in comparison to the model of Toronto, Ontario’s largest metropolitan area. The initial phase of this analysis is to assess and compare of background information, office floor space data, vacancy rates and employment trends of London, and then Hamilton, in order to gain an understanding of the similarities or differences in the main trends in each city’s office markets and employment trends in comparison to those trends in Toronto and the defining characteristics of the literature.

4.1.0 London Ontario

London’s office space market behaves quite differently from the markets typically analyzed in the literature on office location patterns. The reasons for this include: London’s relatively small size, economic make-up and image, relatively isolated location, its function as a Southern Ontario regional central place, the type of office functions choosing to locate in London, and the current and projected condition of the city’s transportation infrastructure.

London consists of a core, suburban and central realm (however, the central area is included in the core region) (See Map 4.1). Because of these two separate office realms, many of the office functions in London have adopted the newly available automation technologies. It is in this regard
that London’s core differs from other medium sized CBD areas. According to London’s planning officials, most of the office functions in London’s CBD deal with routine information which is effectively relayed by telephone, computer, or facsimile equipment. Most office functions in London do not regularly deal with such sensitive information that it must be relayed face-to-face. Many of these office functions are branch offices, which have already decentralized from their main headquarters in Toronto or other major cities, although London Insurance Group ranks 62nd out of the top 1000 profit earning Canadian companies and London Life Insurance ranks 11th of the top private companies in the Globe and Mail’s Report on Business in 1997 (Globe and Mail, 1997). For these firms, the operational difference between a core location and a suburban location is minimal, and few of the firms that have located in London are functionally bound to the core. Almost all firms currently in London could locate within a suburban location if appropriately sized and priced office space were available to them.

4.1.1 Office Floor Space Trends

Office floor space in the suburbs has been increasing in London since the early 1970s. In 1992, as Table 4.1 indicates, there was 992,025 m² of office space within the City of London, 34 percent of which was located outside the designated core area (in the suburbs and central area), and 21 percent was in the areas designated as suburbs by the city (London 1993, vol.1) (See Map 4.1 for clear definition of area boundaries). London experienced an unparalleled level of office building space development during the first three years of the 1990s (1990, 1991, and under construction in 1992). The addition of approximately 191,329 m² of office space during this three year period constitutes an
increase in London’s total office stock of 24 percent in these three years and translates to a three year average of 63,776 m² per annum (London, 1993, vol.1).

Table 4.1 London Office Space 1970-1992 Core and Suburbs

<table>
<thead>
<tr>
<th>Year</th>
<th>m²</th>
<th>m² in Core</th>
<th>m² in Suburbs</th>
<th>m² in Central</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>413,491</td>
<td>272,617 (65.9%)</td>
<td>74,838 (18.0%)</td>
<td>66,036 (16.0%)</td>
</tr>
<tr>
<td>1970-1979</td>
<td>203,410</td>
<td>132,313 (65.0%)</td>
<td>53,035 (26.1%)</td>
<td>18,062 (8.9%)</td>
</tr>
<tr>
<td>added space</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>616,901</td>
<td>404,930 (65.6%)</td>
<td>127,873 (20.7%)</td>
<td>84,098 (13.6%)</td>
</tr>
<tr>
<td>total available space</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980-1989</td>
<td>183,795</td>
<td>86,227 (46.9%)</td>
<td>65,450 (35.6%)</td>
<td>32,108 (17.5%)</td>
</tr>
<tr>
<td>added space</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>800,696</td>
<td>491,157 (61.3%)</td>
<td>193,333 (24.1%)</td>
<td>116,206 (14.5%)</td>
</tr>
<tr>
<td>total available space</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990-1992</td>
<td>191,329</td>
<td>123,790 (64.7%)</td>
<td>41,805 (21.9%)</td>
<td>25,734 (13.5%)</td>
</tr>
<tr>
<td>added space</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End 1992</td>
<td>992,025</td>
<td>614,947 (62.0%)</td>
<td>253,138 (25.5%)</td>
<td>123,940 (12.5%)</td>
</tr>
<tr>
<td>total available space</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Over the past 22 years, as Table 4.1 shows, there have been progressive additions to the absolute amount of London's office building supply being developed in the suburbs which reached an average addition of 13, 935 m² per annum between 1990 and 1992 (London 1993, vol.1). Between 1970 and 1979, approximately 26 percent of the office space created in London was in the suburbs and, 36 percent of the space added between 1980 and 1989 was also developed in the suburban areas (London 1993, vol.1). This ten percentage point increase in office space between 1979 and 1989 indicates the period when the suburban area of London began to develop as an increasing alternative location to the core for offices. A large proportion of the suburban supply of office space is located in large office buildings; approximately 65 percent of the suburban office stock is located in buildings between 1,858 m² and 4,645 m², and the remaining 35 percent is located in buildings exceeding 4,645 m² (London 1993, vol.1).
Despite the continued development of office space between 1970 and the present, as represented in Table 4.1, during the 1980s, when office space demand increased in response to the growth of office employment, office supply in London did not keep pace. A review of the office market during the 1980 to 1987 time period, prepared by A.E. LePage, indicates that the available supply of vacant large office space became depleted in the early and mid 1980s (London, 1993 vol.1). The market was unable to fulfill the demand by new office tenants, and as a result, office expansions were halted by many firms. This pent-up demand was one of the primary factors leading to numerous approvals of Official Plan and Zoning By-law amendments by Council since 1989 permitting the addition of a significant amount of office space: 93.2 percent of all office building space applied for in central London has been approved, and more than 72 percent of all space applied for in the suburbs has been approved (London, 1993, vol.1 p.2-23).

In addition to these applications and approvals for office space, there is approximately 2,229,600 m² of potential office space which is currently pre-zoned for office uses in the suburbs. This potential represents 600 percent of the existing office supply in the suburbs and central London. A maximum potential also exists for almost 1,114,800 m² of office space on large infill sites within London's core which could accommodate a tripling of the core's current office supply if built at the maximum allowable floor area ratio (F.A.R) of 10:1 (London 1993 vol.1. p.2-26).

The change in office floor space totals, between 1992 and 1993 (Figure 4.1) is the result of a change in the sourcing of the data. Between 1970 and 1992, the City of London was responsible for tracking the total amount of office floor space data for the
city. In 1993, the City of London contracted this responsibility to CB Commercial (a large real estate group). As a result the data on office floor space between 1993 and the present includes only the competitive office space within the core and suburban regions (owner occupied and government owned and occupied buildings are excluded). These excluded buildings remain present in the city, but, because they are never leased to companies other than those that own them, and are never put on the public market, they are not included in the total office stock totals between 1993 and the present. Therefore, vast amounts of office space were not lost between 1992 and 1993, but rather a different type of office space began to be tracked which does accurately reflect the trends of office space construction and deconstruction.

Despite this change in the type of data shown in Figure 4.1, it is noted that an additional amount of office space was added to the core area in 1993. This addition was the result of the construction of three large scale office buildings: 1 London Place (32,550m²), the Talbot Center (48,825m²), and the Dufferin Corporate Center (20,460m²). Subsequently, between 1993 and 1997, limited additional office space was added to the core. Similarly, only limited development characterized the 1990s for the suburbs with the most development of office space occurring between 1994 and 1996 (5,813m²) (Figure 4.1). These periods of constructions and non-development reflect the theory of the four year build cycle, where it is believed that it takes four years between construction projects to adequately absorb the previously added stock to justify the planning for future developments.
Many of the forces which have traditionally preserved core areas (e.g., sunk costs, afterwork activities, prestige image of core) are slowly becoming less important over time and may not help to develop a vibrant core office market in London for the future. According to the City of London, continuing demand for suburban locations provides evidence that some firms are no longer considering themselves locationally bound to London’s core; hence the development of suburban office space. The forces which traditionally supported core areas (such as theatres restaurants, entertainment etc.) may not be strong enough to preserve London’s core office market as technologies improve in the future and the suburbs continue to develop.

### 4.1.2 Vacancy Trends

As has already been discussed in section 4.1.1, London’s office market is divided into the core and suburban areas. The total competitive office market of London in 1997 was comprised of 437,615m² of gross leasable space. In the spring of 1997 the entire City of London exhibited a total office space vacancy rate of 18.8 percent (London CB
Commercial, 1997). Further comparisons, as shown in Figure 4.2, reveal that at this same time, in the spring of 1997, the core office market had a total vacancy rate of 19.2 percent and the suburbs a total vacancy rate of 17.5 percent. London's vacancy rates in both the core and suburban areas have fluctuated in recent years.

**Figure 4.2 London Core and Suburban Vacancy Rates 1988-1997**

The core office market experienced its highest vacancy rates in 1993 of 25.0 percent, but demonstrated a recovery of almost 5 percent in 1994 and thereafter experienced vacancies just below or just above 20 percent. Conversely, the suburbs experienced their highest vacancy rate a year earlier than the core in 1992, at 26.0 percent. The suburbs also showed a year of recovery, (in 1993), but, unlike the core, vacancy rates in the suburbs rose again between 1993 to 1995 (reaching a peak of 22 percent in 1995). As it appears from Figure 4.2, the suburbs were capable of recovering faster between 1995 to 1997 than the core by exhibiting vacancy rates in 1996
(16.5 percent) and 1997 (19.2 percent) below those of the core for the entire 1990 to 1997 time period.

In regards to the vacancy trends occurring during the 1990s for the City of London, it is notable from Figure 4.3 that Class ‘A’\(^1\) office space has continually, with the exception of 1992 to 1993, exhibited lower vacancy rates than all other sectors of the office market, and currently exhibits the lowest reported vacancy rate of 1997, 13.4 percent (CB Commercial, 1997). Also, despite the increasing vacancy rates between 1989 to 1993, the Class ‘A’ office market of London has had a stable vacancy rate of approximately 13.5 percent throughout the middle to latter part of the 1990s.

Figure. 4.3 London Class ‘A’ Office Space Vacancy Rates 1988-1997

![Vacancy Rates Graph]


---

\(^1\) Class ‘A’ office stock - of a prestige nature; offering large floor areas for individual tenants; commands rental rates above $150/m\(^2\).

Class ‘B’ office stock - caters to small scale tenants; smaller floor spaces and less modern facilities; commands rental rates between $100-$150m\(^2\).

Class ‘C’ office stock – older, offers small office space to individual tenants; commands rental rates below $100m\(^2\) and accommodates tenants who cannot afford high overhead expenses (London, 1993, vol. 1, p.2-9).
According to city officials, during the 1990s in London numerous events took place which were related to the variations in both the core and suburban office vacancy rates. In 1993, office activity occurring in the London marketplace, as reported by the city planning department, was limited to the relocation of existing tenants throughout the city. This resulted in a shifting of the previously vacant space between buildings and office market areas without actually reducing it.

Similarly, between 1993 and 1994, extensive over development of core office space led to a narrowed price gap between the core and suburban areas (London CB Commercial, 1994). As a result, vacant space within the core became an option to firms that were previously bound to the suburbs by lower costs. It was also at this time that the depressed economy and high vacancy rates led to aggressive leasing packages in order to fill the newest Class ‘A’ office buildings, and resulted in a shortage of certain types of space (contiguous available office space) (London CB Commercial, 1994).

The Official Plan has historically emphasized that all major office buildings should be directed to the core. In the most recent version of the Official Plan, three main policy directions emerged that appear to be guiding all office space developments, they include: (1) that the downtown should be the primary focus for major office development in the City of London; (2) that sufficient lands should be designated for office uses to allow functions a wide locational choice; and (3) that urban growth should maintain and promote a compact urban form. Due to these regulations pertaining to office building space and location, (which are further described in Appendix A) it was inevitable that the City of London developed as it did. The core is tightly planned and has a large amount of Class ‘A’ office space and large contiguous blocks of prestigious space. Office space in
office buildings in the suburbs is geographically spread out, resulting in key office
to ‘clusters’ developing around the central area and at major transportation routes
into and out of the city. It has been suggested by the literature on the City of London, and
by city officials themselves, that the geographic pattern that has come to physically
characterize London’s office space market was intentional. It was a means of protecting
and preserving the image of the core, retaining much of the large office space in the core
and at the same time allowing the growing demands for office space to be met without
compromising the form of the city itself.

4.1.3 Employment Trends

A functional review of 1,400 firms within London’s office market, conducted by
the City of London’s Department of Planning and Development in 1992, showed that a
large proportion of all types of offices have already located within the suburbs. As a
result, it has been observed that “London’s core and suburban regions are almost
indistinguishable from each other when analyzed by a number of variables such as office
function, office type, and office size” (McCann, 1989, p.37).

By further investigating the relocation of office tenants, it was realized that
certain types of occupations are consistently found in most areas of the city. The
occupations that occur most frequently, as set out in Table 4.2, are proportionally
distributed between the entire London CMA, its core and its suburbs. Table 4.2 indicates
that in 1991, 72.5 percent of the entire region’s labour force, 72.5 percent of the
suburban, and 72.1 percent of the core labour forces were employed in jobs traditionally
classified as ‘white collar’ (Medicine and Health, Managerial and Administrative,
Clerical, Services, Sales, Teaching and Natural Sciences). In addition, the Clerical
percentage of the region, core, and suburban labour force, by individual function, is first in rank of all functions with Manufacturing ranking second in all areas, but with the largest percentage in the suburbs; suggesting that there exists a higher concentration of "white collar" employment in all areas of the city than any other function, but that the suburbs also have the highest percentage of the Manufacturing labour force.

Table 4.2 The Employment Functions Found Most Frequently in Each Area: London 1991

<table>
<thead>
<tr>
<th>Function</th>
<th>London CMA</th>
<th>London Suburbs</th>
<th>London Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Employment</td>
<td>113,055</td>
<td>21,440</td>
<td>169,250</td>
</tr>
<tr>
<td>Managerial, Administrative</td>
<td>4 = 12.3</td>
<td>3 = 14.4</td>
<td>4 = 12.4</td>
</tr>
<tr>
<td>Teaching</td>
<td>9 = 5.3</td>
<td>10 = 4.5</td>
<td>9 = 3.9</td>
</tr>
<tr>
<td>Medicine, Health</td>
<td>7 = 6.8</td>
<td>8 = 5.7</td>
<td>7 = 6.9</td>
</tr>
<tr>
<td>Natural, Soc. Sci</td>
<td>6 = 7.7</td>
<td>4 = 14.1</td>
<td>6 = 7.1</td>
</tr>
<tr>
<td>Clerical</td>
<td>1 = 18.1</td>
<td>1 = 17.8</td>
<td>1 = 18.4</td>
</tr>
<tr>
<td>Sales</td>
<td>5 = 9.7</td>
<td>6 = 8.4</td>
<td>5 = 10.1</td>
</tr>
<tr>
<td>Services</td>
<td>3 = 12.6</td>
<td>7 = 7.6</td>
<td>3 = 13.3</td>
</tr>
<tr>
<td>Total 'White Collar'</td>
<td>72.5</td>
<td>72.5</td>
<td>72.1</td>
</tr>
<tr>
<td>Primary</td>
<td>11 = 2.3</td>
<td>5 = 9.0</td>
<td>11 = 1.2</td>
</tr>
<tr>
<td>Manufacturing and Machining</td>
<td>2 = 15.4</td>
<td>2 = 16.8</td>
<td>2 = 14.5</td>
</tr>
<tr>
<td>Transportation</td>
<td>10 = 3.1</td>
<td>11 = 4.4</td>
<td>10 = 2.8</td>
</tr>
<tr>
<td>Total</td>
<td>20.8</td>
<td>30.2</td>
<td>18.5</td>
</tr>
<tr>
<td>Other</td>
<td>8 = 5.6</td>
<td>9 = 5.1</td>
<td>8 = 5.3</td>
</tr>
</tbody>
</table>

Explanatory Note: Numbers 1 through 11 represent the ranking of each function within the city. The Percentages represent the percent of the total labour force in each area involved in that particular function.
(Statistics Canada, 1991)

Further examination of the census employment data for London indicated that the sectoral shares of the total labour force in London between 1971 and 1991, experienced a change in the concentrations of functions from a largely secondary focus to an increasing Managerial / Professional / Technical focus. It is evident from Table 4.3, that the Managerial / Professional / Technical sector in London experienced huge growth between
1971 and 1981, doubling the initial percentage of 1971, and more than doubling again between 1981 and 1991. The Secondary sector declined in its overall percentage between 1971 and 1991, and the remaining labour force sectors represented in Table 4.3, remained stable. This suggests an increasing specialization of London’s labour force over the last 20 years, away from secondary industries. This has been the trend throughout Canada; and has created a demand and opportunity for ‘office’ type employment and office space within the city’s boundaries.

Table 4.3 Sectoral Share of Labour Force: London 1971-1991

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Man/Pro/Tec</td>
<td>8.2</td>
<td>16.8</td>
<td>35.3</td>
</tr>
<tr>
<td>Clerical</td>
<td>18.1</td>
<td>19.9</td>
<td>18.1</td>
</tr>
<tr>
<td>Services</td>
<td>11.7</td>
<td>12.8</td>
<td>12.6</td>
</tr>
<tr>
<td>Sales</td>
<td>11</td>
<td>10.6</td>
<td>9.7</td>
</tr>
<tr>
<td>Secondary</td>
<td>47.8</td>
<td>37.3</td>
<td>21.7</td>
</tr>
<tr>
<td>Primary</td>
<td>3.2</td>
<td>2.6</td>
<td>2.6</td>
</tr>
</tbody>
</table>


The employment situation in the City of London is thus two fold. Over the last 20 years there has been a shift in the labour force from secondary to office employment in the London CMA, core and suburbs. And concurrently, the importance of office functions and office employment percentages have steadily increased, so that offices now represent more than 50 percent of the total employment in the CMA, core and suburbs. These trends are recognized by examining Table 4.4.
Table 4.4 Office Employment in London CMA, Suburbs and Core 1971-1991

<table>
<thead>
<tr>
<th>Year</th>
<th>Total CMA Empl.</th>
<th>Office Empl.</th>
<th>% of Total CMA Empl.</th>
<th>Total Suburb Empl.</th>
<th>Office Empl.</th>
<th>% of Total Suburb Empl.</th>
<th>Total Core Empl.</th>
<th>Office Empl.</th>
<th>% of Total Core Empl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>129,555</td>
<td>33,100</td>
<td>25.5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>98,485</td>
<td>16,145</td>
<td>16.4</td>
</tr>
<tr>
<td>1981</td>
<td>152,480</td>
<td>50,990</td>
<td>33.4</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>137,075</td>
<td>25,480</td>
<td>18.6</td>
</tr>
<tr>
<td>1991</td>
<td>211,690</td>
<td>113,055</td>
<td>53.4</td>
<td>21,440</td>
<td>12,430</td>
<td>58</td>
<td>169,250</td>
<td>91,765</td>
<td>54.2</td>
</tr>
</tbody>
</table>


Table 4.4 shows that the CMA’s employment in the ‘office’ sector increased 54 percent between 1971 and 1981, and the overall percentage of office employment in the core increased 58 percent. This expansion in the office labour force is important as it marks the beginning of the change of labour force concentrations. This change continued throughout 1981 to 1991 with a further specialization of the labour force, where office functions account for more than 50 percent of each areas labour force (CMA, core, suburbs). The CMA as a whole experienced an increase of 122 percent in it’s office employment, the core witnessed an increase of 260 percent and the suburbs recorded 58 percent of all employment in the area being classified as office functions between 1981 and 1991. This suggests that in each region of the city, more than half of its 1991 employment was involved in office functions, and is becoming specialized towards office activities, particularly in the suburban region where office employment commands more of the total employees of the area than either the core or the CMA as a whole.

4.1.4 Comparison to Toronto

From the data and trends presented in sections 4.1.1, 4.1.2 and 4.1.3, of this chapter, conclusions can be drawn about the similarity of London’s office location patterns in comparison to Toronto. In referring to the data and established trends that
characterized Toronto’s office location patterns over the last four decades in Chapter 2, it becomes apparent that London exhibits similar trends in office floor space, vacancy rates and employment.

As the literature and data suggest, between 1970 and the latter 1980s, office floor space development accelerated in both Toronto and London, with more of office space being developed in the suburbs than had previously occurred (Huang, 1989, London 1993, vol.1). Likewise, a second period of development of office floor space, in both the core and suburbs (as Figures 2.1 and 4.2 show) characterized the period between 1989 and 1992 for both Toronto and London. The periods of ‘lag’, or non-development are also similar between Toronto and London occurring between 1993 and 1997 when the overall office stock of the core and suburbs remained constant.

As office floor space development in London was mimicking the development patterns of Toronto, so too were the vacancy rates of each city similar. In referring to Figures 2.2 and 4.2, the vacancy rates in the core areas of both Toronto and London reached their peaks in 1993, followed by a decline between 1993 and 1996 and a rise in 1995. However, London’s core vacancy rate in 1997 (19.2 percent) was not as low as Toronto’s (13 percent).

Additionally, vacancy rates in the suburban areas of Toronto and London were similar between 1988 and 1993 showing increases over the six year period. However, as Toronto’s suburban regions reached their peak in 1993 (Figure 2.3), London’s suburban vacancy rate rose for two subsequent years reaching its peak in 1995 (Figure 4.2). Despite this one year time difference in London’s suburban vacancy trend, both suburban areas have since recorded declines between 1995 and the present.
Employment trends between the City of Toronto and the City of London have also exhibited similarities to each other. As both Gad (1985) and Matthew (1993a) revealed, between 1960 and 1980, a large number of small sales offices, head offices of manufacturing companies, engineering, architect, insurance and investment firms relocated to the suburbs, followed by a large portion of the clerical labour pool. Similar discoveries were made in 1992 of London’s office tenants, whereby, a large proportion of non-head office, non-executive functions also moved to the suburbs. Firms and companies located in the City of London felt less functionally bound to the core (London, 1993, vol.1).

In addition, the most frequent employment functions within each city are also similar (Table 2.1 and Table 4.2). In both London and Toronto’s CMA and suburbs, Clerical functions rank first, with Managerial and Administrative functions ranking third and fourth in London’s suburbs and CMA and second in Toronto’s suburbs and CMA areas. Likewise, in the core of London, Clerical functions rank first, and second in Toronto’s core. However, it is also apparent that there is a greater percentage of London’s labour force involved in Manufacturing work, where it ranks second in all three areas of the city; whereas in Toronto it ranks third in the CMA and suburbs, and fifth in the core. It should also be noted that the percentage of ‘white collar’ employment within both cities is also similar, where more than 70 percent of each area of each city’s employment is involved in office functions. This suggests that the concentrations of the labour force in each city’s core, suburbs and CMA are similar (highly office concentrated), linking the trends in office floor space development and vacancy rates.
Given the concentrations of the labour force in each city, as outlined above, the conclusion can be drawn that the sectoral shares of the labour forces in Toronto and London, have shifted to a Managerial / Professional / Technical sector (Table 2.2 and Table 4.3). Both the Clerical and Secondary sectors of each city have experienced a decline between 1981 and 1991 (though the Secondary sector still accounts for almost 22 percent of the London CMA labour force), concluding the similarity in the change in each city’s labour force from a Secondary focus in 1971 to a Managerial / Professional / Technical focus in 1991. Therefore, it would follow that the percentage of the labour force within each city involved in office functions has also increased between 1971 and 1991 (Table 2.3 and Table 4.4). As both of these tables show, the suburbs in each city currently exhibit the largest percentage of their labour force being involved in office functions, which account for more than 50 percent of each area’s total labour force in both Toronto and London.

To further validate the comparisons between the office location patterns in Toronto and London, as presented above, are expert opinions and results of personal interviews conducted with executives of suburban located firms in the City of London. After speaking with eight company officials, it became evident that the following issues are consistently driving companies to locate where they do, and thus generating the office space, vacancy and employment trends as outlined in section 4.1: executive commuting, easy access for customers, easy access to all major transit routes and highway systems, parking, size and cost of office space, ability to expand, telecommunications, a high standard of amenities and agglomeration economies (ie. public transit, banks, suppliers, restaurants, customers etc.) were all important. The majority of the executives
interviewed also indicated that their companies’ suburban locations were more accessible for their workers and that their particular location within the suburbs (e.g. Northern / Southern / Eastern suburbs) provides advantages that the other suburban areas do not (i.e. location relative to the highway, closeness to the core, proximity to the University). Many of these factors causing office firms to locate outside the core of London are similar to the centrifugal and centripetal forces Colby listed as causing the same type of movement in the 1930s (i.e. increasing property values, traffic congestion, difficulty securing space, the presence of large parcels of land outside the core, and transportation services in the suburbs).

These factors, obtained from the interviews in London, provide additional insight and reasoning as to why the location patterns characterizing London’s office market have developed as they have. It is also of importance to note that many of these same factors characterizing London, were discovered ten years earlier by Matthew, and have been causing the same office location patterns in Toronto: Executive commute, client access, low rental costs, good highway access, appropriate space, staff commuting (1989,p. 179). Therefore, the conclusion can be made that not only are the absolute office space, vacancy rates, and employment trends similar between Toronto and London, but so too are the factors causing the movement of offices out of both cities’ core areas to the suburbs.

To further explain the location patterns described of London, and the similarities between the office location patterns in Toronto and London are the results of the literature as presented in Chapter 2. According to the literature, the office location pattern of suburbanization is characterized by a number of elements: the clustering of
functions (Haig, 1926), the desire to minimize the cost of friction, the reasons for moving into, or out of the CBD (Colby, 1933), agglomeration economies, public policy (Gad, 1985), and telecommunications. It is evident from the results of the interviews, literature and data presented in sections 4.1.1, 4.1.2 and 4.1.3 that the City of London's office patterns can be characterized by these same elements as outlined in the literature; thus fitting both the empirical and theoretical models of office location patterns.

The literature has also set out a number of elements that specifically characterize office location patterns in Toronto. These include: the CBD being a ‘complex mosaic’ and the CBD being exclusively a high order decision making center. Matthew (1993) suggests the following reasons for Toronto's office patterns: (1) improvement and cost efficiency of telecommunications has relaxed the need for close proximity of offices; (2) suburbs are self-generators; (3) suburban offices seek exceptional highway access, good public transit and generous parking; (4) appropriate staff can be attracted to any location. Similarly, Gad (1985) suggests that there are numerous factors which have resulted in the office patterns in Toronto: (1) the nature of the linkages; (2) labour demand and supply; (3) rent differentials; (4) public policy.

In an interview with Mr. John Fleming, of the City of London (1998), it was evident that a number of the factors outlined above, as characterizing the model of Toronto's office location patterns, are also true of the office patterns in London. According to Mr. Fleming, the core area of London consists primarily of government offices and major insurance companies (ie. London Life). It also retains a strong legal sector and is the primary decision making center of the city. Mr. Fleming also points out that the offices choosing to locate in the suburbs seek lower rental costs and excellent
transit routes (both public and highway). He also notes that because of London’s excellent telecommunications network, established suburban agglomeration economies and linkages, the suburbs have developed and will remain an alternative location to many relocating and ‘start-up’ corporations in London.

However, the City of London’s office location patterns do differ from the established model of Toronto. London’s CBD is not a complex mosaic as described of Toronto, and its suburbs are not self-generators. Because London’s core is the city’s primary market area, the city has made a conscious decision, different from that of the City of Toronto, whereby large scale, mass office space development is not permitted in the suburbs. London’s public policy and Official Plan, as outlined in Appendix A, identifies the restrictions on office space both in the nature and location. From these restrictions and above information, it can be concluded that suburbanization of offices will not be allowed to develop to the same scale as it has in Toronto, and suburban downtowns will not characterize the City of London in the future. This conclusion is substantiated when the percentages of office space added in the core and suburbs between 1970 and 1992 (Table 4.1) were compared. Though the suburban share of added space was increasing, there was continually more of the absolute amount of space concentrated in the core.

Mr. Fleming, from the City of London concurs with the above conclusion. He adds that though the City of London, resemble sToronto, and shares many similar trends concerning office location patterns, the scale on which these patterns are occurring, the long range goals and projected scale of development of London’s suburban areas are different. Therefore, though the City of London does fit the model of office location
patterns, of both the literature and the model of Toronto, it does differ as well, most prominently in regards to the current and long range scale of development that will be allowed in the suburban areas of the City of London.
4.2.0 Hamilton Ontario

The second empirical case study focuses on office building space, vacancy rates and employment trends within the City of Hamilton. Unlike the City of London, the City of Hamilton is situated in a larger, less confined geographical context. The common perception of Hamilton is the politically defined City of Hamilton, and not the greater region of which it is a part - the Region of Hamilton-Wentworth. This particular regional centre services a market area which extends well beyond the city’s political boundaries. The entire Region is currently made-up of six distinct municipalities including the City of Hamilton; the Municipalities of Ancaster, Dundas, Flamborough, Glanbrook, and Stoney Creek. Though these are individual municipalities, they also form the 'suburbs' of the City of Hamilton because of their close proximity to it, as well as their dependence on the City of Hamilton for numerous high-order services (See Map 4.2).

4.2.1 Office Floor Space Trends

Office floor space in office buildings in the City of Hamilton is different in nature from what was previously discussed in sections 2.1.1 and 4.1.1 relating to the City of Toronto and the City of London, as are the regulations concerning office space in Hamilton. The largest multi-tenant suburban office building, (5,200m$^2$) in the Region of Hamilton-Wentworth is adjacent to a Regional Commercial Mall. Most suburban office buildings in Hamilton have less than 2,322m$^2$ of floorspace. The Regional Official Plan designates the core of Hamilton as the only Regional Centre in the commerce hierarchy of the Region. In addition, there are two designated Sub-Regional Centres, one above the escarpment, and one in Stoney Creek. They are intended to accommodate development
at a smaller scale than is permitted in the Regional Centre. The intent of the Sub-Regional Centres and the third level - Municipal Centres - is to provide opportunities to decentralize employment, increase the provision and availability of services throughout the urban area, reinforce the role of existing centres, provide a spatial framework to accommodate expansion and distribute employment to support public transportation (Hamilton Official Plan, 1990).

Over the last nine years, Hamilton’s core office market has experienced one period of development (Figure 4.4). Between 1988 and late in 1990, Hamilton’s core office floor space stock remained stagnant at approximately 191,000m². Prior to 1988, the office floor space stock in Hamilton’s core fluctuated yearly, characterized by alternating yearly additions and losses to the overall total floor area (due in part to demolitions, reconversions and upgrades). 1990 to 1991 marked the addition of 18,000m² of office space with the development of Commerce Place Phase 2 (a large office building complex in the core). Subsequent additions of office space were made to the core between 1991 and 1992 totaling approximately 2,000m², however, between 1994 and the present, office floor space in Hamilton’s core has remained stagnant.
In addition to the core office space trends, as shown in Figure 4.4, the City of Hamilton has permitted limited office development in the Region’s industrial parks through a recent Official Plan amendment which provided for ancillary, service and office type uses in these areas. The Zoning By-law permits office uses in most commercial zones. The size and scale of office buildings in the core and suburban areas is regulated primarily by a combination of height, lot area, floor area ratio, coverage and landscaped open space controls. In the Central Business (I) or Civic Centre Protected District (HI) Zones, there are no limiting regulations with the exception of a maximum floor area ratio of 8:1 in the latter zone (Hamilton Official Plan, 1990). In suburban areas, the Regional Shopping Centre (G-2) Zone permits a maximum height of 36.4 m, or 10 storeys; however, the maximum lot size is 16.2 h. This regulation confines large suburban office space development to large regional shopping centre sites (Hamilton Official Plan, 1990).
The Regional Official Plan also has specific policies with regards to the location of major office buildings in the core:

(1) Provision for a wide range of office functions including head and branch offices of companies and offices of Provincial, Federal and Regional Governments.

(2) To encourage the location of head offices and large branch offices of firms, insurance and real estate companies serving region wide or specialized interests to locate in the core of Hamilton.

(3) To encourage senior governments to locate their offices serving Hamilton-Wentworth and areas beyond, within the core.

(4) To locate its own administrative offices in the core of Hamilton.  

(Hamilton-Wentworth, 1997, p.1)

As a result of the restrictions and regulations concerning the Central Business and Civic Center as outlined in the previous paragraph, Hamilton’s office building inventory is quite different from what would be expected from a city of its size. Table 4.5 provides an inventory of the office buildings within the boundaries of the City of Hamilton. All 20 office buildings listed are located in the core. They also account for 97.4 percent of the total office space of the core, and subsequently of the city. Therefore, it is possible to conclude at this point in the research that Hamilton’s regulations concerning office space location, are restrictive in favour of the core and have succeeded in keeping a significant proportion of the office space located in the core.
Table 4.5. Office Building Space in Hamilton 1997

<table>
<thead>
<tr>
<th>Office Building</th>
<th>Space m²</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commerce Place Phase 2</td>
<td>16844.4</td>
<td>Core</td>
</tr>
<tr>
<td>Commerce Place Phase 1</td>
<td>16894.5</td>
<td>Core</td>
</tr>
<tr>
<td>Standard Life Center</td>
<td>38077.3</td>
<td>Core</td>
</tr>
<tr>
<td>Robert Thompson Building</td>
<td>10869.5</td>
<td>Core</td>
</tr>
<tr>
<td>100 King Street West</td>
<td>31407.4</td>
<td>Core</td>
</tr>
<tr>
<td>Bank of Montreal Pavillion</td>
<td>2740.2</td>
<td>Core</td>
</tr>
<tr>
<td>4 Hughson Street South</td>
<td>8193.3</td>
<td>Core</td>
</tr>
<tr>
<td>Right House</td>
<td>7872.8</td>
<td>Core</td>
</tr>
<tr>
<td>One James Street South</td>
<td>7393.5</td>
<td>Core</td>
</tr>
<tr>
<td>25 Main Street West</td>
<td>12568.5</td>
<td>Core</td>
</tr>
<tr>
<td>Effort Square</td>
<td>8146.8</td>
<td>Core</td>
</tr>
<tr>
<td>Charlton Centre</td>
<td>4464.0</td>
<td>Core</td>
</tr>
<tr>
<td>Union Gas Building</td>
<td>6910.9</td>
<td>Core</td>
</tr>
<tr>
<td>69 John Street South</td>
<td>3720.0</td>
<td>Core</td>
</tr>
<tr>
<td>Royal Bank Building</td>
<td>5066.7</td>
<td>Core</td>
</tr>
<tr>
<td>Hamilton Medical Arts Building</td>
<td>4032.0</td>
<td>Core</td>
</tr>
<tr>
<td>Alexandra Square</td>
<td>6748.0</td>
<td>Core</td>
</tr>
<tr>
<td>Undermount Building</td>
<td>4220.2</td>
<td>Core</td>
</tr>
<tr>
<td>Professional Arts Building</td>
<td>5719.5</td>
<td>Core</td>
</tr>
<tr>
<td>Royal Connaught Corporation Centre</td>
<td>2669.1</td>
<td>Core</td>
</tr>
</tbody>
</table>

(Blair Blanchard Stapleton, 1997)

However, as the Official Plan outlined, ancillary, service and office type development is allowed in the suburbs of Hamilton and in commercially zoned areas. By 1997, seven private and municipally owned industrial business parks had been established in the suburbs of Hamilton: Airport Industrial Business Park; Duff’s Corners Industrial Business Park; Flamborough Industrial Business Park; Glenbrook Industrial Business Park; Meadowland Insutrial Business Park; Mountain Industrial Business Park; Stoney Creek Industrial Business Park (Map 4.3). However, only three of these seven suburban business parks contain office functions (Duff’s Corners Business Park, Flamborough Business Park and Meadowlands Business Park), and occupy 1,429 acres (or 28.5 percent) of the total 5,019 acres of the seven parks.

Likewise, there were only three suburban municipalities during the latter 1990s that experienced an increase in their commercial land development: Ancaster (81 acres),
Map 4.2: Hamilton Industrial Business Parks

Legend
1. Dolls Corner Industrial Business Park
2. Ainsley Industrial Business Park
3. Conestoga Industrial Business Park
4. Millbrook Industrial Business Park
5. Mountain Industrial Business Park
6. Mountain Industrial Business Park
7. Mountain Industrial Business Park

Flamborough (19 acres) and Stoney Creek (9 acres); however, not all of these commercial developments were of an office nature. This information is the only numeric data that has been published on office space that is zoned outside the Hamilton core. It can be concluded that even though there are business parks in the suburbs of Hamilton, there is a limited amount of the zoned space in these areas dedicated to office space and office functions. Because of this minimal and very general available data, comparisons between the core and suburbs are also limited. However, it is clear by comparing Table 4.5 and the data above that the significant majority of Hamilton’s office space is in the core, and that the suburbs have been strictly regulated, resulting in sparse suburban office space and more generally limited suburbanization of offices.

The Planning Department of the City of Hamilton, as well as two commercial real estate firms, contracted by the city, (Telesis 1998, and Blair, Blanchard and Stapleton 1998) concur with the above conclusions, that due to public policy and goals of the city (via the Official Plan), limited office space in office buildings has been developed and occupied in the suburban regions of Hamilton. They also concur that no suburban clustering of office buildings or space has resulted, with the exception of the seven geographically spread out business parks identified. In an interview with Keith Extance, a planner with the City of Hamilton (1998), he identified that there is only an insignificant amount of office space that is not in the core and city staff do not consider it a priority to track it.

Because the economy of the Hamilton Region is based on manufacturing facilities, which do not require office space in the core, Hamilton’s core office space and tenant inventory is limited in kind and location. Office tenants in the Hamilton core are
primarily government based and financial institutions that service the local population. The reason there are not more offices of a varied nature is because the offices of the major steel and manufacturing companies in Hamilton (which account for a large portion of the local labour force) are housed on the properties with their respective factory facilities. A second interview, with Dave Blanchard (Blair, Blanchard and Stapleton, 1998) determined that as a result of the limited variety of core office tenants, there are limited incentives and agglomeration economies which would attract other corporations and office functions into the city; limiting the demand by offices to relocate in the city and surrounding suburbs. Therefore, the City of Hamilton is different from other cities studied. The amount of office suburbanization that has occurred in Hamilton is much less than has occurred in either London or Toronto and little further suburbanization is projected to occur in the future (Extance, 1998).

Therefore, Hamilton's office market can be classified as similar to that of Edmonton and Calgary. In all three cities, the bulk of office space within each respective region is in the core, and office space in the surrounding suburbs is limited and not tracked by the city or their contracted firms in any detail (Gad, 1991b).

4.2.2 Vacancy Trends

Hamilton’s core office vacancy rates fluctuated between 1988 and 1997. Over the period 1988 to 1997, the core office vacancy rate increased from 12.5 percent in 1988 to 28.4 percent in 1994 and recently declined to 22.5 percent in 1997 (Figure 4.5). Between 1990 and 1991, Hamilton’s core vacancy rates experienced an increase from 11.6 percent to 20.8 percent. This upward trend continued until 1994 when it stabilized. This increase may be partially attributed to the increase in the total office space between 1990 and
1992. The core office market did recover between 1996 and 1997 but continues to register a vacancy rate in excess of 20 percent. This high level of office vacancy rates in the core during the 1990s is the result of fluctuating occupied and available office space over this nine year period (Hamilton, 1995). Between 1989 and 1995, the total occupied office space in the core declined by 18,964m² while the total available office space over the period increased by 19,064m². (Hamilton, 1995) Another element that appears to be contributing to these high vacancy rates in the core between 1991 and 1996 is the increasing number of people commuting out of Hamilton (to the regional malls in the immediate surrounding suburbs: Burlington, Glanbrook, and Dundas) on a daily work basis, compared to those commuting into the city (however, regional malls are not officially classified as office space, therefore skewing these results further) (Hamilton, 1995).

**Figure 4.5 Hamilton Core Vacancy Rates 1988-1997**

![Hamilton Core Vacancy Rates 1988-1997](image)

(Blair, Blanchard and Stapleton, 1998)

4.2.3 Employment Trends
The Region of Hamilton is currently the preferred location of local high order businesses, government and community organizations that provide services that attract large numbers of people from communities throughout Southwestern Ontario (Hamilton, 1987). In the 1996 “Top 1000 Ranking Companies by Profits”, published in the Globe and Mail’s Report on Business Magazine, two Hamilton based companies, Dofasco (39) and Stelco (99), were ranked in the top 100, followed closely by four others: Philip Environmental, Internetco Ltd., Triam Automotive, and ACMCO (Globe and Mail, 1996).

Similarly, the 10 largest manufacturing companies in the Region of Hamilton (Stelco Inc, Dofasco Inc, National Steel Car, Westinghouse Canada, M&A Candy, Case Canada Corporation, Dominion Casting, Sletwise Ltd, Slater Steel and Proctor and Gamble) currently employ approximately 53 percent of the total manufacturing labour force within the Greater Hamilton area. Likewise, the number of office jobs within the region have also increased between 1971 and 1991 (Hamilton-Wentworth, 1996).

These two trends are shown in Table 4.6, which clearly indicates that the function employing the largest number of workers in the CMA and core is manufacturing, which is ranked first in both areas of the city. It is also clear that traditionally ‘white’ collar employment accounted for more than 73 percent of the employment in the suburbs (clerical ranking first and Managerial/Administrative second) and more than 65 percent in the CMA in 1991, and only 65 percent in the core (the smallest percentage of the region). However, the Managerial and Administrative share of the total labour force in the core is less than 10 percent, and ranks fifth of all functions presented. Despite the
proportion of available office space within the core area of Hamilton, office employment is not being concentrated in the core, thus perpetuating the high vacancy rates.

Table 4.6 The Employment Functions Found Most Frequently in Each Area: Hamilton 1991

<table>
<thead>
<tr>
<th>Function</th>
<th>Hamilton CMA</th>
<th>Hamilton Suburbs</th>
<th>Hamilton Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Employment</td>
<td>322,675</td>
<td>158,995</td>
<td>163,680</td>
</tr>
<tr>
<td>Managerial, Administrative</td>
<td>3=12.3</td>
<td>2=16.4</td>
<td>5=8.6</td>
</tr>
<tr>
<td>Teaching</td>
<td>9=4.8</td>
<td>7=5.3</td>
<td>9=4.2</td>
</tr>
<tr>
<td>Medicine, Health</td>
<td>8=5.4</td>
<td>7=5.3</td>
<td>8=5.5</td>
</tr>
<tr>
<td>Natural, Soc. Sci.</td>
<td>6=7.5</td>
<td>6=8.0</td>
<td>7=7.1</td>
</tr>
<tr>
<td>Clerical</td>
<td>2=17.9</td>
<td>1=18.1</td>
<td>2=17.8</td>
</tr>
<tr>
<td>Sales</td>
<td>5=10.0</td>
<td>4=11.1</td>
<td>4=8.9</td>
</tr>
<tr>
<td>Services</td>
<td>4=11.1</td>
<td>5=9.3</td>
<td>3=12.9</td>
</tr>
<tr>
<td>Total ‘White Collar’</td>
<td>69.0</td>
<td>73.5</td>
<td>65.0</td>
</tr>
<tr>
<td>Primary</td>
<td>11=1.9</td>
<td>10=2.4</td>
<td>11=1.4</td>
</tr>
<tr>
<td>Manufacturing, Machine Fabrication</td>
<td>1=18.1</td>
<td>3=15.3</td>
<td>1=20.8</td>
</tr>
<tr>
<td>Transportation</td>
<td>10=3.3</td>
<td>9=3.1</td>
<td>10=3.5</td>
</tr>
<tr>
<td>Total</td>
<td>23.3</td>
<td>20.8</td>
<td>25.7</td>
</tr>
<tr>
<td>Other</td>
<td>7=6.4</td>
<td>8=5.2</td>
<td>6=7.5</td>
</tr>
</tbody>
</table>

Explanatory Note: Numbers 1 to 11 represent the ranking of each function within the city. The percentages represent the percent of the total labour force in each area involved in that particular function.
(Statistics Canada, 1991)

Despite the rather insignificant amount of office space in the suburbs (as deemed by the city), it appears that office employment is concentrating here. These particular trends may also be explained by the goals of the Official Plan which sought to decentralize employment, increase the provision and availability of services throughout the urban area and provide a spatial framework to accommodate expansion and distribute employment to support public transportation (however, these same goals were not extended to office space).
The individual sectoral shares of the labour force for the Hamilton CMA between 1971 and 1991, as shown in Table 4.7 shows that changes are occurring in the composition of the employment labour force from one that was unusually concentrated in Secondary functions to one that is divided between the growing Managerial/Professional/Technical sector and a smaller Secondary sector. Increases were experienced in the Managerial/Professional/Technical sector in Hamilton between 1971 and 1991 in which the percentage of this sector more than doubled between 1971 and 1981 and doubled again between 1981 and 1991. Conversely, the Secondary sector experienced losses in its share of the labour force during this same time period, declining by more than 50 percent between 1971 and 1991. It is also apparent that the shares of the labour force in the remaining four sectors’, shown in Table 4.7, remained consistent throughout this 20 year period; concluding that Hamilton’s sectoral labour force trends are similar to those of the rest of Canada.

**Table 4.7 Sectoral Share of the Labour Force: Hamilton 1971-1991**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Man/Pro/Tec</td>
<td>7.8</td>
<td>16.6</td>
<td>33.3</td>
</tr>
<tr>
<td>Clerical</td>
<td>16.2</td>
<td>18.2</td>
<td>17.9</td>
</tr>
<tr>
<td>Services</td>
<td>9.8</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Sales</td>
<td>10.1</td>
<td>9.3</td>
<td>10.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>54</td>
<td>42.7</td>
<td>25.8</td>
</tr>
<tr>
<td>Primary</td>
<td>2.1</td>
<td>2.1</td>
<td>1.9</td>
</tr>
</tbody>
</table>


According to a recent “Facts and Figures 1995” document put out by the City of Hamilton, much of the labour force change between 1981 and 1991 can be accounted for by the increasing outward commuting of workers from the Hamilton core on a daily basis. In 1981, 82.6 percent of Hamilton residents worked in the City of Hamilton; by 1991, that proportion had declined to 74.6 percent because of the increase in the number
of Hamilton residents commuting to work in Burlington, Mississauga, Oakville, and Toronto. As well, the report indicates that the number of Hamilton residents commuting to work locations outside the City of Hamilton, but still within the Region of Hamilton-Wentworth increased from 9,455 in 1981 to 11,210 in 1991; whereas people commuting to Hamilton from Stoney-Creek, Burlington, Ancaster, Dundas and Flamborough accounted for only 22 percent of the total number of inbound commuters (Hamilton 1995).

The specialization of Hamilton’s labour force, from Secondary to Managerial / Professional / Technical between 1971 and 1991, has resulted in larger percentages of the overall employment of the CMA, core and suburbs being concentrated in office functions. As is seen in Table 4.8, Hamilton’s suburban areas have continually had more than half of their total area's labour force involved in office employment over the last 20 years. Conversely, neither the CMA nor core has at any time during these same 20 years equalled or surpassed the suburban percentage of office employment. As Table 4.8 also shows, the core area has the least amount of its total labour force involved in office employment of the three areas (CMA, core, suburbs). This suggests that despite an insignificant amount of office floor space being located in the suburbs, the percentage of suburban employment involved in office functions is the largest of the region.

Table 4.8 Office Employment in Hamilton CMA, Suburbs and Core 1971-1991

<table>
<thead>
<tr>
<th>Year</th>
<th>Total CMA Empl.</th>
<th>Office Empl.</th>
<th>% of Total CMA Empl.</th>
<th>Total Suburb Empl.</th>
<th>Office Empl.</th>
<th>% of Total Suburb Empl.</th>
<th>Total Core Empl.</th>
<th>Office Empl.</th>
<th>% of Total Core Empl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>212,660</td>
<td>49,935</td>
<td>23.5</td>
<td>66,160</td>
<td>36,560</td>
<td>55.3</td>
<td>146,500</td>
<td>13,375</td>
<td>9.1</td>
</tr>
<tr>
<td>1981</td>
<td>278,740</td>
<td>87,165</td>
<td>31.3</td>
<td>124,345</td>
<td>66,870</td>
<td>53.8</td>
<td>154,395</td>
<td>20,295</td>
<td>13.1</td>
</tr>
<tr>
<td>1991</td>
<td>322,675</td>
<td>165,285</td>
<td>51.2</td>
<td>158,995</td>
<td>90,335</td>
<td>56.8</td>
<td>163,680</td>
<td>74,950</td>
<td>45.8</td>
</tr>
</tbody>
</table>

4.2.4 Comparison to Toronto

In comparing the trends and literature concerning office floorspace, vacancy rates and employment for the City of Hamilton with these same trends for the City of Toronto, as set out in sections 2.1.1, 2.1.2, and 2.1.3, it becomes apparent that there are both similarities and differences between these two cities.

In examining the trends concerning office building space between Hamilton and Toronto, the first most prominent difference that presents itself is the fact that the City of Hamilton has limited data available on the city’s suburban office space, and what is recognized as suburban office space has been classified as insignificant. More specifically, no record of suburbanization of offices has occurred in the City of Hamilton, whereas in Toronto suburbanization of offices is very evident. The City of Toronto, as seen in section 2.1.1 has a vast amount of suburban office space and a large amount of data to document it. Despite this, comparisons can be made between both cities’ core office stocks. As is shown in Figure 4.4, additions of core office space in Hamilton occurred between 1990 and 1991. In Toronto (Figure 2.1), core office space additions took place over a longer period of time with smaller cumulative additions between 1988 and 1991. However, between 1992 and 1997, both Hamilton and Toronto’s core office stocks remained stagnant.

A second, similarity that can be concluded about office floor space and office location patterns between Hamilton and Toronto is seen in the descriptive literature on both cities. It was noted in the literature by both Gad (1985) and Huang (1989) that in the late 1950s and early 1960s in Toronto, offices began relocating to non-central locations. They also discovered that the pattern of suburbanization began with
designated industrial business parks and office sub-centers. By referring to the literature and map 4.3, on the seven industrial business parks (Airport Industrial Business Park, Duff’s Corners Industrial Business Park, Flamborough Industrial Business Park, Glanbrook Industrial Business Park, Meadowlands Industrial Business Park, Mountain Industrial Business Park and Stoney Creek Industrial Business Park) in the City of Hamilton, it can be concluded that with these limited office developments, a similar type of office location pattern is beginning to occur in Hamilton; concluding that Hamilton may be experiencing suburbanization that is similar to Toronto, but that Hamilton’s office location patterns (geographically) are approximately 30 years behind those of Toronto’s.

A comparison of the core vacancy rates between the City of Hamilton and the City of Toronto reveals that the same type of trend is occurring in both cities, however, the peak years for the City of Hamilton are three years later than those of Toronto. In referring to Figures 4.5 and 2.2, both cities experienced a rise in core vacancy rates between 1989 and 1991, however, as they became stagnant in Toronto between 1991 and 1993, they continued to rise in Hamilton until 1994. Similarly, both cities’ core vacancy rates declined after their respective three-year peaks, however the City of Hamilton continued to register a core vacancy rate in excess of 20 percent, whereas the Toronto core vacancy rate had recovered to just above 10 percent.

The trends between Hamilton and Toronto’s labour forces also reveal general similarities but differences in the concentration of functions by areas. In reviewing Tables 4.6 and 2.1, it is evident that Hamilton’s CMA and suburbs are more similar to Toronto’s CMA and suburbs than are either of the core areas. In Hamilton’s CMA and suburbs, Clerical functions rank second and first, and rank first in Toronto’s CMA and
suburbs. Likewise, the Managerial and Administrative functions rank third and second in Hamilton’s CMA and suburbs and second in Toronto’s CMA and suburbs. In terms of Manufacturing, Hamilton’s CMA has its largest percentage of the total labour force involved in it, whereas in the suburbs manufacturing ranks third of all functions, which is the same ranking manufacturing has in Toronto’s suburbs.

With respect to the core areas of each city, Hamilton’s core has its largest percentage of the labour force involved in Manufacturing, followed by its Clerical functions and Services. Managerial and Administrative functions rank fifth of the eleven listed by Census Canada. This is opposite to the trend in the core of Toronto where the Managerial and Administrative functions rank first, followed by Clerical and then Natural and Social Sciences. In Toronto’s core, Manufacturing ranks fifth. These similarities and differences are further explained by the overall percentages of each areas labour force involved in ‘white collar’, office employment. In Hamilton’s CMA, office employment accounts for almost 70 percent of the total labour force. In the suburbs, it accounts for 73 percent, and in the core a mere 65 percent. In Toronto, ‘white collar’ employment accounts for 75 percent of the CMA, 74 percent of the suburbs and almost 80 percent of the core’s total employment, suggesting that the suburban areas of each city are more similar to one another, and each have a definite specialization of the labour force in favour of office employment. The core areas of each city can be concluded to be quite different, with Hamilton’s core relying more on its manufacturing sector.

More generally, the sectoral shares of employment between 1971 and 1991 (Tables 4.7 and 2.2) for both Hamilton and Toronto are more similar than the previous table may suggest. During the 1971 to 1991 time period, the Managerial / Professional /
Technical sectors of both cities increased. Similarly, the Clerical sector (though ranking second and third in both cities in 1991) declined between 1981 and 1991 as did the share of the Secondary sector. However, the overall share of the Secondary sector in Hamilton, in 1991, is more than one quarter of all functions in the CMA compared to the less than 15 percent in Toronto’s CMA. Therefore, it can be concluded that the employment concentrations in both cities have definitely shifted from a Secondary focus in 1971 to a Managerial / Professional / Technical focus in 1991, but that the Secondary sector employs more of the CMA labour force in Hamilton than does the Clerical, Services or Primary sectors, which is not true of Toronto.

The findings between Tables 4.7 and 2.2, concerning the concentration of office functions in Hamilton’s suburbs, are reinforced by Tables 4.8 and 2.3. Similarities emerge again between the suburban percentages of office employment in Hamilton and Toronto. More than 50 percent of Hamilton’s suburban labour force has consistently been employed in office functions between 1971 and 1991, and a similarly high percentage of Toronto’s suburban labour force is employed in office functions in 1991. Again a difference occurs between the core areas of each city. Toronto’s core percentage of office employment has increased faster, and is currently higher than the core percentage in Hamilton. This allows for the conclusion that the suburban areas of these cities are similar, as are the general trends in the sectoral shares over the last 20 years, but the core areas of each city, by employment and labour force functions are different. Toronto’s core labour force is more office specialized and is continuing to specialize faster than Hamilton’s core labour force, which appears to be ‘lagging’ behind both the CMA and suburban trends.
One explanation for this difference may be found in the fact that the occupants of the core office space in Hamilton are government and limited financial institutions, whereas the occupants of the core office space in Toronto are primarily high order decision makers, and executive offices of various companies. A second factor which may be skewing the employment trends in the core is the limited number of large manufacturing companies situated in Hamilton which have located their office functions on their factory properties outside the core area in the suburbs. A third factor contributing to this concentration of office employment in the suburbs is the goal of the Official Plan as noted previously, which was directed at decentralizing and distributing employment from the core area to the suburbs.

The links between the trends of office space, vacancy rates, and employment, as discussed in reference to the cities of Hamilton and Toronto lead to the conclusion that the City of Hamilton's office location patterns are occurring in reverse order to the way Toronto experienced them. In Toronto, it was the physical suburban geography that was developed which promoted the more economic trends of the labour force to follow. As the data on Hamilton show, it is the labour force which has initiated this move to the suburbs and now (30 years after the patterns began in Toronto) the initial phases of business parks and offices are beginning to develop in Hamilton.

As the literature in Chapter 2 suggests, office location patterns are characterized by a number of factors: the CBD being a complex mosaic, and an exclusively high order decision making center. There were also a number of further factors identified by Matthew and Gad which characterized the office location pattern model of Toronto: improvement and cost efficiency of telecommunications; the suburbs as self-generators;
suburban offices seek exceptional highway access and public transportation service; the nature of the linkages in the suburbs and the labour demand and supply; rent differentials; and public policy. The trends and comparisons discussed in the above section, between the City of Hamilton and the City of Toronto, lead to the conclusion that in a limited way, the City of Hamilton is similar to the model City of Toronto. However, when the trends of office location patterns for the City of Hamilton are compared to the defining characteristics outlined in the literature and of Toronto, the City of Hamilton bears very little similarity.

The CBD of Hamilton contains some of the major decision makers for the area (government offices and financial institutions). Its suburban business and industrial parks are on major transit routes (primarily main highways and access roads), and its suburban employment is highly concentrated in office functions. However, this is the limit to which the existing models of office location patterns can be extended to Hamilton. In fact, the City of Hamilton’s office location patterns are quite opposite to either model. Hamilton’s CBD is not a complex mosaic, the major employers and their office functions (steel companies) are located in the suburbs, there appear to be no agglomeration economies and rent differentials and telecommunication technologies appear to have little impact on offices within the city or suburbs. There is also, only limited suburban office space (which is further restricted by public policy) and the suburbs have not proven to be self-generators. Because of these non-conforming characteristics of Hamilton, the conclusion can be made that in fact the City of Hamilton’s office location pattern is more different from the defined models in the literature, and found in Toronto, than it is similar.
Keith Extance (1998), from the City of Hamilton, concurs with these conclusions. Mr. Extance adds that because of Hamilton’s relatively close proximity to the City of Toronto, it is unlikely that Hamilton will ever develop any more similarly to Toronto than it has. He adds that it is both the goal of the city, via the Official Plan, to keep suburban development minimal. The City of Hamilton does not feel that it needs mass suburban development, which characterizes Toronto, nor does it feel it can support it. The type and demand of office space that the city receives is not the same as London or Toronto, therefore, office space development will not be the same.

Therefore, the City of Hamilton has proven that because of its economic specialization in manufacturing, and its close proximity to Toronto, neither models, or set of characterizing factors fit the office location patterns of Toronto and it remains a unique case study.
5. Conclusion

In the introductory chapter, the research objectives and hypothesis were outlined. It was set out that this thesis would focus on the office location patterns in the cities of London and Hamilton in comparison to the model of Toronto, as well as the office location models described in the literature. The initial hypothesis stated that the office location patterns in medium sized Canadian cities fit the models outlined in the literature and model city of Toronto to varying degrees. It was also stated that the primary goal of this thesis was to determine what the differences were in the office location patterns in London and Hamilton compared to the described models.

As the data and analysis in Chapter 4 concluded, each city studied fits the literature and Toronto model in different ways. There were two distinct and different findings that developed from this research. In the case study of London, it was concluded that the time series data for office floor space, vacancy rates and employment trends were all similar to those for the City of Toronto. The peak periods of development, lag and employment shifts were all occurring at approximately the same time. It was also concluded that the factors underlying these office location patterns (eg. The driving forces of office movement) were also very similar in London and Toronto. However, when the more defining characteristics of the Toronto model were compared with those of London, it became clear that though there were a number of similar characteristics between these two cities, the scale on which suburban development is occurring and
being allowed to occur is quite different. The Official Plan and city officials for London
make it quite clear that though London resembles Toronto, its suburban office
development never will. Suburban downtowns and mass, sprawling suburban office
complexes will not, in the future, come to characterize London – the core has been and
will remain the city’s primary marketed area and the suburbs an alternative location only.
Therefore, the overall conclusion was made that London does closely fit the literature
model and model of Toronto, however, the scale on which these office location patterns
are occurring in both cities is quite different.

The City of Hamilton proved to be a more unique city than was initially
anticipated. It was concluded from the data available that limited office space existed in
Hamilton’s suburban areas, and was characterized by seven industrial business parks. It
became difficult to make comparisons between the core and suburbs because none of the
published or gathered data was comparable. However, it was determined that there were
similarities between the office location patterns in Hamilton and the model of Toronto,
primarily, the large suburban proportion of office employment. It was also determined
that the events that are characterizing Hamilton’s office location patterns are similar to
those of Toronto from 30 years ago, however in a reverse order. These two conclusions
are the extent to which the models of Toronto and the literature can be applied to the
events in the City of Hamilton. In fact, it became evident that Hamilton’s office location
patterns were more different from either of these two models than it was similar.

These conclusions, support the hypothesis that the economic specialization, public
policy, agglomeration economies, viability of office areas and locational options within
each city, were influential in creating the similarities and differences between London
and Hamilton to Toronto. It also became clear that these factors were also key in the
degrees to which each city fits the model of Toronto and the model defined by the
literature.

Room has been left for further study in this area and in both of these cities – in
part due to the limitations of the available data and factors that could not be accounted
for. Five factors that specifically could not be accounted for, but that may be areas of
study in the future include: (1) the lack of comparable and available suburban office
space data in Hamilton; (2) the unavailability of vacancy rates and office floor space data
for all three cities prior to 1988; (3) no suburban employment data had been published for
employment data had been published for any of the three cities at the time of this research
and; (5) no consistent rental rate data was available for London, Hamilton or Toronto.
Though these five factors do somewhat limit the analysis, they do not limit the degrees to
which London and Hamilton fit the established models. Therefore, despite these
limitations, the findings and conclusions made about these cities, and the models
discussed are reasonable and accurate, and provide insight into the office activities in
each city and the applicability of these two models.

In the introductory chapter, the reasons for choosing these two medium sized
Canadian cities rested on the fact that virtually no research of this kind had been done,
yet a substantial proportion of the Canadian population lives in medium sized cities.
With the conclusions and findings of this research, a starting point has been established
from which further investigations of office patters and medium sized cities can begin.
Future research may choose to examine more closely the locational preferences of
corporations, the different types of relationships between large and medium sized cities, the effects of distance to large metropolises and the movement of offices out of major cities to surrounding smaller cities, or the economic incentives to corporations to locate in certain areas. However, the future avenues listed were of too large a scope to incorporate into the scale of this paper. Regardless, this paper does provide further information on medium sized cities and the limits to which certain office location models can be applied to smaller cities.
Appendix A: London Official Plan Highlights

In order to gain a more comprehensive understanding as to why the City of London, and its surrounding areas have developed the way they have, in terms of office space, and have experienced vacancies and absorption rates at the level they have, it is imperative to understand the Official Plan which has guided these transformations. Historically, the City of London’s Official Plan policies have emphasized that all major office buildings should be directed to the core. Until quite recently, small service-oriented offices were the only type of offices permitted in suburban locations, primarily in shopping centers. However, as the later 1980s approached, there arose an increasing demand for suburban office space in the City of London. Hence, in 1986, the city began the process of preparing a new Official Plan, by preparing three background issue papers titled: Commercial Policies Review - Commercial Hierarchy, Downtown Area, and Office/Mixed Use, that laid the foundation for the office commercial policies in the 1989 Official Plan (London, 1993, vol.1).

The Official Plan Office Policies for office buildings can be divided into three distinct categories: (1) general urban structure policies; (2) Official Plan land use designations, which permit offices as a main permitted use; and (3) Official Plan designations which permit offices as a secondary permitted use. The urban structure policies provide the basis for land use designations by outlining the general principles for development. This chapter of the Official Plan outlines 14 separate, yet interrelated,
policies that contribute to the physical make-up and form of London’s Office districts. However, three main policy directions emerge from the 14 detailed ones: (1) that the downtown should be the primary focus for major office development in the City of London; (2) that sufficient lands should be designated for office uses to allow office functions a wide locational choice and (3) that urban growth should maintain and promote a compact urban form (London, 1993, vol.1).

The second policy direction emerging from the Official Plan contains eight land use designations which permit offices as a main permitted use: Downtown Office Area, Office Business Park, Office Residential Regional Shopping Area, Community Shopping Area, Neighbourhood Shopping Area, Business District, Arterial Mixed Use District and Associated Shopping Area Commercial (London, 1993, vol.1, p.7-20). However, scale, type, location, and importance of office uses within these designations varies. The policies contained in this section of the Official Plan encourage major office uses and government buildings which have a City-wide or larger service area, to locate within the designated Core area. In terms of scale, Council has expressed its desire to accommodate large scale development within the core by imposing fewer restrictions and permitting the greatest office height and density in the city (up to a maximum floor area ratio, or FAR, of 10:1).

According to this subsection of the Official Plan, small to medium scale office buildings are to be located in Office Areas within suburban locations. Sections 5.2.1, 5.2.3, 5.2.5 and 5.2.4 each outline the specific regulations that apply to details concerning office purposes, location and physical structure in the designated Office Areas. Section
5.2.1 states that Office Area designations are intended for general or service type office uses (as opposed to ‘head’ offices which would normally locate in the downtown).

Section 5.2.3 suggests that Office Area designations are to be applied to (1) sites that have frontage or flankage on arterial roads which serve as major entryways into the city, and (2) locations along arterial or primary collector roads close to regional facilities. Section 5.2.5 specifies that Office Area designations should have a nodal form of development, however, freestanding buildings may also be permitted but must provide a high level of aesthetic and visual prominence especially along major entryways into the city. And lastly, Section 5.2.4 indicates that the scale of suburban office development is intended to be low to medium in height and will be regulated through the Zoning By-law, where the height limit will be between 2 and 7 storeys (London, 1993 vol.1, p.7-22 –23).

It should be noted that within designated office areas there are no maximum gross floor area (G.F.A) or F.A.R regulations; rather, the OF Zone (which this is classified as) relies upon the relationship between lot area, yard, landscaped open space, lot coverage, height and parking regulations to control the mass and scale of new office buildings in the Office Areas designation.

Office Business Park designations within the Official Plan are intended to accommodate offices which perform corporate administration, product development, research, and advanced technology functions in buildings located on large sites and in ‘park like’ settings. The Official Plan policies in this particular section, as well as Office Business Park designations, place a considerable emphasis on design related issues as well as accommodating businesses which have minimal impacts. The Zoning By-law for this area contains regulations for minimum lot sizes, maximum lot coverage (40 percent),
maximum heights (3 storeys) and minimum landscaped open space (20 percent of lot) in order to keep within the city’s established vision of the area (London, 1993 vol.1, p.7-25. However, there are no maximum F.A.R. regulations for Office Business Parks in the zoning though they are provided for in the Official Plan.

The objectives of the Office/Residential designation are to (1) promote office/residential projects in areas adjacent to the core which will serve as a buffer between more intense commercial development and nearby residential neighbourhoods, and (2) accommodate office development at a limited scale in areas adjacent to the core. However, office uses are only permitted in combination with residential uses and freestanding office buildings are not permitted within the Office/Residential designation (London 1993, vol.1, p.7-26).

The third policy direction that emerges out of the Official Plan is the designation which permits offices as Secondary, Ancillary or Accessory uses. This particular designation does not permit offices as a specified main permitted use. Though they may result in a significant amount of office space, this particular type of office space is to remain incidental, subordinate, and exclusively devoted to the designated main function of the land use district. These types of offices are permitted in the Regional and Community Facilities and Light and General Industrial designations. Secondary office uses are permitted within the following designations: Multi-Family, Medium Density Residential; Multi-Family, High Density Residential; Restricted Service Commercial and Convenience Commercial. It needs to be understood that the term ‘secondary’ implies that these office spaces are intended to not comprise a significant proportion of the activities in these designated areas.
Regional and Community Facility designations permit accessory offices in conjunction with the main permitted use. The Official Plan policies promote the creation of these “major employment and activity centers in the city” (Section 6.2.1i) and office uses are a part of that function. The regulations contained in the Zoning By-law indicate that offices could be permitted within structures 40m high (approximately 10 storeys) in the Regional Facility (RF) Zones, or 15m (4 storeys) in the Community Facility (CF) Zone (London, 1993 vol.1, p.7-30). There are, however, no regulations which restrict the total amount of office space contained in these zones.

Light and General Industrial designations permit the location of support offices, medical and dental offices, clinics and ancillary offices. The support offices mentioned above include technical professional and business services such as architectural, engineering, survey or business machine companies. Medical and dental offices can only be permitted at peripheral locations and are intended to serve workers in the industrial area. The remaining office uses can be permitted adjacent to or on the same property as the main industrial use.

In general, it appears as though a few key issues summarize the Official Plan policies:

(1) The Urban Structure policies in the Official Plan do not provide a strong focus or primary objective for the location of office space because of their competing objectives; they support a strong core, but also permit significant office spaces within suburban locations;
(2) Since the approval of the Official Plan in 1989, office policies have supported the development of medium to large office uses within suburban locations;

(3) In addition to the Official Plan policies and Zoning By-law regulations, there are a number of other municipal policies which may affect the supply of office space or the form of office development in the City (e.g. Municipal Transportation Plan, business taxes, and the provision of infrastructure and community facilities) (London, 1993 vol.1).
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