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**THE GEOGRAPHY OF URBAN DEPRIVATION CHANGE IN EAST MONTRÉAL
AND THE MONTRÉAL URBAN COMMUNITY: 1986 – 1996**

by

Peter F. Kitchen M.A.

**A thesis presented to the University of Ottawa in partial
fulfillment of the requirements for the degree of
Doctor of Philosophy in Geography**

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ABSTRACT

In recent years, within the fields of urban geography and urban studies, increasing attention has been paid to the multi-dimensional concept of urban deprivation. The majority of work on this topic has focused on British and U.S. urban areas with less research directed at Canadian cities. This project made a contribution to the Canadian literature by examining the nature and changing geography of urban deprivation in East Montréal (a section of the central city) and the Montréal Urban Community (MUC) between 1986 and 1996. Essentially, Montréal was selected as a study area because of the significant problems and changes that have occurred in the city over the past several decades. East Montréal contains a number of the city's poorest and most disadvantaged neighbourhoods and as an industrial area was particularly hard hit by the effects of de-industrialization, economic restructuring and recessions during the 1980s and 1990s. The project proposed a model of urban deprivation change, which was applied to the study area to examine its complex and changing social and economic geography. Fourteen indicators of urban deprivation were analyzed at the neighbourhood level (census tracts) in East Montréal and the MUC for three census years – 1986, 1991, and 1996. A survey was also conducted in three selected neighbourhoods. The study identified several key trends and findings. There was a significant spreading of urban deprivation and decline during the study period from East Montréal to the remainder of the central city and to several inner suburban municipalities. However, deprivation and decline persisted within East Montréal in the troubled corridor south of Sherbrooke Street. Overall, worsening conditions were more evident during the 1991 to 1996 period compared to the previous five years (1986 to 1991). There was an increase in the level of deprivation among males, particularly with respect to unemployment and poverty. The survey revealed that the majority of respondents were satisfied with their neighbourhoods as a place to live. It also pointed to disparities between census and survey results and suggested that urban deprivation should be considered as more of a relative phenomenon.

RÉSUMÉ

Une attention particulière a été portée, ces dernières années, au concept multidimensionnel de *l'appauvrissement urbain* à l'intérieur du champ de la géographie urbaine et des études urbaines. La majorité des recherches sur ce sujet se sont toutefois attardées à l'analyse de régions urbaines surtout américaines et anglaises, les villes canadiennes étant plutôt négligées. Cette thèse propose justement de combler ce vide en voulant enrichir la littérature canadienne d'une contribution importante sur ce sujet. Nous y analysons la nature et les changements spatiaux de l'appauvrissement dans Montréal Est (une section centrale de la ville) et dans la Communauté Urbaine de Montréal entre 1986 et 1996. Montréal a été choisie comme cas d'étude essentiellement à cause des difficultés liées aux changements qui se sont manifestés dans cette ville ces dernières décennies. Montréal Est, zone industrielle, est aussi une zone où l'on retrouve une grande partie des quartiers les plus pauvres et le plus défavorisés de l'agglomération montréalaise. C'est une zone qui a été affectée par la désindustrialisation et la restructuration économique ainsi que par des récessions importantes durant les années 80 et 90. Afin de mieux comprendre cette situation complexe et changeante, nous proposons un *modèle de changement* de l'appauvrissement que nous avons appliqué à la région étudiée afin d'en analyser la dynamique spatiale de l'espace socio-économique. Quatorze indicateurs d'appauvrissement urbain, basés sur les données des recensements de 1986, 1991 et 1996 à l'échelle des secteurs de recensement, ont d'abord été analysés dans Montréal Est et dans la Communauté Urbaine de Montréal. Un sondage a ensuite été réalisé dans trois quartiers choisis suite aux résultats obtenus lors de la première analyse. Nos résultats ont permis d'identifier les principales tendances gouvernant l'évolution récente de l'appauvrissement urbain à Montréal. Par exemple, nous montrons qu'il y a eu une diffusion importante de l'appauvrissement urbain de Montréal Est vers le reste des quartiers centraux de la ville ainsi que dans plusieurs municipalités de banlieue proche du centre *durant la période étudiée*. Cette diffusion n'a pas empêché la persistance du déclin économique et de la pauvreté à l'intérieur de Montréal Est, en particulier dans le corridor sud de la rue Sherbrooke. Enfin, des conditions toujours plus difficiles sont devenues de plus en plus évidentes entre 1991 et 1996, comparativement aux cinq années précédentes (1986 à 1991). En particulier, nous avons remarqué qu'il y a eu une augmentation de l'appauvrissement surtout chez les hommes due au chômage et à la faiblesse de leurs ressources économiques. Le sondage effectué dans les quartiers a toutefois révélé que la majorité des répondants étaient satisfaits de leurs quartiers comme lieu de résidence. L'écart provenant de l'analyse des données de recensement de celle provenant de nos données d'enquête montre jusqu'à quel point la problématique de l'appauvrissement urbain doit être vue non pas uniquement de manière absolue, à l'aide d'indicateurs objectifs, mais aussi de manière relative, où les indicateurs subjectifs prennent toute leur importance.

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CHAPTER 1

INTRODUCTION

Over the past several decades, the literature on urban social problems has repeatedly stressed the inter-related issues of segregation, inequality, and living conditions in the inner and central city. Geographers have made an important contribution by considering the spatial dimensions of these and other issues and by applying various techniques such as mapping and statistical analysis to their research. A principal theme of urban social geography is the spatial patterning of difference and inequality, resulting in the segregation of certain segments of the population. The focus on segregation has been accompanied by the examination and discussion of the problems related to the inner city and the growing social and economic inequality between central areas and the suburbs. The inner part of the city is usually the oldest and contains the majority of substandard housing and aging buildings, as well as the residual areas of older industries and transport nodes (Herbert and Thomas 1997, p. 203). As urban areas in North America and Europe grew and as families and businesses migrated to the suburbs, the inner city increasingly held a concentration of poor and disadvantaged residents, including ethnic minorities, recent immigrants, the homeless, the elderly and the ill. Some of those who remained were victims of plant closures and massive lay-offs brought on by the process of de-industrialization and economic restructuring, particularly during the 1970s and 1980s.

During the past decade, within the fields of urban social geography and urban studies, the concept of urban deprivation has emerged as an important research theme. Several authors and researchers have attempted to conceptualize deprivation as it relates to disadvantaged people and areas. Townsend (1993, p. 79) defines deprivation as a “state of observable and demonstrable disadvantage relative to the local community or the wider society or nation to which an individual, family or group belongs”. In the literature, the concept has been linked with poverty, unemployment, and other social, economic and health related problems. The majority of research on urban deprivation has focused on U.S. and British cities. In particular, in the U.K. during the past 10 years there has been growing interest in using census indicators and statistical techniques to examine the geography of urban deprivation in the British urban system as a whole and in individual cities. Major contributions have been made by Townsend (1993), Pacione (1995) and Fieldhouse and Tye

(1996), which emphasize among other things the multi-dimensional nature of urban deprivation, its geographical character as well as its social and material components.

By comparison, less research has been conducted on defining and applying the concept of urban deprivation in the Canadian context. In recent years, however, authors such as Broadway and Jesty (1998) and Ley and Smith (2000) have presented important studies on the incidence of urban deprivation in Canadian inner cities and the association between deprivation and immigrant groups in large urban centres.

The present project has three objectives. The first is to make a further contribution to the Canadian literature. There is a pressing need to fill this void in the research because urban deprivation as studied or defined in the British or U.S. context is generally not applicable to the situation in Canada. Many social, economic, and public policy factors influencing dimensions of deprivation are not comparable or transferable to this country. For example, during the 1980s, the Reagan and Thatcher governments introduced urban and other public policy initiatives that had a serious impact on U.S. and British cities. Both administrations were strong proponents of massive privatization and the de-emphasizing of government regulations. Canada did not witness a similar situation. Additionally, in recent years Canadian cities have experienced unprecedented social, economic, and political change, which underlines the importance of studying in detail the geography of urban social problems, including poverty and deprivation.

The project will propose a model of urban deprivation change, and apply it, with the use of census indicators, to East Montréal, a section of the central city. East Montréal will be compared to the City of Montréal and the Montréal Urban Community (MUC). Essentially, Montréal was selected as a study area because of the significant problems and changes that have occurred in the city over the past two decades. Table 1.1 compares eleven Canadian urban agglomerations according to three economic indicators and clearly demonstrates that Montréal is the most distressed on the list. For both 1991 and 1996, the census metropolitan area (CMA) and the central city had the highest rates of unemployment, the lowest median family incomes (with the exception of the Winnipeg CMA in 1991) and the highest percentages of low-income families. In 1996, more than one-third of all families in the City of Montréal were living in low-income. Moreover, the disparity between the CMA and the

central city was by far the largest in Montréal, pointing to a pronounced social and economic division in the urban area.

Montréal has been significantly affected by economic restructuring and de-industrialization. Between 1951 and 1986, the proportion of the metropolitan workforce employed in the manufacturing sector fell from 37.6 percent to 21.2 percent (Levine 1989, pp. 142-143). By 1996, this figure had declined further to 16.7 percent. The core area has also been affected by a large out-migration of residents. Between 1972 and 1996, the population of the Island of Montréal fell by 260,000 while the off-Island suburbs grew by 700,000. This migration, largely comprising young families and professionals, can be attributed to a number of factors including employment opportunities, lower taxes, quality of life and housing. The central city has been left with a disproportionate concentration of disadvantaged residents, including the unemployed, low-income families and individuals, single mothers, and seniors. Of all the large cities in Canada, it was felt that Montréal would be the most appropriate for this initial study of urban deprivation.

East Montréal contains a number of the city's poorest and most disadvantaged neighbourhoods and as an industrial area was particularly hard hit by the effects of de-industrialization, economic change, and recessions during the 1980s and 1990s. In particular, there is a marked presence of urban poverty and decay in the area south of Sherbrooke Street between St. Laurent Blvd and the Olympic Stadium site. This area includes the districts of Terrasse Ontario and Hochelaga-Maisonneuve. In the 1980s and early 1990s, thousands of jobs were lost in East Montréal with the closing of shipyards, shoe factories, canneries and tanneries. Additionally, in the 1980s, four of the six oil refineries in the area were closed (Warkentin 1997, p.273). East Montréal is a distinct section of the city, which can be described as a 'working class' Francophone industrial area.

There are other disadvantaged parts of the city outside of the study area, including Pointe St. Charles, St. Henri, and Côtes-des-Neiges. While the study will be directed primarily at East Montréal, the analysis will be placed into the context of the situation in the surrounding jurisdictions – the City of Montréal and the other municipalities comprising the Montréal Urban Community (MUC). It is apparent that a study of urban deprivation in Montréal should include at least the entire MUC (Island of Montréal) because of the significant social and economic problems that are present throughout parts of the core area,

including several inner suburban municipalities. In addition, this is an appropriate approach as a result of the complex geographical and hierarchical links that exist within the region.

The second objective of the study is to examine urban change as related to the level and nature of urban deprivation. There is a significant and growing need for researchers and planners in Canada to study the complex and changing urban social geography of neighbourhoods and sub-neighbourhood areas over time. For example, in the context of the study area, East Montréal, several important questions need to be answered, including: What changes have taken place in these communities? Have these areas improved, declined or remained stable over a period of time? What are the changes in the economic, social and cultural circumstances of the residents living in these communities? How do these changes relate to levels of urban deprivation? What internal and external factors have precipitated these changes? The collection, analysis and presentation of the information derived from these questions will provide better insight into the changing geographic structure and composition of urban deprivation in the study area and the Montréal Urban Community. These findings can then be used by academics, planners and policy makers to identify important trends and issues affecting the study area and to develop appropriate strategies to deal with them.

The model of urban deprivation change introduced in Chapter 5 includes three dimensions relating to the condition of urban areas over a period of time: improvement, stability and decline. It will be used to study the changing geographic structure of urban deprivation at the neighbourhood (census tract) level in the study area and the MUC. The model will be linked to indicators of urban deprivation drawn from the 1986, 1991 and 1996 censuses. These include population change, unemployment, labour force participation, low educational attainment, old housing, poverty, and low-income families. The project will examine three hypotheses. The improvement hypothesis would be supported by a decrease in the concentration of urban deprivation in East Montréal between 1986 and 1996 and an improvement in the condition of the area's neighbourhoods. The stability hypothesis would be supported by little or no change in the concentration of urban deprivation over the study period and stable conditions in the neighbourhoods. The decline hypothesis would be supported by an increase in the concentration of urban deprivation in East Montréal and a worsening of conditions in its neighbourhoods.

The third objective of the study is to outline an effective method and approach for examining the spatial and temporal dimensions of urban deprivation. The methodology can be applied to the study of other Canadian cities. The approach will be linked to the construction of an urban deprivation index, statistical analysis, data modeling and geographic information systems (ArcView). It will also include a qualitative, interview-based component dealing with the attitudes, perceptions and observations of residents in three targeted neighbourhoods within East Montréal.

The thesis is divided into 10 chapters. Chapter 2 is an overview of the field of urban social geography focusing on the theoretical and methodological approaches to the study of urban problems, within which the concept of urban deprivation can be situated. In Chapter 3, the literature on urban deprivation is reviewed, including how the concept is defined and measured as well as a discussion of major studies in North America and the U.K. Chapter 4 relies on literature and census data to provide a comprehensive examination of the dimensions of urban change in East Montréal and the MUC in the 1980s and 1990s. Chapter 5 presents the study methodology. It is in this chapter that a new model of urban deprivation change is proposed and steps in the data analysis outlined. In Chapters 6 and 7, the census data are analyzed and the model applied to investigate the nature and geography of urban deprivation in the study area. Chapter 8 discusses the findings of a survey conducted in three neighbourhoods, which serves as a complement to the quantitative analysis and attempts to reveal aspects of urban deprivation and quality of life not covered in the census. In Chapter 9, the major findings emanating from the census and survey analysis are identified and interpreted with respect to the important social, economic and political issues and trends affecting East Montréal and the Montréal region. Finally, Chapter 10 comprises the conclusions and discussion indicating how the study contributes to the literature and research on urban deprivation and urban social geography.

Table 1.1
Selected Economic Characteristics for the major Canadian Urban Agglomerations
CMA and Core City, 1991-1996

Urban agglomerations		Unemployment			Median Family			% Low-Income		
		Rate			Income*			Families		
		1991	1996	% Chg.	1991	1996	% Chg.	1991	1996	% Chg.
Toronto	CMA	8.5	9.1	0.6	54,661	52,959	-3.1	12.4	18.6	6.2
	City	9.7	9.8	0.1	47,062	46,630	-0.9	19.2	24.3	5.1
Montréal	CMA	11.7	11.2	-0.5	44,196	45,142	2.1	18.5	22.6	4.1
	City	14.6	15.0	0.4	35,303	34,498	-2.3	27.9	34.1	6.2
Vancouver	CMA	9.2	8.6	-0.6	49,530	51,281	3.5	13.6	18.7	5.1
	City	10.9	9.8	-1.1	43,570	44,168	1.4	19.5	24.6	5.1
Ottawa- Hull	CMA	7.3	8.8	1.5	55,876	57,386	2.7	11.5	15.2	3.7
	City	8.2	10.7	2.5	51,689	51,553	-0.3	15.9	22.0	6.1
Edmonton	CMA	8.3	8.2	-0.1	47,879	49,483	3.3	15.9	17.4	1.5
	City	9.2	9.0	-0.2	44,611	45,907	2.9	19.3	21.3	2.0
Calgary	CMA	8.0	6.6	-1.4	50,480	53,134	5.3	14.1	15.7	1.6
	City	8.1	6.7	-1.4	50,249	52,605	4.7	14.6	16.3	1.7
Québec	CMA	9.1	10.4	1.3	44,874	47,074	4.9	15.6	18.6	3.0
	City	11.2	12.8	1.6	37,789	39,357	4.2	23.5	27.0	3.5
Winnipeg	CMA	8.6	7.9	-0.7	44,164	47,307	7.1	16.7	18.4	1.7
	City	8.8	8.2	-0.6	43,807	46,698	6.6	17.4	19.4	2.0
Hamilton	CMA	8.9	8.1	-0.8	50,319	53,884	7.1	12.7	15.9	3.2
	City	10.9	10.7	-0.2	42,991	44,184	2.8	18.2	23.5	5.3
London	CMA	8.5	9.3	0.8	47,991	51,079	6.4	10.7	13.6	2.9
	City	8.8	9.6	0.8	47,508	50,591	6.5	11.8	14.7	2.9

* Real Dollars, Not Adjusted

Source: Statistics Canada. 1991 Census, 1996 Census

CHAPTER 2

URBAN SOCIAL GEOGRAPHY AND URBAN PROBLEMS: ESTABLISHING A GENERAL CONTEXT FOR URBAN DEPRIVATION

In this chapter, the concept of urban deprivation is situated within the field of urban social geography and the study of urban problems. Since the early 1960s, within the disciplines of urban geography and urban studies, an extensive and varied body of research has been devoted to the problems and issues of cities in North America and Europe. A substantial part of this work has focused on themes such as urban decline, poverty, inequality and conflict, segregation, and urban restructuring. The chapter is divided into three main parts. The first briefly outlines the development of important approaches in urban social geography. The second examines several perspectives on urban problems, including the concept of urban decline. The third part discusses the phenomenon of economic restructuring and its pronounced impact on cities in North America.

APPROACHES TO URBAN SOCIAL GEOGRAPHY

Since the Second World War, a number of important philosophical and methodological approaches to the study of urban social geography have been developed. A discussion of some of these key approaches provides a framework within which current and past research in urban social geography can be situated, including the study of urban problems and issues.

The Positivist Approach

During the 1950s and 1960s, the positivist or scientific approach stressed the importance of spatial analysis in geography. The spatial analysis school of human geography sought scientific status through methods such as formal hypothesis testing, statistical explanation and theory construction (Ley 1983, p. 6). The positivist approach to urban geography focused primarily on the spatial patterns of urban phenomenon in terms of both spatial distribution and spatial interaction.

During this period, the model building approach was widely adopted into urban geography through developments in two fields: studies of the location of cities and studies of the internal social and spatial structures of cities. Much of the work on urban location was

motivated by earlier theories developed by Von Thunen (1826), Weber (1909) and Christaller (1933). At the intra-urban scale, during the 1960s, there was a renewed interest in the Chicago School of Human Ecology and its theories on the internal structure of towns and cities as well as the concept of the natural area and the invasion-succession growth processes. Basic models of urban land use structure proposed by Burgess (1925), Hoyt (1939) and Harris and Ullman (1945) were incorporated by urban geographers. The positivist approach was associated with the quantitative revolution in geography and was characterized by an increased use of mapping and statistical analysis techniques as well as computers to perform more sophisticated quantitative studies. Within the field of urban social geography, the technique of factorial ecology represented a significant advancement. This technique utilized census information to study residential differentiation where the data were deciphered to produce indices of differences between the various parts of urban areas.

The development of geographic information systems in the 1990s has had a pronounced positivist/scientific focus. As Sui (1994, p. 271) proposes, there are increasing efforts in the GIS field to integrate spatial analysis and modeling techniques developed in the 1950s and 1960s with the GIS of the 1980s and 1990s. Urban geographers are using GIS and spatial statistical techniques such as factor analysis, spatial autocorrelation analysis and spatial regression techniques to conduct research into urban issues such as transportation, population density, crime, environmental equity, and socio-economic differentiation (Sui 1994).

The Behavioural Approach

Geographers began seeking alternatives to positivism in the 1960s. As Ley (1983, p. 6) observes, "the world of experience does not always operate according to the same logic as the language of mathematics." Behaviouralism emerged as an alternative and is concerned with how the individual perceives and makes decisions about the city. It seeks to understand the underlying processes that influence urban pattern (Clark 1982, p. 13). Behaviourists contend that the decisions made by individuals and organizations result in the activities and land use patterns that are visible on the urban landscape.

The behavioural approach was introduced to urban social geography through studies of movement patterns. One focus of urban geographers was the study of consumer behaviour

in the use of service centres while another was on the intra-urban residential mobility process which contributed to studies on factorial ecology and residential differentiation (Herbert and Johnston 1978, p. 17). The approach also examines the means by which people construct mental maps of the city. The study of perception and cognition was first introduced into urban geography in 1960 by Lynch's examination of residents' mental images of Boston. As part of his methodology, Lynch asked his subjects to draw quick sketch maps of the central city, covering the main features. By the early 1970s, dissatisfaction with the behavioural approach emerged because of the basic assumption of the unconstrained nature of choice. It became clear that people with few resources had no choices to make but were constrained by the 'system' (Carter 1995, p. 6).

The Political Economy Approach

Throughout the 1970s, the quantitative and behavioural approaches to geography continued to be criticized. From this criticism emerged an alternative: that of political economy, based on Marxist theories. It grew out of the persistent social and economic problems plaguing many cities, especially the inner areas of large U.S. cities. During the 1970s, urban social geographers paid a great deal of attention to the spatial relationships of problems such as poverty, homelessness and unemployment.

One aspect of the political economy approach involves the analysis of conflict and management in the city and the ways by which geographical perspectives are pursued and defined by individuals and interest groups. This approach examines the role of urban 'gatekeepers' (bank managers, building society managers, housing officers) who can influence the structure of the city through their financial and political power. Herbert and Johnston (1978, p. 19) suggest that differential and monopoly rents can be demanded by 'gatekeepers' because of the fixed supply of land. The constraints created by this situation are viewed as an important factor contributing to residential differentiation and the intra-urban segregation of households. Through their ability to purchase land, a class of monopoly landowners is created in the city. The urban land market is effectively controlled by high-income groups who have significant purchasing power and as a result, large areas of the city are owned by a small number of landowners. Exploitation of certain groups in the housing

market, including low-income, minority and elderly tenants, occurs when landlords increase rents far above the competitive market value (Solomon and Vandell 1982, p. 87).

The Marxist approach views urban decline and deprivation as a reflection of wider societal problems brought on through conflict by groups with competing interests. Urban conflicts are seen primarily as the result of class relations.

Excessive individualism and fragmentation of roles and values are the result of an industrial system based on individual enterprise, competition, the profit motive, and inheritance - all part of laissez faire capitalism (Driedger 1991, p. 236).

As Clark (1982, p. 178) states, the Marxist approach has been criticized on account of its ideological content. It is considered to be subjective and non-scientific and is based on an alternative and non-conventional view of society.

The Humanist Approach

Humanist geography is based on an intense critique of the positivist approach and its attempt to scientifically verify human behaviour (Johnston 1987, p. 164). Humanism argues for the primacy of the individual, as a thinker and a decision maker, with emotions and attitudes about society and environment. Some geographers believed that the positivist approach to urban geography completely excluded the individual human being from the research process. Humanist proponents argue that people make decisions about cities and these decisions are reflected in the morphology and functional structure of urban areas. Humanistic urban geography emphasizes creativity and human-environmental relations. It also focuses on values, ideas and experiences that characterize urban life. The interpersonal environment of city dwellers is recognized and urban problems are set within their local and historical context using empirical methodologies (Ley 1983, p. 9). David Ley, in his book, A Social Geography of the City (1983), examines humanist aspects relating to the city such as imagery, the sense of place, social groups and networks, neighbourhood decline and social change. He also discusses the quality of urban life and the concept of the livable city.

Jackson (1985) outlines the ethnographic approach to studying the everyday lives of urban residents. This humanist technique was first introduced by the Chicago School and involves the overt or covert participation of the researcher in the daily lives of the investigated. It attempts to provide an understanding of how people make sense of the world

in daily life. Cater and Jones' (1989) study of the urban neighbourhood is another example of the application of the humanist approach. They examine the neighbourhood-community equation and discuss how social disintegration has become an important issue in the study of the urban neighbourhood. The interactive space of a community is also considered, as well as aspects of community dilution, such as alienation, a sense of non-community and loneliness.

Postmodernism

In the 1990s, the postmodern approach has had a considerable influence on urban social geography. Despite its popularity, however, the term is difficult to define. According to The Dictionary of Human Geography (1994), the term can be classified into three components: postmodern style (architecture), postmodern method (deconstruction in terms of culture, class, gender, and race) and postmodern epoch (changes in culture and philosophy). With respect to postmodern views of the city, Badcock (1996, p. 93) states urban social geographers are recognizing that the "construction of urban space extends beyond the more traditional lines of demarcation according to class or religion, to gender or sexuality, and culture in all manner of guises". Los Angeles is regarded as the model postmodern city reflected by the processes of restructuring presently taking place in southern California.

Six geographies of restructuring are posited, including an emerging 'new topography' of race, class, gender, age, income and ethnicity...filled with violent edges, colliding turfs, unstable boundaries, peculiarly juxtaposed lifespaces and enclaves of outrageous wealth and despair (Badcock 1996, p. 93).

Herbert and Thomas (1997, p. 16) propose that postmodernism celebrates differences and uniqueness and distrusts grand theory. The approach distances itself from positive science and its quest for models. The implication for urban social geography is that the highly complex nature of cities is such that they are not explicable with simple logic nor can they be described by simple models. Beauregard (1993) states that one aspect of the postmodern strategy has been to focus on urban redevelopment. The post-modern city is defined, for example, in terms of former low-income communities being gentrified by young professionals, or waterfront development replacing run-down piers and old buildings with upscale condominiums and shops. The focus is on the transition of the city "from a place of industry, commerce, and ethnic neighbourhoods to a place for spectacle and consumption,

financial machinations, and worldwide corporate decision-making” (Beauregard 1993, pp. 12-13). Warren (1996, p. 560) observes that an increasing amount of urban space is being reformulated as “consumer-oriented, semi-private, controlled space.” He gives the key examples of Disneyland in California and the West Edmonton Mall. These images, however, are juxtaposed with other constructs of the post-modern city, which emphasize deep-rooted poverty, the continued existence of slums, the formation of new immigrant neighbourhoods and the growth of the underground economy.

PERSPECTIVES ON URBAN PROBLEMS

Segregation, Inequality and the Inner City

Within urban areas, the most visible form of segregation is ethnic residential. As Herbert and Thomas (1997, p. 239) state, the foundation for ethnic categorization can be racial, religious or national and “its recognition may rest on distinguishing physical characteristics, on cultural traits, such as language or custom, or on a group identity obtaining from common origins or traditions”. Research has been conducted on segregation in U.S. cities of ethnic minority groups such as African-Americans, Italians, Jews and Vietnamese, and in British cities of minority groups such as Asians and the Irish.

In their study of ethnic and residential segregation, urban social geographers often refer to the concept of the ghetto. Carter (1995, p. 262) identifies two types of ghettos: 1. The **temporary ghetto** - described as a segregated area through which populations become adjusted to a new way of life. For example, recent immigrants to a country may find immediate refuge within their own national or ethnic group until they have become adjusted to urban living in a new country. 2. The **permanent ghetto** - characterized as a place where a cultural group can actively resist being weakened and lost in the larger community of which it is a part. In this situation, the ghetto is where assimilation can be resisted and identity preserved. However, as noted previously, there are also important constraints placed on some individuals and groups in urban areas.

The segregation of the black population in the United States has been well documented. Studies of residential segregation, using techniques such as the index of dissimilarity (which produces a theoretical range of values from 0 indicating no segregation

to 100 indicating complete segregation) consistently show that in U.S. cities, African Americans are the most segregated of all minorities in the country (Knox 1995, p. 184). The concentration of the black population in the central city has historically resulted in isolation from new employment opportunities in both core and outer areas. Inadequate and expensive transportation as well as the unavailability of affordable housing in suburban areas have effectively limited their access to suburban jobs. However, as Herbert and Thomas (1997) and Knox (1995) point out, in many cases, the ghetto of the 1990s is a place in transition with an influx of Hispanic and Asian residents and the departure of upwardly mobile black families from these areas to the suburbs.

It became clear to urban geographers that problems were not only confined to the inner city but were also increasingly visible in the central city as a whole. One of the most pressing issues was population decline. For example, in the United States, between 1960 and 1990, the proportion of the population living in the suburbs grew from 30 percent to about one-half of the country's population, while the share living in the central cities stayed at just under one-third. During the 1970s, cities such as St. Louis, Buffalo, Cleveland, and Detroit lost more than one-fifth of their populations (Golledge and Stimson 1997, p. 114). In addition, the proportion of poor people living in U.S. cities grew from 32 percent in 1960 to 42 percent in 1995. European cities also experienced problems. Research in the U.K. indicates that between 1951 and 1981, the inner cities of the six large British conurbations lost over 1 million manufacturing jobs (Herbert and Thomas 1997, pp. 295-296).

Canadian urban areas also have a concentration of social problems in their inner cities, although not as pronounced or visible as in the U.S. Bourne (1989) conducted a discriminant analysis on 14 variables for over 3,000 census tracts to determine the spatial structure of metropolitan areas in Canada. He found that urban neighbourhoods are likely to differ depending on their relative location within an urban area and that there are important differences between neighbourhoods located in the inner city and the suburbs. Census tracts in the inner city are characterized by much higher residential densities, smaller households, more elderly and foreign-born populations, lower median household incomes and lower levels of home ownership. Bourne states that these differences are consistent in all Canadian

cities. Despite these problems and the evidence of urban inequality, the term ghetto is rarely used to describe inner cities in Canada.

Urban Decline

Much of the literature on urban problems, particularly in the United States, has dealt with the causes and theories of urban decline, a phenomenon closely related to the issues described above and to the concept of urban deprivation. Urban decline can be considered from four viewpoints: 1. *Theoretical* - How have urban geographers and academics conceptualized the term? 2. *Quantitative* - What measures and indicators can be used to study decline? 3. *Observational/Symbolic* - How is urban decline visible in physical appearance to an observer? And 4. *Personal/Subjective* - What are the experiences and views of residents who live amidst declining neighbourhoods and cities?

Theoretical - The term decline suggests that a city is experiencing economic and social problems. The most common measure of urban decline is population loss in a municipality or metropolitan area. As Bradbury et al (1982, p. 18) explain, population loss affects a city's desirability as a place to live. Positive net out-migration from a city indicates that its economic and/or social health is in question. Measures of urban decline are diverse. Decline can mean an absolute decrease in either population, income, output, or the number of jobs in a city. Bourne (1980, p. 39) proposes that urban decline is characterized by a reversal of traditional migration flows into metropolitan areas and the resurgence of growth in some peripheral regions and smaller urban areas. Related to these trends is a significant reorganization of population and economic activity. Beauregard (1993) states that a declining city is one that has become less attractive as a place of residence and less desirable as a location for capital investment in commercial and industrial activities.

Such losses of people and economic activity have additional negative consequences: a weakened tax base, fewer consumers for private and public goods and services, often a diminution in resident income, and a deterioration of the physical environment (Beauregard 1993, p. 36).

Bradbury et al (1982, p.18) state that there are two ways of explaining urban decline. The first is descriptive decline, involving the loss of population or employment in an urban area. The second is functional decline, which refers to socially undesirable changes that

decrease the ability of a city to perform its social function adequately. The authors provide a theoretical framework for urban decline. Looking mainly at descriptive decline (the loss of population and employment) and more specifically on the location decisions of households and businesses, they propose six main categories of theories:

1. Disamenity Avoidance Theories suggest that people and businesses are moving from the central city to the suburbs or from certain metropolitan areas to others to avoid negative factors such as crime and high energy costs. Bradbury et al (1982, p. 78) acknowledge that every move away from a negative characteristic is also implicitly a move toward a positive one, but they view the theories in this category as focusing mainly on the negative factors.
2. Tax Avoidance Theories postulate that households and firms migrate to suburban areas to reduce tax burdens associated with the central city.
3. Positive Attraction Theories hold that households and businesses are migrating to the suburbs or from one metropolitan area to another in search of desired amenities, such as lower population density and improved employment opportunities.
4. Economic Evolution Theories suggest that large urban areas and specific activities within them undergo stages of development. This evolution changes the optimal combination and location of activities, making large cities less desirable places to carry them out.
5. Biased Policy Theories claim that certain government policies favour locating public and private investments, households and economic activities in the suburbs rather than in the central city.
6. Demographic Trend Theories propose that some cities and metropolitan areas are severely affected by certain population trends. For example, net out-migration may decrease the average skill and income level of a metropolitan area.

More recently, Friedrichs (1993) proposed a general theory of urban decline. It deals with the relationship between employment, population, political elites and urban fiscal revenues. The theory clearly specifies the relationship between factors contributing to urban decline and can be applied to many cities in North America and Europe. Friedrichs proposes that urban decline occurs primarily in old industrialized regions and is linked to the decline of manufacturing activity. He states that the product-cycle theory offers a partial explanation of the causes of urban decline. According to this theory, the life-cycle of a product has four

stages: 1. the innovation stage; 2. the growth or expansion stage; 3. the maturity stage; 4. the stagnation/decline stage. During the third and fourth stages, the product can be manufactured in almost any location. As a result, production investment abroad is a strong possibility.

Friedrichs provides the examples of the automobile industry in Detroit and the steel industry in Pittsburgh, where the product-cycle theory can be applied.

In cities with a dominant industry, such as Detroit, the theory assumes that the products are in the late phase of the product cycle. With standardization, production can be taken over in other cities or countries where costs are lower, and profits will be higher. "The stagnation or decline of the initial industry will affect all other industries related to it, resulting in an overall decline of jobs in the city" (Friedrichs 1993, p. 909). This will trigger other events including selective out-migration, lower tax revenues, lower industrial diversity, and a weaker attraction of new industries, all contributing to the decline of a city.

Quantitative - The outcome of urban decline can be explored quantitatively through the collection of census data and other statistical information. A number of measures and indices have been developed to assess urban decline. In the U.S., the Department of Housing and Development (HUD), the Urban Development Action Grant Program (UDAG), and the Brookings Institution have all developed urban decline and distress indices. For example, the Community Need Index developed by HUD utilizes 20 quantifiable variables including population change, old housing, elderly population, crime, density, minority population, poverty, overcrowding, and single parent families. These variables are reduced to a smaller number of dimensions by way of factor analysis. This method produces three components of community need: age and decline, density, and poverty (Burchell and Listoken 1981, pp. 190-191).

It is well documented that during the 1980s, Hamilton, Ontario experienced an economic and social downturn. The city was a victim of economic restructuring and globalization, suffering substantial employment losses particularly in the steel industry. Hamilton's decline during the 1980s can be measured with the use of census indicators derived from the 1981 and 1991 censuses. These indicators include population change, unemployment, incidence of low-income, labour force participation, and changes in

employment levels in the manufacturing sector. Table 2.1 shows changes in several of these indicators over the ten-year period.

Table 2.1
City of Hamilton: Indicators of Urban Decline

Indicator	1981	1991	% change
Total Population	306,400	318,500	3.9
Male Unemployment Rate	5.6	12.0	6.4
Female Unemployment Rate	8.1	9.7	1.6
Male Labour Participation Rate	77.2	71.6	-5.6
Female Labour Participation Rate	50.7	56.5	5.8
Incidence of Family Low-Income	16.4	18.0	1.6
Incidence of Individual Low-Income	41.2	40.9	-0.3
Total Manufacturing Employment	53,753	37,540	-30.2

Source: Statistics Canada. 1981 and 1991 Censuses.

As the table indicates, while Hamilton's population grew over the 10-year period, there was a dramatic increase in male unemployment and a considerable drop in male labour force participation. The city also experienced increases in female unemployment and incidence of low-income families. Between 1981 and 1991, employment in Hamilton's manufacturing sector fell by over 16,000. During the late 1980s and early 1990s, the city's two major steel producers, Stelco and Dofasco, cut 30 to 40 percent of their workforces, resulting in thousands of lost jobs (The Toronto Star 1993, p. H1).

Observational/Symbolic - The most striking and pronounced symptoms of urban decline are those that are directly visible by residents and visitors. While theories and complex quantitative studies may seem obscure to many people, daily street-level observations of abandonment, decay, and social distress present images of urban decline. These pictures include boarded-up shops, unpaved streets, uncollected garbage, and run-down apartment blocks. Perhaps the two most vivid symbols of decline, supported by widespread media attention, are those of the homeless and the abandoned factory. Residents and visitors in cities such as Chicago, New York, and Los Angeles would be hard pressed not

to notice the large numbers of homeless people concentrated in the core areas. Meanwhile, in many industrial cities in North America including Detroit, Philadelphia, Montreal and Cornwall, abandoned factories are highly visible features of the landscape, symbolizing the loss of jobs and prosperity.

The intensity and magnitude of these images and symbols of decline, however, vary considerably between individuals, streets, neighbourhoods and cities. Relying solely on observations to make decisions about urban decline can be misleading and can result in the distortion of the 'whole' picture. For example, someone observing an abandoned garment factory in a city's downtown is unable from their position to see the newly opened, modern high-tech factory in the suburbs. In another example, some caution is required when making the link between an observed increase in the number of homeless and the decline of a city. Factors such as the deinstitutionalization of mental patients, alcohol and drug abuse and the in-migration of unemployed and low-skilled people from other cities and regions, should be taken into consideration.

Personal/Subjective - When attempting to define the symptoms of urban decline it is appropriate to explore the experiences, attitudes, and perceptions of residents. This represents a more subjective approach, one that can be carried out through the interview process. In his book, Voices of Decline, Beauregard (1993, p. 37) comments

When we discuss urban decline or read how others have perceived it, we experience not an emotionally flat rendition of objectively specified conditions but highly charged stories built of layers of personal and collective meanings. Urban decline involves personal and collective loss and a symbolic alienation from the city.

This approach is illustrated by recounting the story of Louise Jones of Chicago, told by The Toronto Star in 1996. Louise Jones has lived in the Rockwell Gardens project of Chicago since 1958, when she moved in as 17-year-old mother of three. Rockwell Gardens is home to 3,660 African Americans and is one of 17 family developments operated by the Chicago Housing Authority. When she first moved in Louise Jones described her apartment as a 'palace'.

It was a brand new, real nice place. We could go out and leave our doors open. I didn't have to worry when my kids played downstairs. I was glad to be living here.

However, Jones recounted how things began to change in the 1970s. She noticed some of the older boys in the development wearing expensive gold chains around their necks. She knew they had to be stolen. By the 1980s, the drug dealers had moved in and shortly after, all of the rules of the apartment complex, including a 10:30 curfew, were no longer enforced. Rockwell Gardens had declined into a crime ridden, drug-infested project with very high rates of poverty. As Louis Jones says "People just don't care anymore. It was nice here in 1958 and it could be nice again, if they'd start enforcing the rules" (The Toronto Star, 1996, p. F1).

As seen in this section, urban decline is a complex concept with a diversity of symptoms and meanings and is closely connected to urban deprivation. An accurate representation of this phenomenon involves careful consideration of a number of perspectives, including the four described above: theoretical, quantitative, observational/symbolic, and personal subjective.

ECONOMIC RESTRUCTURING AND URBAN CHANGE

An important and recurring theme in the literature on urban social problems (and central to urban deprivation) is the phenomenon of economic restructuring and its impact on cities, particularly in developed countries. The work of Knox (1995), Beauregard (1989), Harvey (1989) and others is reviewed in this section. Since the 1960s, the world's core economies have experienced considerable changes in methods and patterns of production. Central to this change has been a shift from agriculture and manufacturing activities towards service activities. The growth of service-sector employment is attributable mostly to the expansion of producer services, public-sector services and non-profit services. These economic shifts have had a profound impact on the geography of contemporary cities (Knox 1995, p. 8). Economic restructuring is closely associated with the concept of de-industrialization, which is characterized by industrial plant closures and the subsequent mass unemployment experienced in many developed countries.

Spatial and Temporal Dimensions

Beauregard (1989, p. 211) states that economic restructuring is inherently a temporal and spatial notion. Two terms exist to describe economic restructuring. The first, industrial

restructuring, refers to the shifts in the mix of goods and services being produced within an economy and is often measured by the relative proportions of employment across industrial sectors. The second term, structural change, refers to a set of changes in the nature of the economy (products and distribution of employment), “the social relations of production (i.e., extent of unionization, part-time versus full-time jobs), the means of production (i.e., robotics, handcrafting), and the forces of production (i.e., profit requirements, market demand)” (Beauregard 1989, p. 211).

With respect to the temporal dimension, Beauregard (1989, p. 215) discusses periodization, a theory central to economic restructuring. It refers to the division of time into historical periods of often unequal chronological span. For example, the period following World War II, was characterized by unprecedented economic expansion, job growth and prosperity in North America and Western Europe. This growth was interrupted by a period of profound recession between 1973-1975, characterized by stagflation, plant closures, and layoffs. As Beauregard points out, it was this sudden deflation of the economic boom that gave rise to the notion of economic restructuring. Another serious recession in the early 1980s was followed by a period of recovery and prosperity in the late 1980s. More recently, the early 1990s was marked by wide-scale restructuring in North America involving further plant closures, massive job losses, significant downsizing, and the demand for new skills. “History proceeds through incremental changes interrupted at uneven intervals by sharp disjunctures in the structural underpinnings of society” (Beauregard 1989, p. 215).

Beauregard (1989, p. 218) also discusses several aspects of the spatial dimension of economic restructuring. He views the restructuring of the industrial economy as a geographic event.

The economy is a space economy whose workings involve linkages across places, raising (albeit temporarily) certain regions along the growth curve, and relegating other regions (again temporarily) to the path of decline.

In the United States, one of the most obvious examples is the decline of the manufacturing sector in the Northeast and the Midwest during the period of economic restructuring in the mid 1970s. These formerly prosperous areas were driven into economic recession with the “industrialization of peripheral countries, the relocation of manufacturing operations to the South, and the erosion of steel and automobile production by foreign competition”

(Beauregard 1989, p. 218). Meanwhile, the South experienced considerable growth. However, by the mid 1980s, the Sunbelt was stagnating and the regional economy of the Northeast was 'booming'. As Beauregard points out, not only did regional restructuring assign growth and decline across the landscape, it did so within a clear temporal dimension.

Bluestone and Harrison (1982, 1988) have made important contributions to the analysis of the patterns and processes of de-industrialization in the United States. They argue that the fundamental problem with the American economy is not changing investment patterns but the manner in which they are changing and this was the primary cause of high unemployment, slow productivity and plant closures in the 1970s and 1980s. The authors discuss the issue of the 'diversion of capital' that occurs unevenly between different regions with restructuring primarily rooted in the decisions of corporate managers to relocate a factory from one location to another (McKenna 1996, p.18).

Bluestone and Harrison focus on the spatially uneven nature of restructuring and as an example describe how U.S. industrial supremacy was challenged in the 1970s by Japan and several European nations, which began to compete more effectively in industries such as steel, automobiles, and shipbuilding. Rather than exploring new markets and developing more efficient production, the response from corporate America was to 'shy' away from competition in some sectors such as electronics and decrease their investments and labour inputs in other sectors such as steel. Then, in an effort to maintain profits, they began to shift capital between activities and from one region to another. Hence, the decline of the 'Frost belt' and the growth of the 'Sunbelt' (McKenna 1996, p.18). These changes had direct and serious human and social costs such as job losses, underemployment and community deterioration. As McKenna (1996, p.19) points out, while the process of restructuring produced some 'winners' in certain 'boomtown' areas, there appeared to be more 'losers', particularly in older industrial regions like New England in the U.S. northeast with workforces in traditional enterprises like textiles, apparel and machine fabrication.

Knox (1995) describes economic change and restructuring in terms of shifts in *how* production is organized and *where* it takes places. With respect to how production is organized, there have been two major trends since the 1960s: 1. A move towards oligopoly as larger and more efficient corporations have driven out their competitors and have diversified

their activities. 2. A shift from mass production to flexible production systems. As Knox proposes, this trend has had an important effect on urban social geography “since the flexibility of economic activity has imprinted itself on to the social organization and social life of cities, creating new cleavages as well as exploiting old ones” (Knox 1995, p. 9).

In terms of where production takes place, there has been a trend towards the redeployment of activity at metropolitan, national, and international scales. For example, large corporations have moved routine assembly and production operations to regions with lower labour costs and have moved many office operations to the suburbs where there are generally lower rents and taxes (Knox 1995, p. 9). According to Knox, these processes have led to three significant outcomes in relation to urban social geography. The first has been the de-industrialization of many urban areas within the industrial heartlands of North America and Europe. The second has been the increased decentralization of manufacturing and service- sector employment within urban regions. And the third has been the development of several of the largest cities into ‘world cities’, “specializing in the production, processing and trading of specialized information and intelligence” (Knox 1995, p. 9).

Similarly, Harvey in his 1989 book, The Condition of Postmodernity, discusses the processes of economic change. He states that the 1970s and 1980s were a troubled period of economic restructuring and social and political adjustment. A new industrial organization began to emerge from this period, referred to by Harvey as ‘flexible accumulation’. Flexible accumulation is characterized by flexibility with regard to labour processes, labour markets, products, and patterns of consumption. It is marked by the birth of new sectors of production, new means of providing financial services and new markets, as well as significantly intensified rates of commercial, technological, and organizational innovation.

It has entrained rapid shifts in the patterning of uneven development, both between sectors and between geographical regions, giving rise, for example, to a vast surge on so-called ‘service-sector’ employment as well as an entirely new industrial ensembles in hitherto underdeveloped regions (Harvey 1989a, p. 147).

Flexible accumulation appears to be associated with relatively high levels of structural unemployment, rapid changes in skills, and the decline of trade union power. There has also been a move away from regular employment and towards growing dependence on part-time, temporary or sub-contracted work arrangements. Harvey argues that while some women and

minorities have reached more privileged positions, "the new labour market conditions for the most part re-emphasized the vulnerability of disadvantaged groups" (Harvey 1989a, p. 152). There have also been shifts in industrial organization. The author gives the example of the revival of sweatshops in cities such as New York, Los Angeles, Paris and London. There has been a rapid growth of informal and underground economies, "thus bringing the urban process in the advanced capitalist countries as a whole much closer to the third-world urban experience" (Harvey 1989b, p. 268). Low-income communities offer a large reserve of labour power eager to find ways to make a living. Services such as baby-sitting, laundering, cleaning, and odd jobs are now bought and sold, sometimes on an entrepreneurial basis.

The growth of informalization - and the emergence of unregulated urban spaces within such practices are tolerated - is a phenomenon thoroughly consistent with the new regime of flexible accumulation (Harvey 1989b, p. 269).

Within the framework of restructuring and urban change, Table 2.2 outlines the primary shifts in the economic structure of developed nations since the 1970s. The table, read from left to right, shows the shift from old/traditional structures and institutions to new/emerging ones. These changes have had an undeniable impact on the urban landscape. Perhaps most notable have been the processes of decentralization and globalization. For example, from an intra-urban perspective, manufacturing activity is no longer tied to the central city. With the increasing suburbanization of manufacturing activity, many central cities in North America have become less attractive as places in which to invest and live. Commenting on the major geographical shifts in the metropolitan economy, Black (1980, p. 97) proposes that

a transition has occurred from a city-dominant and suburban-dependent structure to a far more complex and sprawling structure with multiple activity centres and far less dependence on the central city for employment, shopping, cultural activities, and a place to live.

Filion and Mock (1991) discuss some possible negative consequences of manufacturing decline in the central city. It can lead to a reduction in municipal tax revenues, which in turn jeopardizes the quality of public services. Additionally, working-class neighbourhoods located near former industrial sites can be significantly disrupted through population changes. Finally, as is the case in many North American cities, manufacturing

decline can lead to the isolation of lower-income, unskilled workers who cannot gain access to suburban jobs (Filion and Mock 1991, p. 417).

From an inter-urban and international perspective, the process of globalization has freed many firms to expand and/or relocate overseas where costs can be lower or where conditions can be more favourable to the corporation's overall strategy. This spatial redeployment of production has been precipitated by trade liberalization under multilateral arrangements such as the General Agreement and Tariffs and Trade (GATT) and the creation of regional trading blocks such as the European Union (EU) and the North American Free Trade Agreement (NAFTA) (Clement 1995, pp. 134-135). Globalization has transformed many cities throughout the developed world. In North America, the traditional manufacturing base of most cities has shrunk as a result of intense foreign competition and the tendency of multinational corporations to invest overseas.

Knox (1995) argues that economic restructuring and globalization have contributed to economic polarization, the most obvious being an increase in unemployment in the world's largest industrial cities. The shift away from manufacturing has led to a decline in blue-collar employment. Conversely, white-collar employment has been divided between managerial positions and routine clerical jobs. Within the manufacturing sector, increased automation has led to further polarization between skilled and unskilled workers. There has also been a substantial growth in part-time employment. These changes have contributed to a situation where urban families are finding it increasingly difficult to maintain what they feel is an acceptable standard of living (Knox 1995, p. 10).

Knox (1995, p. 330) lists several additional consequences of restructuring on urban areas: the decentralization of jobs, services and residences from central cities to suburban areas and 'edge cities' (on the fringe of metropolitan areas); the shrinking of traditional inner-city employment bases in manufacturing, railways, dockyards, and warehouses; the recentralization of high-level business services in downtown areas; the gentrification of certain inner-city neighbourhoods; the concentration of marginal and disadvantaged groups including unskilled migrants and immigrants in other inner-city neighbourhoods; the arrival of the politics of fiscal conservatism; the emergence of the politics of race; the development

of a 'new culture' based on material consumption and differentiated lifestyles; the feminization of poverty; and the intensification of economic and social polarization.

Massey (1984, 1994) has contributed important work on the 'gendered geography of restructuring' based on the notion of a spatial division of labour and the gendered nature of the social processes of production. Her concern with gender is rooted in important trends in the nature of work, which have taken place since the late 1940s. There has been a significant increase in the number of women entering the workforce and there remains a marked division in the types of work done by men and women. In addition, since the 1960s, there have been intra and inter-regional patterns of women's work in industries and industrial sectors. Often, women occupy the lowest skilled jobs with the lowest pay. As McKenna (1996, p. 35) explains, "the main contributions of Massey's theoretical work lie in showing that the processes of production fundamentally are *social* and display *gendered patterns of participation* which suggests that the impacts of economic change are not only unevenly distributed between regions, but also between women and men."

North American Cities: Intra and Inter-Urban Dimensions of Restructuring

In the United States during the 1980s, restructuring and globalization contributed to growing intra-urban disparities. Between 1985 and 1990, central cities experienced a net out-migration of 3.7 million people while the suburbs witnessed a net in-migration of 8.3 million (Stegman 1995, p. 1601). This was accompanied by substantial job losses, particularly in the manufacturing sector. Between 1980 and 1990, manufacturing employment declined by nearly 11 percent in U.S. urban centres. Since the late 1960s, Detroit has lost 51 percent of its manufacturing jobs, partly the result of downturns in the U.S. domestic automotive industry, intense competition from foreign automakers and decentralization of production. A significant drop in international petroleum prices in the early 1980s contributed to Houston losing 225,000 jobs in a 5-year period before entering into a recovery. Economic recession and corporate restructuring led to the New York metropolitan area losing 350,000 net jobs between 1989 and 1993, more than 10 percent of the region's total employment (Fry 1995, p. 26-27).

In addition, during the 1980s, the poverty rate of the 39 largest U.S. metropolitan areas averaged 18 percent in the inner-city areas compared to 7.3 percent in their suburbs.

According to the 1990 census, the 31 largest concentrations of poverty in the U.S. were in inner cities. Furthermore, the number of people living in ghettos (areas in which 40 percent of residents qualify as poor) increased from 3.7 million in 1970 to 5.6 million in 1980 and then to 10.4 million in 1990 (Fry 1995, p. 30). Stegman (1995, p. 1601) argues that after 20 years of experiencing heavy job losses and fiscal stress, "inner-city areas have lost their capacity to create good jobs and generate robust economic opportunities for those with less than a college education". As a result, an underclass has emerged in many American cities made up primarily of minorities who have become trapped in high-crime, high-poverty areas.

Generally, Canadian cities did not experience the same extent of decentralization evident in U.S. urban centres. Many central cities, particularly in smaller metropolitan areas in Canada, gained population during the 1970s. According to Mercer (1991, p. 48) "the Canadian experience was typified by less extreme growth and decline and by 'healthier' central cities in terms of population gain or stability". However, restructuring and globalization did have a significant impact on manufacturing activity in central cities. For example, between 1975 and 1985, total employment in this sector in the cities of Montreal, Toronto, and Vancouver declined 22.2 percent from 254,69 to 198,007. The City of Montreal experienced the greatest loss (-25.8 percent). Meanwhile, in the outer areas of these three cities (including suburban municipalities) manufacturing employment grew 15.4 percent from 424,287 to 489,547 (Fillion and Mock 1991, p. 413).

In the core areas of Canadian cities, employment has become increasingly polarized between quaternary and tertiary jobs. The higher paying quaternary jobs are generally taken by well-educated newcomers. Those residents who remain and who have lost their old jobs are likely either to find low-paying jobs in the service sector or be unemployed (Broadway 1992, p. 189). These factors have contributed to the decline in the economic strength of Canadian central cities as jobs and middle-class residents move to the suburbs. As Frisken (1994, p. 4) states, there is a "differentiation of peripheral from central city populations by income and race, with central cities coming to house a disproportionately large share of their regions' most disadvantaged residents".

Beauregard (1989) discusses the impact of economic restructuring on the city of Pittsburgh. At the peak of industrial capitalism, the whole region prospered with steel

production both within the city and along the river valleys. The core and the periphery of the Pittsburgh region was highly integrated with administrative and corporate activities concentrated in the city, and steelworkers in the mill towns. When the economy restructured in the late 1970s, the steel industry fell into decline and the effects were felt unevenly across the region. By the late 1980s, the mill towns had lost their economic base and were in a depressed condition. However, as Beauregard (1989, p. 218) states, Pittsburgh has not fallen into decline, but has experienced an impressive resurgence based on growth in the health, administrative, and high-tech sectors.

In a matter of two decades, the landscape of value has changed to one where an affluent core, once dependent on its productive periphery, has now become an isolated economy within a region of decline. The restructuring not only severed the ties between the city and its hinterland, but also integrated the city into another industrial complex (Beauregard 1989, p. 218).

It is evident that Pittsburgh's restructuring represents a temporal shift and has an important spatial dimension.

As stated, the restructuring of the manufacturing sector is closely tied to the uneven development of urban regions. For example, in New York, neighbourhoods housing high-income professional workers are interspersed with low-wage, immigrant neighbourhoods containing poor Black and Hispanic residents. The shrinking of the manufacturing sector and the concentration of producer services in the city "increased the relative demand for and the affluence of professional-managerial labor, thereby encouraging gentrification (another instance of uneven development) and the clustering of these workers in Manhattan" (Beauregard 1989, p. 219). Formal and informal economies expanded to service these households. In addition, black and Hispanic communities were displaced by new development and relocated in peripheral suburban neighbourhoods. Economic restructuring, as a result, impacted the pattern of investment and the distribution of the population across and within several boroughs of New York at different spatial scales. As Beauregard (1989, p. 219) comments, "space was redifferentiated to reflect the needs of a restructured city".

Baltimore is another U.S. city that was significantly affected by restructuring. Historically, it has been a prosperous manufacturing centre. In 1950, over 34 percent of the city's residents were employed in manufacturing - in shipyards, steel factories and auto plants located in the city and its inner suburbs. However, between 1970 and 1985, Baltimore lost

almost 40,000 manufacturing jobs, a decline of 45 percent. As a result of intense foreign competition, employment in primary metals, shipbuilding and repair, and transportation equipment manufacturing declined by almost 50 percent between 1979 and 1984. In the late 1970s, Bethlehem Steel's integrated mill and shipyard complex in southeast Baltimore employed nearly 30,000. By 1987, only 7,000 jobs were left as the company downsized to remain competitive in the global economy. Furthermore, by 1986, only 10.9 percent of the city's workforce remained in manufacturing (Levine 1989, p. 147). Between 1980 and 1990, Baltimore's central city lost almost 20,000 manufacturing jobs.

During the restructuring process, other serious urban problems emerged. The city's white middle-class left in large numbers. Between 1970 and 1980, 28 percent of the white population had departed. As Levine (1989, p. 147) states, "Baltimore was fast becoming a distressed, predominantly black inner city surrounded by a growing, prosperous white suburban ring".

However, like Pittsburgh and several other industrial cities in the U.S., Baltimore entered a period of recovery in the late 1980s. While manufacturing activity declined during the 1980s, Baltimore was successful in creating new jobs in the wholesale and retail sectors as well as the business services sector, especially finance, insurance and real estate. Furthermore, massive urban renewal efforts encouraged private developers and financial institutions to invest heavily in the downtown during the 1980s. The city's Inner Harbour, for example, was revitalized into a retail, commercial and tourist complex and proved to be a huge financial success. Several inner-city neighbourhoods surrounding the central business district have recently been gentrified, contributing to the social upgrading of the city. Despite these events, however, Baltimore remains a highly segregated city and Rubenstein (1989, p. 32) argues that the city's large black population (over 435,000) has not fully shared in the benefits of the Inner Harbour.

Economic restructuring has also had an important impact on the Canadian urban system. In terms of manufacturing activity, however, it should be noted that compared to other western developed economies, this sector has historically assumed a relatively small role in the Canadian economy. In addition, Canada's manufacturing industries have been largely dependent on foreign investment (primarily American) and imported technology, and

have tended to be assembly operations (McKenna 1996, p. 21). Between 1951 and 1986, employment in the manufacturing sector in Canada declined from 24.5 percent to 16.8 percent of total employment (Filion and Mock 1991, p. 408).

As might be expected, urban areas with large traditional industrial bases such as Montreal and Hamilton were affected most by restructuring. By contrast, urban areas with smaller manufacturing sectors and a greater reliance on service and administrative functions, such as Halifax and Regina, fared relatively well during the period of restructuring. The situation in Montreal will be discussed in detail in Chapter 4. It is well documented that through the 1980s, Hamilton experienced an economic and social downturn. The city was a victim of economic restructuring and globalization, suffering substantial losses, particularly in the steel industry. As outlined above, between 1981 and 1991, employment in Hamilton's manufacturing sector fell by over 16,000. The decline of the steel industry was the result of several factors including heavy competition from steel producers in the U.S. and other countries and increasing automation in steel plants. The industry has also become much less labour intensive. While the city has recently been successful in promoting and developing new industries, including high-tech, many of the former steel workers lack the education and skills to participate.

Despite being located within the traditionally depressed region of Atlantic Canada, Halifax fared relatively well during the 1980s and was able to withstand the pressures of restructuring. The city did not experience any significant employment losses, or increases in urban problems largely because it is an important, diversified regional service centre for Atlantic Canada. With several major hospitals and universities, as well as a large provincial and federal government presence, the city has a strong employment and economic base. In addition, a revitalized waterfront and the growth of commercial activity have attracted tourism and middle-class settlement (Broadway 1992, p. 193).

Vancouver reflects the variable impact of economic restructuring at the intra-urban level. Several of its central city neighbourhoods experienced high levels of distress and declining conditions during the 1980s. Most of these neighbourhoods are located near the Vancouver harbour, in the industrial area, east of the downtown. This area is primarily low-income with older housing and contains the city's 'skid row' district as well as Vancouver's

Chinatown. The declining condition of these neighbourhoods is partly attributable to the effects of economic restructuring. Commenting on this area, adjacent to the waterfront, Ley and Bourne (1993, p. 21) state

the former port and its related functions are unrecognizable. The old manufacturing and wholesaling base has been stripped from the central city landscape - with part relocated to cheaper and more modern sites in the suburbs and part shut down, a victim of obsolescence and global competition.

Between 1981 and 1991, Vancouver lost nearly 4,000 jobs in the manufacturing sector.

While the communities surrounding Vancouver's industrial area experienced considerable decline during the 1980s, other central city neighbourhoods witnessed substantial growth and prosperity. These include False Creek, Kerrisdale, Shaughnessy, and Kitsilano. The inner-city elite district of Shaughnessy is the wealthiest in Vancouver, having the highest mean household income (Ley 1993, p. 215). These communities appear to have benefited from economic restructuring as evidenced by substantial increases in employment levels (particularly in advanced services), housing development, gentrification, and commercial activity.

CONCLUSION

The objective of Chapter 2 was to provide a general context for urban deprivation by reviewing several aspects of the literature and research in urban social geography and urban problems. Since the Second World War, the field of study has been influenced by a number of philosophical and methodological approaches. The most influential have been: positivism, based on spatial analysis; humanism, concerned with the perceptions and beliefs of the individual; and postmodernism, reflected by divergent views of an increasingly complex urban space. Urban problems have been studied from several perspectives. Since the early 1970s, increasing attention has been paid to the issues of segregation, inequality and the concentration of marginalized residents in the inner and central cities of urban areas in North America and Europe. The unique circumstances of minority populations, particularly in the core areas of U.S. cities, have been the subject of considerable study.

The literature on urban problems has also focused on the phenomenon of urban decline, which suggests that many central cities are experiencing difficulties with respect to

the loss of population, business and investment relative to suburban and peripheral regions. At the same time, declining cities are viewed as being less desirable places to live and invest in. Closely related to urban decline and the problems of the inner and central city is the process of economic restructuring and de-industrialization, characterized by plant-closures, downsizing and massive lay-offs in traditional industries and accompanied by the migration of firms in new sectors to suburban locations. These events had a profound impact on the social and economic geography of urban areas. The next chapter deals with the concept of urban deprivation in detail by examining how it is defined and measured and by reviewing important research conducted in North America and Britain.

Table 2.2
Economic Structures (How Firms Organize and Do Business)

Old/Traditional	→	New/Emerging
Agriculture/manufacturing	→	More service activities (information, financial and tourism)
Large firms: economies of scale	→	Smaller firms: economies of scope (flexible production systems)
National market perspective (inputs and outputs)	→	International perspective • offshore producing (input) • production phases dispersed • global marketing (outputs)
Centralization of functions (everything in-house)	→	Decentralization of functions and blurring of manufacturing-service sectors results in: • increased outsourcing • growth of industrial clusters
Stable workforce (high pay)	→	More temporary, part-time workers
Hierarchical organizations	→	Work rules more flexible
Competitive activities (exclusively)	→	New strategies require cooperation, complex alliances, and networks (firms-government-universities)

Source: Fry, E.H. (1995): "North American Municipalities and their Involvement in the Global Economy" in: North American Cities and the Global Economy. p.135.

CHAPTER 3

URBAN DEPRIVATION: A CONCEPTUAL OVERVIEW

The objective of this chapter is to explore the concept of urban deprivation through a review of the literature and research. Since the early 1970s, the majority of work on this subject has been conducted from the British and U.S. perspectives. As mentioned in Chapter 1, by comparison, less research has been directed at Canadian cities, although Broadway (1989; 1992), Broadway and Jesty (1998) and Ley and Smith (1997; 2000) have conducted several important studies since the late 1980s. The chapter is divided into two parts. The first provides a definitional framework for the concept of urban deprivation and considers its theoretical and geographical dimensions. An operational definition is proposed in accordance with the objectives of the thesis. The second discusses some of the early work, including Davidson's 1975 model and reviews a number of British and North American studies, focusing on the construction of indices and the use of various statistical techniques to analysis deprivation related data.

DEFINING URBAN DEPRIVATION

The Deprivation Dialectic

Generally, the concept of deprivation refers to a condition or standard of living below that of the majority in a particular society. Urban Deprivation is a complex concept with a diversity of meanings. As stated in Chapter 1, Townsend (1993, p. 79) defines deprivation as a "state of observable and demonstrable disadvantage relative to the local community or the wider society or nation to which an individual, family or group belongs". Most studies of deprivation and multiple deprivation tend to focus on the economic dimension. Indeed, Pacione (1995) argues that the principal cause of deprivation is economic and is derived from two sources: the low wages earned by people employed in declining traditional industries or employed on a part-time basis; and unemployment experienced by those marginal to the job market.

The multidimensional nature of deprivation involves the integration of a number of factors. In Figure 3.1, Pacione (1995) shows the nature of multiple deprivation and the relationship among poverty related problems. Although linked to economic problems, factors

such as powerlessness, stigmatization, segregation, delinquency, and poor schooling can be considered as social and cultural dimensions of deprivation. Pacione argues that the poverty-related factors shown in the diagram demonstrate a unique spatial pattern. In economically deprived neighbourhoods in Britain, for example, unemployment rates are often 2 to 3 times the national average, with male unemployment rates frequently above 40 percent. Another factor is a lack of job opportunities, which can lead to a dependence on public support systems. Related to this is lower self-esteem, which can lead to clinical depression. As expected, poverty can contribute to a restrictive diet and promote poor health (Pacione 1995, p. 118). While it may be difficult to read the interrelationships between the different factors in the diagram, Figure 3.1, nevertheless, does portray a useful and general overview of the multidimensional aspect of deprivation.

There are several possible explanations of urban deprivation. Table 3.1, adapted from work by Knox (1995) and Cadwallader (1996), describes six theoretical models. Each of the six is accompanied by an explanation and a description of its outcome. The *culture or cycle of poverty* model suggests that poverty-related problems are linked in a cumulative manner creating “a vicious cycle of lack of opportunity and lack of aspiration” (Knox 1995, p. 338). The *transmitted deprivation* model proposes that social maladjustment is transmitted from one generation to the next. This concept focuses on the relationships among people, families, and groups and the home environment is seen as the main factor leading to the problem of deprivation. The *institutional malfunctioning* model posits that the problems of the socio-economically deprived are partly the result of the failure of planning and administrative bureaucracies. In particular, the formulation of public policy in separate departments concerned with housing, education, welfare, and planning is ineffective in addressing the inter-related problems that lead to deprived persons and households (Cadwallader 1996, p. 369).

The *unequal distribution of resources* model suggests that underprivileged people are not able to acquire their share of society’s resources. *Marxist theory* proposes that the incidence of urban deprivation can be explained with respect to the overall socio-economic structure of society. Problems can arise from class conflict “whereby certain class divisions are necessary to maintain an economic system based on profit” (Cadwallader 1996, p. 369).

Finally, the concept of an *underclass* is closely related to several of these approaches. It addresses the impacts of economic restructuring and socio-spatial change in the isolation of racial minorities from the economic mainstream and from “the social values and behavioural patterns of the rest of society” (Knox 1995, p. 339).

Townsend (1993) distinguishes between deprivation and poverty, saying that the former refers to physical, environmental and social conditions, while the latter contemplates economic resources only. Moreover, the concept of deprivation, unlike that of poverty which is restricted to general circumstances, can be applied to specific circumstances. In any society, people can be considered deprived if their standard of living (as measured by factors such as diet, clothing, housing, education, and employment) falls below that attained by the majority of the population in a nation. While housing deprivation has attracted a great deal of study, other forms of deprivation have not received as much attention and require more scientific study. These include health deprivation, educational deprivation, and deprivation among certain groups such as the elderly, the disabled and recent immigrants. Townsend states that if various forms of deprivation are present in a society, then individuals within it will experience multiple deprivation.

Research has suggested a strong relationship between deprivation and health. For example, a great deal of attention has been paid to the relationship between low occupational class and high mortality, as well as between unemployment and ill health and mortality. Work has also been undertaken on the correlation between unemployment and suicide and between low income and mortality.

Townsend also discusses the importance of subjectively acknowledged deprivation. Here, emphasis is placed on prevailing social perceptions. What does the majority of the population think about deprivation? Deprivation can be considered as subjective in two ways: as collectively or socially perceived, and as individually perceived. Most studies of urban deprivation, however, can be described as ‘objective’ in the sense that they rely on the scientific observation and measurement of events and conditions by researchers and planners. These studies usually involve the construction of deprivation indices, made up of census indicators. As Townsend (1993, p. 84) comments:

Theoretically, therefore, deprivation can be conceived to be objective, collective or social and individually subjective. All three versions of the concept have value in the

exposition and analysis of social structure and social change.

Furthermore, Townsend distinguishes between material and social deprivation.

People may not have the material goods of modern life or the immediate surrounding material facilities or amenities. On the other hand, they may not have access to ordinary social customs, activities, and relationships. The latter are more difficult to establish and measure, and the two sets of conditions may be difficult in practice to separate (Townsend 1993, p. 81).

Material deprivation involves the tangible apparatus: goods, services, resources, amenities and physical environment and location of life. Social deprivation involves the roles, relationships, functions, customs, rights and responsibilities of membership of society and its subgroups. These social measures are rarely used as part of operational definitions of deprivation. Townsend (1993) proposes that some aspects of social deprivation include family activities, social support and integration, recreation, and education. A survey questionnaire of multiple deprivation was taken in the Greater London Area in 1985-86. It was designed so that any definition of deprivation should represent all components of the material and social conditions of life (Townsend 1993, p. 93). The following types of deprivation were incorporated into the survey questionnaire:

Material Deprivation

Dietary
Clothing
Housing
Home facilities
Environment
Location
Work (paid and unpaid)

Social Deprivation

Rights to employment
Family Activities
Integration into community
Formal participation in social institutions
Recreation
Education

Pacione (1995) discusses some of the social aspects of deprivation. He describes how deprived areas in Scotland are typically characterized as 'bleak', with little landscaping, extensive areas of dereliction, and substandard shopping and leisure facilities. In these areas residents are often victims of stigmatization, which serves as an additional barrier to acquiring employment or credit facilities. Another important social factor of deprivation is isolation. Many deprived areas are isolated socially and physically and "those that are able to move away do so, leaving behind a residual population with limited control over their quality of life" (Pacione 1995, p. 118). Pacione, however, points out that despite such poor and

constraining conditions, the majority of people in these areas nonetheless live stable lives. Most have been able to adapt to their situation and some have formed networks of community support where they share their experiences of deprivation. “However, the scale and structural underpinnings of the problems of multiple deprivation generally preclude a grass-roots, community-based resolution of the difficulties facing such localities” (Pacione 1995, p. 118).

Several studies have pointed to the association between the proportion of the population in lower social classes and the level of deprivation in an area. Urban deprivation is most common among the unskilled. Fieldhouse and Tye (1996) report that in the U.K., generally it is the working classes who are the most likely to suffer from deprivation. Unskilled workers tend to be clustered in areas with high deprivation. Fieldhouse and Tye (1996, p. 246) state that “knowledge of the class profile of an area gives us reasonable prediction of the percentage of multiply deprived in that area”. This finding was based on the authors’ study of deprivation in Britain which used several indicators drawn from the 2% individual Sample of Anonymised Records (SAR) from the 1991 census.

Several authors have considered the propensity of certain ethnic groups to suffer from urban deprivation. Economic restructuring and social polarization combined with social and demographic changes have accentuated economic inequality among class and racial lines. Knox (1995, p. 337) states that

The differential reassignment of labor in the process of simultaneous growth and decline results in a sharply stratified, segmented social structure that differentiates between upgraded labor, downgraded labor, and excluded people. The latter share an excluded space that is highly fragmented, mainly in ethnic terms.

Knox (1995) argues that an important element of urban geography is the ‘new poor’, a product of economic restructuring. A highly visible component of the contemporary urban landscape is what he refers to as ‘impacted ghettos’. These are areas comprised primarily, but not always, of chronically poor racial minorities that suffer from a lack of community leaders and positive role models and are dominated by young unmarried mothers and their children (Knox 1995, p. 337). In the U.S., the number of people living in ghettos (areas in which at least 40 percent of residents qualify as poor) grew from 3.7 million in 1970 to 5.6 million in 1980 and then to 10.4 million in 1990 (Fry 1995, p. 30).

Knox (1989) describes living conditions in an ethnic ghetto in Chicago - the Robert Taylor Homes, consisting of 28 16-storey buildings spread over 92 acres. The population is estimated to be about 25,000, all African Americans. The median family income is less than \$5000, 90 percent of the families are female-headed, 80 percent of the households receive social assistance, and unemployment is estimated to be nearly 50 percent. While the crime rate is high in the Robert Taylor Homes, one area located within its boundaries - the Wentworth Avenue police district - is one of the most violent in the United States. Within the four-square-mile district an average of 90 murders and 400 shooting assaults occurred each year during the 1980s, representing 10 percent of murders and shooting assaults in all of Chicago (Knox 1989, p. 39). The Robert Taylor Homes in Chicago is an extreme example of a deprived urban area.

Wilson (1987; 1993; 1995) has also contributed important work on poverty, the underclass and the dynamics of ghetto life in U.S. inner cities. He states that many of the current problems, including family break-up, crime and welfare, are largely attributable to the disappearance of work (Wilson 1995). Wilson also argues that while social structural factors are important in comprehending joblessness and the experiences of the inner city poor, they do not explain the entire situation. And, while race is clearly a significant dimension, particularly as related to inner city minorities, any complete explanation of unemployment and poverty should also consider factors such as social psychological variables.

In the UK, area-level analyses have often indicated high levels of deprivation among certain ethnic groups. Several studies have used the proportion of non-whites as an indication of urban deprivation. For example, Fieldhouse and Tye's (1996) study of urban deprivation in Britain found that all ethnic minority groups had higher levels of deprivation than the white majority. In particular, about two-thirds of Bangladeshi ethnic group were found to be deprived.

The variation between ethnic groups is the most divisive of all the sociodemographic dimensions of deprivation....and suggests some support for the thesis of Rex and Tomlinson (1979) which suggested that the black population forms an underclass, distinct from the white working class, disadvantaged in terms of housing, jobs and education (Fieldhouse and Tye 1996, p. 247).

In continental Europe, immigrant status and race have played a prominent role in the discussion of urban poverty and deprivation. Gordon (1995), for example, considered the

impact of economic change on minorities and migrants in Western Europe with respect to issues such as market economics, ethnic discrimination and labour market restructuring. The author found that while the experience of minorities in Europe varies considerably among countries, groups, periods and generations, a common characteristic has been their relatively weak economic and political position and vulnerability to the effects of economic recession (Gordon 1995, p. 540). Veenam (1995) examined several socio-economic characteristics of ethnic minorities in the Netherlands, including educational achievement, labour market activity, income levels and housing. The study found that the social position of ethnic minorities, who make up less than 5 percent of the Dutch population, has weakened in recent years and that there has been a noticeably growing gap between the educational and employment levels of minorities and the indigenous population (Veenam 1995, p. 626).

In Britain, the Department of the Environment, in the construction of its deprivation index, recommended that vulnerable groups such as non-white ethnic groups, lone parents, and lone pensioners, should not be included within the 1991 index. As Bradford et al (1995, p. 521) comment

The 1991 index was to include outcome measures of deprivation rather than people or households with propensities to being deprived. This is a contentious issue. However, it seems advisable because many within the particular group will not be deprived and there is an obvious danger of labeling groups.

The Geographical Approach

Several authors discuss the importance of a geographical approach to the study of urban deprivation. Pacione (1989) states that there has been considerable debate over the value of a spatial approach. Much of it has centred on the problem of the ecological fallacy and the insufficiency of area based explanations. The ecological fallacy involves the assumption that individuals living in a particular neighbourhood or city share the overall attributes of the area as a whole. Knox (1989) proposes that significant numbers of disadvantaged, vulnerable, and victimized people do not live in deprived cities or neighbourhoods. A great deal of variability exists within and between cities, promoting a debate on 'people' deprivation versus 'place' deprivation.

The study of urban deprivation usually involves the collection of census data for various levels of geography such as the municipality, the census tract or the enumeration

area. It is evident to most geographers that the spatial pattern of a particular phenomenon under study can be transformed significantly with changes in scale. The complex and changing social and economic geography of cities can be better understood and illuminated with analysis at different levels. Bradford et al (1995) discuss the problem of the ecological fallacy as it relates to urban deprivation.

The complex geography of deprivation is highly dependent on the scale at which it is viewed; although a district as a whole may appear not to suffer from high levels of deprivation, it can nevertheless contain in parts of its areas levels of deprivation which are as, if not more, severe as those of another district with higher overall levels (Bradford et al 1995, p. 523).

Fieldhouse and Tye (1996) argue that as a result of the problem of the ecological fallacy, area-based policies are likely to provide no assistance to deprived people living outside the boundaries of deprived areas. They state that 'person deprivation' is also spatially concentrated. In their study of patterns of deprivation in Britain, Fieldhouse and Tye (1996) focused on individuals who suffer from multiple deprivation, thereby overcoming this problem.

Pacione (1989; 1995) proposes that there is increasing evidence to indicate that the underlying causes of local concentrations of deprivation are structural rather than spatial, "being related to more general social and economic forces operating within their capitalist system" (Pacione 1989, p. 105). He also emphasizes, however, that the spatial process does not deny the significance of the structural pre-conditions of urban deprivation and can be supported on several bases:

1. In order to understand the local incidence of social disadvantage, there is an important need for the identification of spatial patterns.
 2. Spatial analyses can be used to identify spatial concentrations of specific population groups (such as the elderly, the young, and unskilled workers), each of which can have policy implications.
 3. Area based policies of positive discrimination can provide benefits to some people to improve their quality of life.
 4. In the U.K., government policy remains firmly focused on sub-areas within cities.
- Pacione argues that there is a need to continue to concentrate effort and resources "in a relatively inexpensive and easily monitored manner" (Pacione 1989, p. 105).

An Operational Definition of Urban Deprivation

As stated in Chapter 1, the principal goal of this thesis is to examine the changing nature and geography of urban deprivation in East Montréal between 1986 and 1996. Three hypotheses will be tested: the improvement hypothesis, the stability hypothesis and the decline hypothesis - all referring to changes in the level of urban deprivation in the study area. For the purpose of the project and in consideration of the discussion above the following definition is proposed:

- Urban deprivation is a set of social, economic, political, cultural, and housing conditions and problems experienced in an urban area, which place some residents at a relative disadvantage compared to the population as a whole. Urban deprivation displays both temporal and spatial dimensions. It can be measured by quantitative census-based and qualitative survey-based means and its geographical character can be examined at several scales, including the metropolitan area (inter-urban), the municipality, the neighbourhood, and even the city block.

Figure 3.2 shows a selection of interrelated factors leading to urban deprivation.

MEASURING URBAN DEPRIVATION: A REVIEW OF APPROACHES AND TECHNIQUES

This section reviews studies of urban deprivation, focusing on the construction of deprivation indices and methods of analysis. As mentioned, the majority of studies on urban deprivation have been conducted in Britain and the U.S. Three aspects are considered here: the range of indices available to measure various dimensions of deprivation, the process of selecting indicators, and some of the quantitative and modeling techniques employed to analyze the data compiled in the studies.

Davidson's Model

Among the early studies was Davidson's 1975 examination of social deprivation in Hull, England. The aim of the study was to assess changes in the spatial distribution of social deprivation in the city by analyzing 1966 and 1971 census indicators. As initial hypotheses, Davidson proposed three conceivable directions of change: 1. The *Status Quo* hypothesis

would be supported by a situation where there is no significant change in the pattern of concentration or dispersion of deprivation in the city. 2. The *Convergence* hypothesis would be supported by a reduction in the level of differentiation between areas of the city. 3. The *Divergence* hypothesis would be upheld by increasing spatial inequalities. Changes in the facets of deprivation were considered with the use of four indices: absence of inside W.C. (washroom facility), overcrowding, unemployment, and unskilled work. Values for these indices were collected for enumeration districts in Hull for 1966 and 1971.

Classical regression was used for the analysis of spatial change. More specifically, the regression coefficients provided a framework for interpretation in terms of the three hypotheses of change: status quo, convergence, and divergence. The results of the analysis revealed significant contrasts in direction and scale in the absolute changes in the four deprivation indices. As Davidson (1975, p. 112) reports, a considerable decline in the proportion of households lacking an inside W.C. occurred primarily as the result of slum-clearance, and re-housing. By contrast, unemployment more than doubled. The overall position of overcrowding and unskilled work remained basically static.

With respect to the directions of change, 'lack inside W.C.' and 'overcrowding' were solidly classified as cases of convergence (a reduction in differentiation), with regression coefficients significantly below 1.00. The analysis revealed that 'unemployment' and 'unskilled' work also had regression coefficients below 1.00, "but in these cases, the 5 percent confidence limits do not allow a clear diagnosis of convergence and they are therefore classified as favouring the status quo" (no significant change) (Davidson 1975, p. 112). Davidson concluded that according to the four indices of deprivation, Hull did not experience an increase in spatial inequalities between 1966 and 1971.

A Review of British Studies

Since Davidson's study, considerable work has been conducted on the nature and geography of urban deprivation in Britain. In their 1995 study, Bradford, Robson and Tye examined its spatial extent at several scales. They state that the concept is clearly multi-dimensional and establish several important dimensions, including economic, social, health, and housing. The measures associated with these dimensions were concerned with individuals, households, and the environment in which people live. Urban deprivation indices

are affected and restricted by the availability of reliable data and by the spatial scale of the study. Bradford et al's (1995) urban deprivation index was assembled at three scales: the enumeration district, the ward, and the district. Table 3.2 lists the indicators included at each scale. As the table indicates, the larger the scale, the greater the number of variables involved in the study.

Bradford et al discuss the need for flexibility when designing and building an urban deprivation index. In some cases, the index can be used for general purposes while in other cases it can be used for specific policy areas such as health care or housing. In addition, it should be emphasized that deprivation can be viewed at different geographical scales and the index can be used for policies geared to different scales such as a city block, neighbourhood, or municipality.

The indicators at the three scales (ED, ward, and district) were measured and standardized using a signed X^2 value. This measures the extent to which the value of the geographic unit deviates from the national value and was used in Bradford et al's study to determine the most deprived areas in England. Correlation analysis and factor analysis were also conducted to assess the spatial coincidence of indicators and "the degree to which measures reflected particular dimensions" (Bradford et al 1995, p. 522). The analysis indicated that the structure of the data at all three levels was represented by two factors: a socio-economic factor and a housing factor. The authors produced several digital choropleth maps of England at the three scales as well as a table, which outlined the spatial extent, intensity and distribution of deprivation in each district of the country. The study revealed a concentration of deprivation in the West Midlands, Northern England, and Greater London. Bradford et al concluded that their urban deprivation index, constructed at various scales, is perhaps better suited to capturing the complex geography of deprivation.

In a similar study, Pacione (1995) examined the geography of multiple deprivation in Scotland. Sixty-four variables were selected and mapped, but only four principal deprivation indicators were presented: male unemployment, single-parent families, overcrowded housing, and households with a long-term limiting illness. These indicators were mapped at the district level for all of Scotland. Analysis was conducted on 38,098 output areas. The number of output areas falling in the highest 10 percent of Scottish output areas on each variable was

divided by the total number of output areas in each district. Figure 3.3 shows the spatial distribution in Scotland of one of the four variables of deprivation: male unemployment. The map illustrates the percentage of district output areas in the highest 10 percent in the country for male unemployment. It shows a concentration of high male unemployment in the central belt, particularly in the districts of Clydeside. Glasgow and Inverclyde districts, along with Cumnock and Doon Valley, have more than 20 percent of their output areas in which one-third of males are unemployed (Pacione 1995, p. 118). The author proposes that this distribution reflects the geography of industrial decline in Scotland.

A multivariate analysis was performed on the set of 64 deprivation related variables - an R- type principal components analysis (PCA). At the district level, 18 components emerged from the PCA, accounting for 69.2 percent of the total variance. The first accounted for 15.6 percent of the variance and the loadings were interpreted as a measure of multiple deprivation with high component scores reflecting households experiencing conditions at the lower end of the quality of life spectrum. Component scores were calculated for each of the 38,098 Scottish output areas. The highest incidence of multiple deprivation across all levels of intensity was recorded in the urban districts, particularly in major cities such as Glasgow (Pacione 1995, p. 124).

As seen, studies of deprivation are usually based on the construction of an index of deprivation referring to either households or geographical areas. Most studies are conducted at the area level and involve the identification of deprived areas from census data. Area based studies are often used as a means of targeting communities for resource assistance. Fieldhouse and Tye (1996 p. 239) state that the area based approach and the selection of indicators can be controversial.

Clearly, what makes a reliable deprivation index is subjective and must ultimately depend on the purpose for which it is constructed. Any particular selection of indicators will highlight the problems of one area whilst playing down the problems of another area, leading to different policy outcomes.

Morris and Carstairs (1991) describe a range of deprivation indices that have been created and used in studies of Scotland. They review five deprivation indices: 1. SCOTDEP - developed by Morris and Carstairs (1989a; 1989b) for analysis of Scottish health data; 2. TOWN as used by Townsend et al (1988) in an analysis of the northern region of Scotland;

3. JAR - Jarman and Associates (1983; 1984) developed this measure in relation to the need for primary care services; 4. DOE - Department of Environment (1983) measure developed mainly in relation to urban policies; 5. SDD - Scottish Development Department (1983) developed mainly in relation to urban policies.

The number of indicators in these five indices ranges from 4 to 12. The five indices were calculated using data from the 1981 Census Small Area Statistics for each of the postcode sectors in Scotland. Table 3.3 shows the range of indicators in the five indices. Unemployment is the only variable appearing on all five indices (with SDD including youth unemployment), while overcrowding appears on four. According to Morris and Carstairs (1991), there is little agreement on the variables that comprise deprivation scores. They suggest that all aspects of disadvantage cannot be covered by the use of census variables alone (although they are consistently the most available). They propose that better measures could be built

if government departments would make available some of the wealth of information that currently lies hidden in relation to income levels and supplementary benefits and income support on the same basis as unemployment statistics are now supplied, at the ward level by the Department of Employment (Morris and Carstairs 1991, p. 324).

The authors conclude that measures of deprivation can be used for a variety of purposes in the context of health services. They can be used to examine health data in relation to area characteristics and to then describe inequalities in health. In Scotland, these measures have been used in the context of resource allocation. The work of Morris and Carstairs revealed that a strong association exists between deprivation and measures of mortality and demand for health care. As a result, it is likely that measures of deprivation will be used in determining the allocation of resources and delivery of health care at small area levels.

In their study of deprivation in Britain using 1991 census data, Fieldhouse and Tye (1996) chose the individual as the unit of analysis, instead of small areas. The focus of their research was on 'deprived people' rather than 'deprived areas'. Fieldhouse and Tye employed micro-level measures of deprivation from the Samples of Anonymised Records (SAR) to demonstrate: 1. the structure of multiple deprivation for individuals; 2. variation in deprivation among different sections of the population; 3. the relationship between

individual-level and area-level measures of deprivation and the problem of ecological fallacy inherent in the use of area-level analysis (Fieldhouse and Tye 1996, p. 237).

The variables used in the study measured the lack of basic material items or resources available to individuals, which absence placed them at a disadvantage relative to the rest of the population. The variables selected were:

1. lack of access to car;
2. living in a household with more than one person per room (to measure overcrowding);
3. living in non-self-contained accommodation;
4. lacking access to bath or shower;
5. lacking access to an inside toilet;
6. living in a house with no central heating;
7. living in rented accommodation;
8. living in a household where no person is in paid work (reflecting a lack of resources);
9. being unemployed or, for economically inactive persons and children, being in a family whose head is unemployed.

Principal components analysis (PCA) was used to uncover the underlying structure of deprivation. The PCA produced three components explaining 55.6 percent of the original data. The data, report the authors, are quite heterogeneous and “there is no simple single dimension on which deprivation can be measured” (Fieldhouse and Tye 1996, p. 242). The first dimension appeared to be related to housing conditions, the second to income and consumption, while the third was a residual component. Relative material deprivation was measured across the three dimensions. In this study, a multiply deprived person was defined as any person who is deprived on at least one item on at least two of the three groupings. The three groupings were defined by the variable loadings:

Group 1	Group 2	Group 3
- no bath - no inside toilet - not self-contained accommodation	- no cars - no earners - tenure (rented) - no central heating	- more than 1 person per room - unemployment

The analysis found that 8.6 percent of the population of Great Britain are classified as deprived according to the above definition. Multiply deprived people are more likely to be represented on all nine indicators than the rest of the population. Not surprisingly, deprivation is most common among unemployed and unskilled working class residents. The study

showed that all ethnic minority groups in Britain had higher levels of deprivation than the white majority. For example, about two-thirds of the Bangladeshis were found to be deprived (Fieldhouse and Tye 1996, p. 247). The authors state, however, that in absolute terms, the white population makes up a large majority of deprived people. Furthermore, the study found that it is not lone parents who are most likely to be deprived but unmarried couples with dependent children. However, lone parents and their children have higher than average levels of deprivation.

Fieldhouse and Tye (1996, p. 257) conclude that the use of area-level data can be subject to the ecological fallacy.

The strength of the relationships at the individual level were not as powerful as aggregate data might suggest. Despite the relative intensity of the problem within particular groups the *absolute* problem of deprivation is widespread. Though whites (for example) have the lowest rates of deprivation, they make up a substantial majority of the deprived.

When aggregate and individual-level approaches are employed the geography of deprivation is similar. However, while certain areas are home to very high percentages of deprived people, they do not hold a majority of Britain's deprived population. The authors suggest that it would be unwise to rely on an area-targeting system to deal with the problem of deprivation. However, they state that the use of small area statistics may permit the identification of deprived areas with significantly greater concentrations of deprived people than reported in the study.

Folwell (1993) used factor analysis and cluster analysis to examine the nature of deprivation in the enumeration districts of the London Borough of Greenwich. The author states that factor and cluster analysis are more appropriate techniques to derive a composite measure than are simple additive measures. In a study conducted by the London Borough of Greenwich, 17 variables were selected from the 1981 Census of Population. Factor analysis was performed on the data set. Table 3.4 lists the variables and their loadings on the five factors extracted from the original data set. Factor loadings greater than 0.40 (or lower than -0.40) are highlighted in bold type. The five factors were interpreted as follows: Factor I 'Deprivation' - high positive loadings are evident for variables associated with deprivation, such as unemployment, unskilled workers and overcrowding.

Factor II 'Age factor' - high positive loadings for pensioner variables and high negative loadings for young children.

Factor III 'Rental type' - has bipolar private renting - local authority renting characteristics.

Factor IV 'Professional-skilled' - appears to reflect an important dimension characterizing the labour market in London.

Factor V 'Migration' - the migration variable loaded very highly (Folwell 1993, p.36).

Scores were computed on Factor 1 for the enumeration districts in Greenwich and used in a cluster analysis, where an optimum 10 clusters appeared. Clusters 1, 2, and 3 shared relatively high positive scores on Factor I, the 'Deprivation' factor, while clusters 7, 8, and 9 had high negative scores on this factor. Folwell suggests that it is possible to see two groups of EDs in the Borough of Greenwich, one relatively deprived and one relatively affluent. He also states that a deprivation measure based on a factor analysis, such as a factor score, is a weighted additive index and has the advantage that the weights are derived from the relationships between the variables themselves "and not subjectively from rating exercises or, worse, from what 'looks like a good idea'" (Folwell 1993, p. 38). Folwell concludes that studies of urban deprivation using the technique of factor analysis should include as wide a range of variables as possible.

The final study reviewed in this section is Urban Trends 2, published by the Policy Studies Institute in London, which examines the extent of change in Britain's most deprived areas between 1981 and 1991. As editor P. Wilmott explains, the report studies "the evidence about how far things, have, over time, been changing for the better". It examines the 36 most deprived areas in Britain using data from the 1991 census. These are the areas that the government has listed as needing special attention and support. A number of dimensions were considered in measuring the changing conditions: 1. population structure, 2. employment and unemployment, 3. education and training, 4. housing, 5. poverty, mortality and crime.

With respect to the population changes that took place in the 36 areas between 1981 and 1991, the major findings of the analysis were:

- the population of deprived areas fell over the ten-year period;
- the population of these areas had lower than average educational qualifications;

- ethnic minorities were concentrated in these areas;
- the areas held increased proportions of children under 5 and elderly residents.

In terms of the employment and unemployment dimension the report found that:

- during the recession of the early 1990s, unemployment in most deprived areas increased less than other areas but was still higher than the national average;
- unemployment was highest in deprived inner London boroughs;
- in deprived areas, unemployment was highest among young men.

The final part of the report dealt with poverty, mortality, and crime. Poverty was measured as the proportion of people receiving income support, while children in poverty was measured as the proportion of households containing children but with no regular earnings coming in. The fear of crime was also looked at. The report states that all types of fear appear to have decreased since 1983, especially in inner city areas. Within this dimension, the following trends were reported:

- deprived areas in Britain contain greater proportions of people living in poverty;
- child poverty increased threefold in the 36 areas combined;
- these areas have higher standardized mortality ratios;
- prenatal and infant mortality rates have continued to fall in most deprived areas;
- deprived areas contained larger proportions of people with a long-standing illness or disability;
- fear of crime is higher in inner city areas than other areas.

The authors state that the purpose of Urban Trends was to present the facts as objectively as possible. The report concluded that the analysis showed a mixture of progress and setback in the most deprived areas of Britain. On some measures, such as overcrowding and the level of housing amenities, conditions improved in deprived areas. However, the evidence revealed that levels of disadvantage are high in most deprived areas "and that the gap in living standards between deprived areas and other kinds of areas is in some crucial respects no smaller" (Urban Trends, p. 105). With respect to poverty and death rates, many deprived areas are worse than ever compared with other places.

A Review of North American Studies

Since late 1980s, Broadway has conducted four important studies on urban deprivation in Canada and the United States. In the first, Broadway (1989a) examined the changing spatial distribution of several deprivation indicators within the city of Wichita, Kansas between 1970 and 1980. The selection of Wichita was based on four criteria: 1. no census tract boundary changes within the decade; 2. representative of black ethnic make-up; 3. increases in manufacturing and service sector employment; 4. recipient of federal funds for urban renewal. Broadway used Davidson's (1976) conceptual model of change to examine the changing pattern of urban deprivation according to the three theoretical outcomes described above: convergence, divergence, and the status quo.

The measures of deprivation in the study were selected from the 1970 and 1980 U.S. censuses. According to the author, the indices had to represent different facets of deprivation and also had to satisfy the normality and linearity assumptions of the linear regression model used to analyze the data. Four indices were selected: overcrowding, substandard housing, unemployment, and family poverty. 1. The overcrowding index was measured by the percentage of occupied housing units with a density of more than one person per room. 2. The substandard housing index was measured by the percentage of year round dwelling units with a bath/shower or toilet. 3. The unemployment index was measured by the percentage of males and females in the civilian labour force who are unemployed. 4. The family poverty index was measured by the percentage of families living below the official poverty level. The data for the four indicators were collected at the census tract level (Broadway 1989 p. 54).

Broadway's analysis found that the level of unemployment worsened in much of the inner city. The deteriorated areas were characterized by statistically significant higher concentrations of blacks, female heads of households and persons without a high school diploma. These areas were also characterized by higher proportions of an 'underclass' than existed in other areas of the city. The level of family poverty increased in one inner city neighbourhood, which was selected for government assistance, but improved in other areas of the inner city. The study also found that inner city neighbourhoods witnessed an increase in overcrowding relative to the rest of the city. The areas that suffered an increase were characterized by statistically significant higher concentrations of blacks, lone-female parent

families and high-school dropouts. Finally, with respect to the sub-standard housing index, Broadway found that there was evidence of both improvement and deterioration in inner city neighbourhoods. Broadway concluded that while conditions improved significantly in the most affluent neighbourhoods in Wichita, there was a persistence of urban deprivation in those inner city neighbourhoods with disproportionate concentrations of the underclass.

Broadway's second study (1989b) consisted of a comparison of patterns of urban deprivation between Canadian and U.S. cities. The author argues that insufficient attention has been paid to possible socio-spatial differences between cities in the two countries. The study used a sample of five paired U.S. and Canadian cities: Vancouver-Seattle, Edmonton-Denver, Regina-Topeka, Windsor-Flint, and Quebec City-Hartford. These paired cities have similar central city populations, geographic locations, and economic functions.

Broadway (1989b) constructed an urban deprivation index and obtained data from the 1980 U.S. and 1981 Canadian censuses. The index divided indicators into two groups: economic deprivation and vulnerable groups. The indicators in the economic deprivation category were male and female unemployment, male and female labour force participation, and family and individual poverty. Two indicators were included in the vulnerable groups category - female household heads and the percentage of population aged 65 and over. The data were collected at the census tract level in each of the ten cities. In his selection of indicators, the author was limited by differences in the Canadian and U.S. censuses.

Broadway used principal components analysis (PCA) to compare levels of inner city deprivation in the five pairs. Essentially, PCA searches for groups of inter-correlated variables and can be used as a data reduction technique. PCA is described in detail in Chapter 5. The component structure of each city was compared to assess differences in the nature of urban deprivation between the two countries. The first component among U.S. cities was found to be a composite measure of poverty while the second measured labour force participation. The first component for three Canadian cities was also a composite measure of poverty, but for two others it measured unemployment. The first component scores for each city were mapped in order to assess the extent to which each city's worst areas of multiple deprivation were concentrated in their inner city areas.

The study found that inner city areas in both countries contain a disproportionate share of their city's unemployed and poor residents. In addition, all of the inner city areas in the study with the exception of Vancouver, Seattle, and Hartford had lower rates of labour force participation than the citywide average. With respect to vulnerable groups, the inner city areas of Regina, Windsor, and Quebec City had a greater disproportionate share of their city's population of elderly and female heads of households. Broadway's results led him to observe that his initial hypothesis - that Canadian inner cities had proportionately lower levels of deprivation than U.S. inner cities - should be rejected. He concludes that despite significant redevelopment efforts in Canadian inner city areas, Canada has an inner city problem (Broadway 1989, p. 543).

In his third study, Broadway (1992) examined differences in inner-city deprivation in seven Canadian cities: Toronto, Vancouver, Edmonton, Winnipeg, Regina, Halifax, and Saint John. He found that the Canadian inner city holds larger concentrations of less educated, low-income, and unemployed persons. Broadway argues that the in-migration of middle class residents did little to change the condition of core areas. The inner cities were classified into two groups: 1. regional or national service centres with social upgrading (Toronto, Vancouver, Halifax and Edmonton); 2. cities with low levels of social upgrading (Regina, Winnipeg and Saint John). Again, data were collected at the census tract level from the 1971, 1981 and 1986 censuses. Each of the inner city areas was defined according to criteria proposed by the Canada Mortgage and Housing Corporation (CMHC). Its definition is based upon the age of the housing stock and proximity to the central business district.

Location quotients were used to examine changes in the concentration levels of inner city deprivation between 1971 and 1986. Basically, a location quotient is a coefficient comparing some quality of an area with a specified norm. In the case of Broadway's study, a value greater than 1 indicates that the inner city contains a disproportionate concentration of the metropolitan area's deprived population. Conversely, a value less than 1 indicates an under-concentration (Broadway 1992, p. 192). Several indicators of deprivation were measured including population change, employment levels, unemployment, labour force participation and poverty. The study found that all the inner cities had disproportionate concentrations of deprived groups. However, Broadway also found that the four cities with

the highest levels of social upgrading had the lowest levels of deprivation - Toronto, Vancouver, Edmonton and Halifax. Conversely, the three cities with the lower levels of social upgrading experienced declining inner city conditions. The inner cities of Regina, Winnipeg and Saint John all experienced declines in employment and labour force participation and increases in unemployment and poverty (Broadway 1992, p. 191).

In the fourth study, Broadway and Jesty (1998) followed a broader approach by examining changes in inner-city deprivation levels between 1981 and 1991 for the 22 largest cities in the Canadian urban system. Following Davidson's (1976) model, the author proposed three possible outcomes: convergence, divergence, and the status quo. The convergence hypothesis would be supported by a reduction in deprivation levels between and within cities. The divergence hypothesis would be supported by an increase in deprivation levels while the status quo would be validated by a situation where there was no significant change in deprivation levels. Three variables were selected from the 1981 and 1991 censuses: the percentage of economically active persons unemployed, the percentage of persons aged 15 and over with less than a grade 9 education, and the percentage of low-income families. The data were collected for each census tract within CMHC's definition of the inner city for Canada's 22 largest metropolitan areas.

Initially in the study, Broadway and Jesty proposed that "Canadian inner cities might be immune from the adverse structural economic and demographic changes that have affected their counterparts in the US and Britain" (Broadway and Jesty 1998, p. 1436). The analysis of the data failed to support this contention by showing an absolute increase in levels of unemployment and low-income families among most Canadian inner cities during the study period, consistent with the divergence hypothesis. However, the study also revealed that there was little evidence to support a widening of disparities in inner city deprivation levels within the urban system. Furthermore, it demonstrated that there was no link between increases in inner-city deprivation and structural economic change as these increases were not associated with cities in central Canada which lost manufacturing jobs during the study period. Broadway and Jesty point out that this finding is the complete opposite of studies of British cities, which consistently identify old industrial cities as having the highest deprivation levels (Broadway 1998, p. 1436).

Several authors have considered the relationship between immigration, ethnic status and urban social problems in Canada. For example, Ley and Smith (1997) examined the extent to which immigrants are associated with the distribution of poverty in the three largest urban centres in the country – Toronto, Montreal and Vancouver. They used Statistics Canada's low-income cut-off (LICO) at the census tract level in the three cities to assess the relationship between areas of deep poverty and areas of high immigration in 1971 and 1991. Ley and Smith found that the arrival of new immigrants corresponds with areas of concentrated poverty in Canada's largest cities, although they play more of a secondary role compared to the situation in Europe. They state that only a portion of recent immigrants are among the various groups of Canadians to suffer from deep poverty and that "ethnocultural variables are consistently less important than more conventional socio-economic variables in their spatial association with deep poverty" (Ley and Smith 1997, p. 46).

In another study, Kazemipur and Halli (1997) examined the spatial concentration of poverty among immigrants in Canada. They analyzed several variables from the 1986 and 1991 censuses at the tract level for Canada's major cities and discovered that certain ethnic groups, namely Vietnamese, Spanish, Chinese, Black and Filipino suffer from higher levels of spatial concentration of poverty (SCOP). The authors argue that this outcome has left these groups "trapped in the vicious circle of poverty" and has impeded "their integration into Canadian society" (Kazemipur and Halli 1997, p. 26). Two additional studies have contributed to the discussion of the relationship between ethnic status and urban social problems. Moghaddam (1994) studied levels of ethnic segregation in Toronto and Montreal and found increasing levels in both cities and concluded that "ethnic segregation will continue to be a feature of major urban centres in Canada". Mata (1996) used census data to analyze employment attributes in Toronto and found that the city's labour force continues to be stratified along ethnic and national lines.

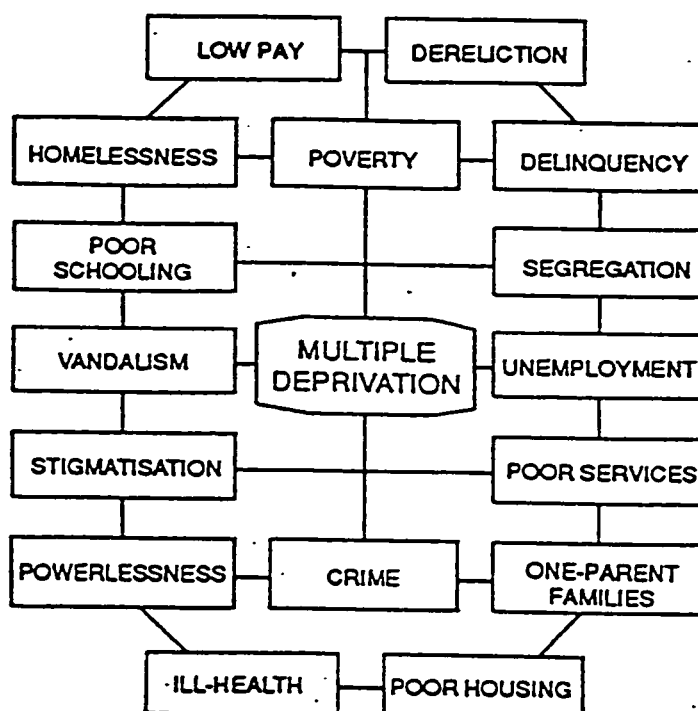
CONCLUSION

The goal of Chapter 3 was to provide a conceptual overview of urban deprivation. It is clearly a multi-dimensional concept involving the integration of a number of social, economic, and housing factors, which place some urban residents at a disadvantage relative to the population as a whole. Poverty is a central factor in the cause of deprivation. Urban

deprivation is linked closely to economic issues such as industrial change, low wages and unemployment. It is also related to social and cultural factors including stigmatization, segregation, and poor schooling. The value of a geographic approach to the study of urban deprivation has encouraged debate centering on the problem of the ecological fallacy and the issue of 'people' deprivation versus 'place' deprivation. However, most studies recognize the need to identify geographical patterns in order to acquire a better understanding of the local incidence of social and economic disadvantage and to develop appropriate planning and public policy responses.

Many studies have examined the nature, level and geography of urban deprivation in Britain, the United States and Canada. Most involved the construction of deprivation indices made up primarily of census data collected at various spatial scales. Several British studies, using census micro-data, have even considered the incidence of deprivation at the individual level. In addition, a number of statistical methods, including multivariate techniques, were employed in the studies to analyze the data. The information reviewed in this chapter provides an important framework for the development of a methodological approach for the study of urban deprivation in East Montréal. This approach is outlined in Chapter 5 and includes the construction of an urban deprivation index and a description of the techniques used to analyze the data. The next chapter (4) examines in detail the process of urban change in the study area, East Montréal and the Montréal urban region, from different perspectives including social, economic and political.

Figure 3.1
The Nature of Multiple Deprivation



Source: Pacione (1995): "The Geography of Multiple Deprivation"

Table 3.1
Explanations of Urban Deprivation

Theoretical model	Explanation	Outcomes and Relationships
1. Culture of poverty	Problems arising from the internal Pathology of deviant groups	Internal dynamics of deviant behaviour
2. Transmitted deprivation	Social maladjustment is transmitted from one generation to the next	Relationships between individuals, families and groups
3. Institutional malfunctioning	Problems arising from failures of Planning, management or Administration	Relationship between the disadvantaged and the bureaucracy
4. Unequal distribution of and opportunities	Problems arising from an inequitable distribution of	Relationship between the underprivileged and the former political machine
5. Marxist theory	Problems arising from the divisions necessary to maintain an economic system based on private profit	Relationship between the working class and the political and Structure
6. Underclass	Minority groups isolated from formal labour market and from mainstream society	Spatial mismatch of jobs and labour; feminization of poverty; suburbanization of role models

Sources: Knox, P. (1995): Urban Social Geography. and Cadwallader, M (1996): Analytical Urban Geography.

Figure 3.2
A Selection of Interrelated Factors
Leading to Urban Deprivation

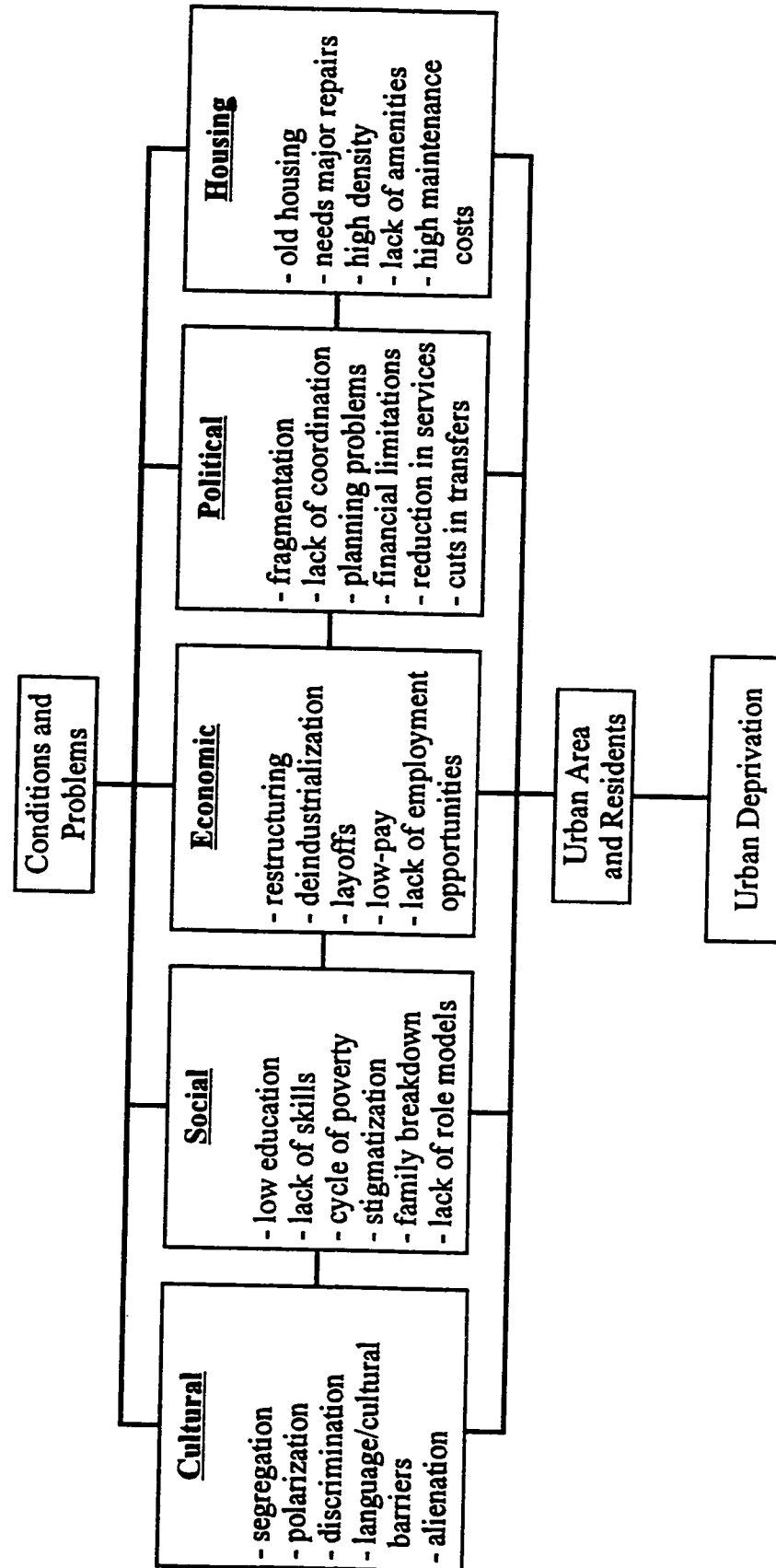
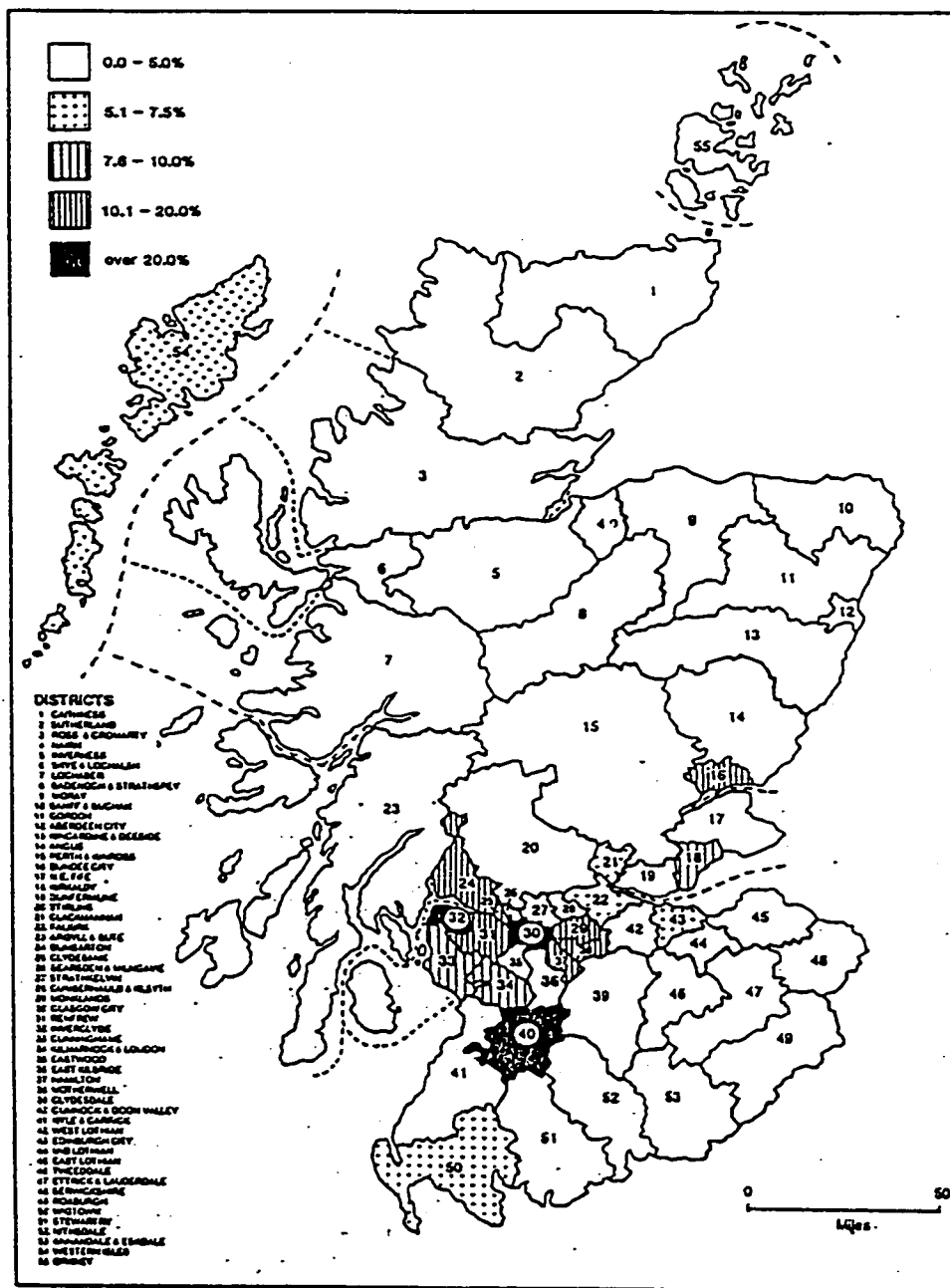


Figure 3.3
The Spatial Distribution of Male Unemployment in Scotland



Source: Pacione (1995): "The Geography of Multiple Deprivation in Scotland"
Applied Geography. vol. 15, no. 2, p. 119.

Table 3.2

The Indicators of Deprivation Used At Three Scales: I - individual scale,
H - household scale, E - environment Scale

Enumeration district index
Unemployment (I,E)
Households without a car (H,E)
Children in households with no or low earnings (I, E)
More than one person per room (H)
Households with children, living in flats (H)
Residents with poor amenities (excluding central heating) (I, H)
Ward index
above +
17 year olds not in full-time education (E)
District index
above +
Derelict land (E)
Housing insurance area weightings (E)
Standardized mortality weightings (E)
16 year olds with D grade or less at GCSE education certificate (E)
Ratio of long-term unemployed to total employment (E)
Income support (I/H,E)

Source: Bradford, Robson, and Tye (1995): "Constructing and urban deprivation index: a way of meeting the need for flexibility" Environment and Planning A. vol.27, p. 520.

Table 3.3

Range of Indicators of Deprivation in the Five Indices

	SCOTDEP	JAR	TOWN	DOE	SDD
Unemployment	X	X	X	X	X
youth unemployment					X
No car	X		X		
Low social class	X				
unskilled		X			X
Overcrowding	X	X	X	X	
below occupancy norm					X
Not owner-occupied			X		
Lacking amenities				X	X
Single parent		X		X	X
Under age 5		X			
Elderly households					X
Lone pensioners		X		X	
1 - year immigrants		X			
Ethnic minorities		X		X	
Vacant dwellings				X	
Level and access (old)				X	
Level and access (<5)				X	
Permanent sickness				X	
Large households				X	

Source: Morris and Carstairs (1991): "Which deprivation? A comparison of selected deprivation indexes" Journal of Public Health Medicine. vol.13, no.4, p. 320.

Table 3.4

Factor Loadings, Eigenvalues and Percent Variance Explained
Factor Analysis on Urban Deprivation Indicators for the London Borough of Greenwich

	Factor					
	I	II	III	IV	V	Communalities
Unemployment	0.83	-0.17	0.11	0.09	0.12	0.76
No Car	0.80	0.42	0.23	0.17	0.12	0.91
Social Class						
- professional	-0.56	0.06	0.14	-0.53	0.16	0.64
- skilled	0.02	-0.02	-0.02	0.99	0.03	0.97
- unskilled	0.76	0.02	0.02	-0.25	-0.14	0.67
Owner occupancy	-0.77	-0.12	0.26	-0.08	-0.18	0.72
Lone parents	0.69	-0.39	0.06	0.05	0.22	0.68
NCWP	0.31	-0.34	0.68	-0.05	0.01	0.68
Pensioner only	0.03	0.92	0.04	0.10	-0.11	0.86
Private renting	-0.25	0.12	0.67	-0.06	0.29	0.61
Local authority	0.84	0.10	-0.40	0.18	0.09	0.92
Children under 5	0.44	-0.44	0.25	0.20	0.45	0.69
School age children	0.18	-0.65	0.08	0.26	-0.06	0.54
Lone pensioner	0.16	0.91	0.10	0.07	-0.02	0.87
Crowding	0.63	-0.46	0.16	0.15	-0.05	0.65
Migration	0.13	-0.03	0.04	-0.05	0.91	0.84
Lack amenities	-0.05	0.11	0.87	0.01	-0.07	0.77
Eigenvalue	5.3	3.0	2.1	1.4	1.1	12.8
% variance explained	30.9	17.5	12.4	8.0	6.5	
Cumulative						
% variance	30.9	48.3	60.7	68.7	75.2	

Source: Folwell, K. (1993): "Seeking a Measure of Deprivation - Factor and Cluster Analysis" Census Indicators of Local Poverty and Deprivation: Methodological Issues. S. Simpson (ed). Local Authorities Research and Intelligence Association. p. 35.

CHAPTER 4

EAST MONTRÉAL WITHIN THE MONTRÉAL METROPOLITAN AREA: DIMENSIONS OF SOCIAL, ECONOMIC AND URBAN CHANGE

The goal of this chapter is to examine the dimensions of urban change in the study area, East Montréal, and by extension the Montréal Metropolitan Area. It is divided into three parts: A. social change, B. economic restructuring and C. political factors. Because of the significant and complex hierarchical links that exist within large urban systems, particularly economic, social, and political, it is important that studies of urban sub-regions (such as a neighbourhood, section of a city or municipality) also pay attention to the surrounding jurisdictions in that system. With this in mind, the chapter will explore the changing characteristics of the study area during the 1980s and 1990s in the context of the situation in the surrounding political units - the City of Montréal, the Montréal Urban Community (MUC) (also referred to as the Island of Montreal) and the Census Metropolitan Area (CMA). Figure 4.1 shows the Montréal CMA. The Island of Montréal is clearly visible in the centre of the map between Laval and the South Shore communities.

As stated in Chapter 1, the principal objective of the thesis is to examine the changing nature and geography of urban deprivation in East Montréal. The results of the census and survey-based analysis, presented in Chapters 6, 7, and 8, will be situated in the context of the social, economic, and political changes occurring in the study area and the region. The intention is to produce a complete picture of East Montréal from a number of perspectives, which will serve as the basis for an interpretation of the findings of the research as they relate to the complex and multidimensional nature of urban deprivation.

The chapter will rely on literature written on Montréal, primarily since the 1980s, as well as consolidated data from the 1986 and 1996 censuses. Three related themes are considered. Part A examines social characteristics of East Montréal and other jurisdictions within the CMA including population change, mobility, immigration, education, language and crime. Part B discusses the restructuring of the city's economy during the 1980s and 1990s and its effect on the study area and other communities, particularly with respect to the loss of manufacturing activity and employment. Part C briefly considers the impact of

political and other socio-economic issues such as municipal fragmentation, urban sprawl and taxation.

EAST MONTRÉAL: LOCATION AND LAND USE

Figure 4.2 shows the 29 municipalities of the Montréal Urban Community (MUC). The study area - East Montréal - is located within the City of Montréal and is highlighted on the map. It does not include the separate municipality of Montréal-Est listed as number 26 on Figure 4.2. Figure 4.3 is a map of East Montréal. Its area is 59.1 km² and in 1996 had a population of 439,398. The area extends from west to east from St. Laurent Blvd. to the City of Montréal - Montréal-Est municipal boundary and from south to north from the St. Lawrence River shoreline to the Metropolitan Autoroute. St. Laurent Blvd. is considered to be Montréal Island's unofficial east-west boundary. Highway 25, running north-south (and under the river via the L-H Lafontaine tunnel to Longueuil) divides the eastern portion of the study area.

East Montréal contains a mixture of land uses including residential, industrial, commercial, and park space. Large tracts of land in the south and eastern parts adjacent to the St. Lawrence River contain industrial and shipping facilities as well as the Longue-Pointe Military Base. This space also holds several kilometres of port and dock structures along the river, including the Laurier, Tarte, and Sutherland piers. In addition, the now closed Angus rail yards and the Frontenac rail yards are located in the southwestern portion of East Montréal, north and south of Sherbrooke Street. There are several prominent public spaces, including the Old Port, La Fontaine and Maisonneuve Parks, the Olympic Stadium, and the Saint-François-D'Assise cemetery.

The residential areas of East Montréal consist mainly of densely populated neighbourhoods characterized by low-rise duplexes and triplexes. Some of the most recognizable communities include Hochelaga-Maisonneuve, (south of Sherbrooke St. near the Olympic Stadium) the Plateau Mont-Royal, (north of Sherbrooke St. adjacent to La Fontaine Park), Rosemont (north of Sherbrooke St. to the west and north of Maisonneuve Park), and Jarry (in the north west corner bordered on two sides by St. Laurent Blvd and the Metropolitan Autoroute). East Montréal is a distinct part of the city, which can generally be described as a 'working class' Francophone, industrial area.

Like the City of Montréal as a whole, the study area's infrastructure is rapidly aging and in need of major repair and upgrading. For example, about one-third of the city's waterworks were constructed before the First World War and 45 percent of tunnels and bridges predate the Second World War. In addition, 50 percent of local roads were built before 1950 and the city's sewage system was, by the mid-1990s, still unfinished (Picard and Gibbon 1993, p. A4). Furthermore, East Montréal has an aging housing stock with nearly 40 percent of dwellings being more than 50 years old compared to 26 percent in the MUC.

PART A: SOCIAL DIMENSIONS OF CHANGE

Population Change

Table 4.1-A shows the population trends of East Montréal and surrounding jurisdictions between 1986 and 1996. It reveals a significant loss of over 20,000 in the population of the study area from 459,464 in 1986 to 439,398 in 1996. During the first 5 years of the study period - 1986 to 1991, the population fell by 11,350, somewhat more than between 1991 and 1996 when it declined by a further 8,716. These trends are in contrast with the situation in the other areas, which demonstrated either population stability or growth. As the table indicates, the population of the City of Montréal changed very little over the 10-year period, staying at just slightly over 1 million. In the MUC (the Island), between 1986 and 1991 the population grew by 23,289 to 1.77 million, while it remained virtually unchanged between 1991 and 1996. Meanwhile, between 1986 and 1996, the population of the Montréal CMA increased by 405,153 (13.9 percent) to 3.32 million. However, the vast majority of this growth occurred in the off-Island communities (the municipalities to the north and south of the MUC - see Figure 4.1). Over the 10-year study period, these communities grew in total by 381,889, reaching 1.55 million in 1996. The growth of the off-Island communities accounted for 94.2 percent of the total increase in the population of the metropolitan area (CMA). Current development is generally strongest in Laval, where the population grew by nearly 9 percent between 1991 and 1996, and on the North Shore in municipalities such as Blainville, Boisbriand, Chambly, La Plaine, Repentigny and St. Eustache (Tomalty 1997, p.141).

The vast majority of neighbourhoods within East Montréal experienced population decline between 1986 and 1996. Of the 156 census tracts (roughly equivalent to neighbour-

hoods) in the study area, 129 or 83 percent recorded falling populations. The declining census tracts included 32 with population losses greater than 10 percent - most of which are concentrated in the Hochelaga-Maisonneuve district south of Sherbrooke Street.

It is evident that there has been a significant out-migration of population, not only from East Montréal, but the entire MUC - a process that began in the early 1970s. Between 1972 and 1991, the Island's population fell by 260,000 (to 1.8 million) while the off-Island suburbs grew by 500,000. A growing number of French-speaking middle class residents, particularly young Francophone families, are moving from East Montréal and other parts of the Island to suburban areas such as Laval and the South Shore. For example, between 1970 and 1985, the proportion of Francophones living in municipalities off the Island of Montréal grew from 22 percent to 49 percent (Tomalty 1997, p. 142). This migration has been precipitated by several factors including jobs, quality of life, housing, and lower taxes (Came 1996, p. 20).

As Rose (1996, p. 144) reports, new high-tech industries such as pharmaceutical research, biogenetics, and aerospace engineering, employing highly paid and skilled professionals, have located primarily in the suburbs. As a result, many middle class residents, especially young families, have been pulled to the suburbs from central areas of the city including East Montréal. In fact, census data show that the total number of families (both one and two parent) living in East Montréal declined by over 10 percent from 113,743 in 1986 to 101,666 in 1996, strongly suggesting that the area has become less attractive for families. Furthermore, data from the 1996 census indicates that among the jurisdictions examined, East Montréal has the lowest proportion of private dwellings that are owned (23.3 percent) and the highest share of rented accommodation (76.7 percent).

In addition to employment opportunities on the off-Island suburbs, there are a number of quality of life and housing related factors, which have likely contributed to the large exodus of 'better-off' residents from East Montréal and central districts. Chief among these is a lack of green space in the City of Montréal where "in some otherwise attractive inner city neighbourhoods there are almost no small local parks where young children could play" (Rose 1996, p.145). According to the Comité inter-ministériel des espaces verts et bleus du Grand Montréal (1992), the City of Montréal has far less green space per capita than in

Toronto. In addition, most housing units in these areas do not have direct access from ground level and have little or no yard space. Interestingly, Rose (1996, p.145) proposes that many Francophone and Anglophone Montrealers of working class origin born in the 1940s or 1950s have rejected high density urban living as a result of their experiences growing up with a lack of privacy in large families confined to small housing units. Within the framework of this discussion, however, it is important to note that there is also a significant concentration of gentrification in the central districts of the city, including the Plateau Mount-Royal, Old Montréal and Petit Bourgogne, which has contributed to the retention of some middle class professional residents and families (Ley 1996).

Immigrants, Seniors and Lone-Parent Families

Immigration has had an undeniable impact on the changing social geography of Montréal. Tables 4.1 B, C, and D outline and compare the immigrant population in the study area and the surrounding political units. Approximately 15 percent of all new immigrants to Canada locate in the Montréal area. Of these, 86 percent settle on the Island and 58 percent in the City of Montréal itself. The tables reveal that with the exception of the off-Island communities, East Montréal has the lowest proportion of total and recent immigrants among the jurisdictions listed. While the total immigrant population increased by 28.4 percent in the study area between 1986 and 1996, only 16.1 percent of recent immigrants decided to settle there.

The 1996 Census indicates that the Montréal area is the destination of immigrants from a very large and diverse group of countries - 40 are listed in the census. Table 4.1-D shows the top five source countries for East Montréal and the metropolitan area. The five countries listed for the study area account for nearly 40 percent of all recent immigrants locating there, and not surprisingly, four of these are either entirely or partially French speaking.

It appears that a large number of newcomers (42.3 percent) opt to live within the City of Montréal, but in neighbourhoods west of St. Laurent Blvd (and the study area). In particular, ethnically diverse areas such as Côte des-Neiges, Parc Extension, and several downtown neighbourhoods have become major immigrant receiving communities. For example, large numbers of Filipinos and Sri-Lankans have settled in Côte-des-Neiges while

Haitians and Indians have located in Parc Extension. Additionally, the municipality of Saint-Laurent, just west of the City of Montréal, has recently seen a sizable influx of Lebanese newcomers.

There are several possible reasons why East Montréal attracts fewer recent immigrants. It is likely that the more diverse communities in the central and western parts of the city are viewed by many new arrivals as relatively easier and more comfortable environments in which to settle with respect to language, culture, and social support. At the same time, less diverse parts of the city, including the study area, may be viewed as 'less accepting' areas to locate. Nevertheless, as Table 4.1-C shows, East Montréal received over 21,000 recent immigrants between 1991 and 1996, spread out over almost all of its neighbourhoods (census tracts). In the northwestern section of the study area, the communities of Villeray, St-Edouard, St-Michel and Rosemont appear to be the preferred locations for many new arrivals, particularly Haitian, Vietnamese, and Central American. These immigration trends have resulted in a growing concentration of visible minorities in the central area of the Montréal region (Tomalty 1997, p. 142).

Another important demographic trend is the aging of Montréal's population. Table 4.1-E shows the total number of seniors (aged 65 and over) living in the study area and the surrounding jurisdictions. The aging of the population is due primarily to two related phenomena: an increase in life expectancy, which elevates the relative proportion of seniors; and a decline in the birthrate which lowers the relative proportion of young people in a population (Drouilly 1996, p. 49). The table shows that the proportion of seniors in the metropolitan area increased from 10.2 percent in 1986 to 12.0 percent in 1996. In 1971, the proportion was only 6.9 percent. While East Montréal experienced the smallest increase in the number of seniors over the 10-year period, it still has the highest proportion among the areas listed. As the table indicates, the seniors' population in the off-Island communities grew significantly by over 80 percent (but these areas still have by far the lowest proportion). The table also reveals that the majority of seniors (over 66 percent) live in the MUC.

Studies conducted by Drouilly (1996) and Renaud, Mayer and Lebeau (1996) clearly indicate that there is a concentration of the seniors' population in the central areas of the MUC, while the surrounding suburban communities, both on and off the Island, are

characterized by a younger population. Within East Montréal, the structure follows a variable pattern. There is a strong presence of seniors in neighbourhoods to the north and east of Parc Maisonneuve, which includes the districts of Côte de la Visitation and Rosemont.

Conversely, communities such as Plateau Mont-Royal, Villeray and Saint-Michel generally contain younger residents, at least partially the result of gentrification and recent immigration in these areas. The aging of the population in the central areas of Montréal present important public policy challenges with respect to social and health care service levels and resource allocation.

As Tomalty (1997) reports, the household structure in Montréal is rapidly changing. “The traditional two-parent family with children is declining and there are growing proportions of singles and one-parent families, as well as aging empty-nesters” (Tomalty (1997, p. 142). Again, these trends are particularly visible in the core parts of the region. One of these groups which is often disadvantaged is the lone-female parent family. About 85 percent of all such families are headed by women. Over the past several years, studies have consistently shown that many lone-female parent families are living at low-income or in poverty and are dependent on social assistance. Single mothers often lack access to employment opportunities and find it difficult to advance through education and training. Not all single-female parent families, however, are experiencing these problems.

Table 4.1-F shows the total number and proportion of these families in East Montréal and surrounding areas. It clearly shows a very significant growth of nearly 25 percent in the number of lone-female parent families in the metropolitan area between 1986 and 1996. Over 60 percent of these families live in the MUC and Drouilly (1996, p.99) reports that the highest proportions are found in the most distressed communities on the Island, including Lachine, Verdun, Saint-Henri and Pointe-Saint-Charles. The table indicates that East Montréal has the highest proportion of these families, even though there was a slight decrease in the total number living in the area over the 10-year period. (As mentioned above, this decline also reflects a decrease in the total number of families - single and two parent - in the study area). Similar to the seniors population, the off-Island communities, while having the smallest proportion of lone-female parent families in the region, recorded by far the highest growth (over 55 percent). Within East Montréal, there is a pronounced concentration of these

families in the area south of Sherbrooke Street in the communities of Terrasse-Ontario, Sainte-Marie and Hochelaga-Maisonneuve.

The demographic trends outlined above have important implications for the Montréal region. As Tomalty (1997, p. 143) states:

The decentralization of the population toward the off-island suburbs has outstripped effective administrative structures, leading to inefficient growth patterns; the central area of the region is in economic decline; many municipalities in the region are experiencing fiscal stress; and environmental impacts are high. The diversification of households implied by demographic trends are challenging municipal authorities to accommodate a wider range of housing types.

Education and Language

The population of the Montréal region is becoming better educated, most likely the result of a changing economy and new skill requirements with respect to employment opportunities. The restructuring of the city's economy during the past several decades is discussed in detail below. Table 4.1-G displays the educational characteristics of the various jurisdictions in the region, including the study area. It clearly indicates that in the CMA, the total number and proportion of the population aged 15 and over without a high school education fell considerably over the period 1986 to 1996. At the same time, those completing a high-school diploma rose substantially (21 percent) while there was a dramatic increase of over 150,000 (59 percent) in the number of people holding a university degree. In 1996, 15.4 percent of the population aged 15 and over in the CMA had earned a university degree, up from 11 percent in 1986. It is quite obvious that the realities of competing in a changing economy had a strong impact on many residents. In addition, the academic qualifications of recent immigrants have played a role in the improving levels of education in Montréal and in Canada. Statistics Canada reports that 34 percent of recent immigrants aged 25 to 44 hold a university degree, compared to 19 percent of Canadians (The 1999 Canadian Global Almanac, p. 63).

Table 4.1-G reveals some interesting trends in the changing educational characteristics of the region. Surprisingly, East Montréal experienced a significant fall in the total number of people without a high school diploma (-27.5 percent) and a very impressive growth in both the total number and proportion of the population with a university education.

In fact, as the table indicates, between 1986 and 1996, there was a 72.4 percent increase in the number of East Montréal residents holding a degree. Of the areas listed in the table, this growth was second only to the off-Island communities, which recorded an 87 percent increase. However, in 1996, the off-Island communities had a smaller proportion of university degree holders. The improving education levels in the study area are likely the result of a combination of factors, including economic change, recent immigration, gentrification and the possibility that East Montréal is being populated by a growing number of single, highly educated young people in search of cheaper rents in areas closer to downtown.

It is important to note that while East Montréal made important gains, there still exists a greater concentration of better educated residents in the western part of the City of Montréal and the MUC, particularly in Anglophone communities in the central city and west Island municipalities such as Pierrefonds, Kirkland and Beaconsfield. Within the study area, low educational attainment, like several other social characteristics, is especially visible in the communities of Hochelaga-Maisonneuve, Sainte-Marie and Saint-Michel. On the other hand, areas with better educated residents, particularly those with university degrees, are found in the Plateau Montréal, Old Montréal, the Olympic Pyramids, and parts of Rosemont.

One of the most contentious social and cultural issues in the Montréal region is language. A substantial literature examines this issue. Table 4.2 displays the changing language characteristics in East Montréal and the surrounding areas. Two of the most important trends visible in the table are the growth of non-official languages in all levels within the CMA and the continued decline in the use of French on the Island of Montréal over the 10-year period. The rise in the use of non-official languages, such as Chinese, Arabic, Spanish and Lebanese is directly related to the growth of immigration in the Montréal region. In 1996, the large majority (82 percent) of people speaking non-official languages at home lived on the Island and of these, nearly two-thirds resided within the City of Montréal. The table also reveals that virtually all of the growth in the use of French occurred in the off-Island communities while it fell (both in total numbers and proportion) in the MUC and the central city. In 1996, only 53 percent of people living on the Island spoke French at home. In

addition, the large majority (75 percent) of English speaking residents live in the MUC, particularly on the western half of the Island.

The table indicates that among the areas listed, East Montréal has the lowest proportion of English speaking residents (5.4 percent). It also shows that the area has the second highest ratio of French speakers (76.6 percent) despite the fact they declined by nearly 7 percent in the area between 1986 and 1996. The proportion of residents speaking non-official languages grew from 8.6 percent to 12.2 percent over the ten-year period. Within the study area, the communities with the highest proportion of English speaking residents (above 10 percent) include several downtown neighbourhoods, Old Montreal, Lafontaine (south of the Plateau Mont-Royal), and parts of Rosemont. The areas with the largest share of residents speaking non-official languages are, not surprisingly, those with the most recent immigrants - Villeray, St. Michel, Rosemont, as well as some central neighbourhoods, particularly Chinatown, located between St. Laurent and St. Denis, south of Maisonneuve. Since French is the dominant language in the area, there is no discernible geographic pattern to the neighbourhoods with the highest concentration of its speakers. What these census data do not show, however, is the high degree of bilingualism in the region, and particularly, the social adaptability of young Montrealers when it comes to communicating in several languages.

Crime

An issue closely related to urban deprivation is criminal activity and the fear of crime among residents of a community. Within any city, areas with high crime rates are likely to be viewed as less desirable places for families and individuals to live and for businesses to invest in. However, unlike other social, economic and housing characteristics for which data can be acquired through the census, crime statistics are not as readily available, particularly at lower levels of geography. Moreover, data collected at the regional or metropolitan area do not take into account the significant variability likely existing within these areas, especially high crime rates in some high-density, low-income communities. Table 4.3 presents the crime rates in the Montréal Urban Community (MUC) between 1986 and 1995, divided into three categories: violent crime, property crime and total offences. The data collected at this level correspond with the 49 MUC police stations on the Island of Montréal.

The table reveals an overall increase in the rate of violent crime in the MUC by about 8 percent over the 10-year period but it also shows that after peaking in 1992 at 1,392, the rate fell considerably by 1995 to 1,185. An average of 71 murders a year were committed over the time period. The property crime rate grew steadily from 1986 to 1991, before retreating by over 23 percent by 1995. Overall, during the 10-year period, the property crime rate fell by 15 percent and total offences by over 10 percent. The falling crime rate in Montréal during the 1990s generally mirrored that of other Canadian cities and is likely the result of a combination of factors, including an aging population, improving levels of education, better policing techniques, and a more effective criminal justice system. A 1993 comparative study found that in terms of crime, the Montréal CMA ranked 210 out of 343 metropolitan areas in North America (Curran 1996, p. 22). While crime data are not available for East Montréal, several articles in The Gazette referred to crime issues in the communities of Hochelaga-Maisonneuve and Rosemont highlighting the problems of domestic violence, prostitution, drug dealing and theft (Montgomery 1998, p. A5).

Summary

This section outlined the social dimensions of change in East Montréal and the surrounding jurisdictions between 1986 and 1996. The principal characteristics can be summarized as follows:

- The area experienced a decline in its population of over 20,000 with the majority of neighbourhoods recording losses. East Montréal, like other areas in the MUC, was affected by off-Island migration, particularly by middle class residents and young Francophone families.
- After the off-Island communities, the study area holds the lowest proportion of recent immigrants in the region. The majority live in the western part of the City of Montréal and the MUC. However, in East Montréal there is a concentration of recent immigrants in the communities of Villeray, St-Edouard, St-Michel, and Rosemont, particularly Haitian and Vietnamese.
- The study area has the highest share of seniors and lone-female parent families in the region.

- The level of education improved considerably in East Montréal with a significant decline in high-school dropouts and an impressive growth in university degree holders.
- While still constituting the large majority in East Montréal, French speaking residents declined by nearly 7 percent. The area has the smallest proportion of English speaking residents and there was a moderate growth in residents speaking non-official languages.
- While crime rates declined in the MUC in the 1990s, offences such as assault, prostitution and theft remain a problem in several East Montréal communities.

PART B: THE RESTRUCTURING OF MONTRÉAL'S ECONOMY

The Decline of Montréal's Industrial Base

In Chapter 2, the phenomenon of economic restructuring and its impact on urban areas was discussed from a theoretical and conceptual viewpoint. As a traditional industrial manufacturing centre, Montréal, like many other large urban areas in North America and Western Europe, has been significantly affected by the forces of restructuring and globalization. One of the most obvious outcomes of this process has been the displacement of Montréal by Toronto as the metropolis at the top of the Canadian urban hierarchy. Political factors, however, have also played a role and they will be discussed in detail in Part C. Montréal has been in steady decline since the 1950s and Toronto has eclipsed it as the leading centre for economic activity in Canada. During the 1970s and 1980s, the relative importance of the oil and sugar refining and textile industries in the city fell. While Toronto and Vancouver strengthened their position as international financial and business centres, the gradual transfer from Montréal of corporate headquarters in key sectors of the Canadian economy (primarily to Toronto) meant it could no longer be regarded as a national city for Canada (Rose 1996, p. 143). Linteau (2000, p. 431) states that the reorientation of Canada's international trade patterns following the Second World War played a strong role in weakening Montréal's economy. Historically, the city profited from being an important transit centre between Canada and Europe. However, the substantial growth in trade between Canada and the United States after 1945 lessened Europe's economic influence and resulted in Montréal losing this comparative advantage.

Between 1971 and 1986, the City of Montréal lost over 70,000 manufacturing jobs, or over 36 percent of its industrial base. At first, manufacturing on the Island of Montréal shifted to West Island suburbs such as Dorval and Pointe Claire. More recently, manufacturing growth has deconcentrated to the off-Island suburbs of Laval and Longueuil. Employment in the City of Montréal has declined markedly in labour intensive, low-value-added industries such as textiles, leather, and clothing that were particularly hard-hit by foreign competition. The garment industry, however, has remained relatively strong despite stiff competition from Asian producers. Apparel-makers account for one-quarter of all manufacturing jobs in the Montréal region and more than half the jobs in the Canadian garment industry (Hadekel 1996a, p. 28).

The city's container port is located in East Montréal but in 1990 new container facilities were constructed in Contrecoeur, 25 km downstream. Montréal's harbour is too shallow to hold the new, larger container ships and as a result, deeper U.S. ports such as New York City and Baltimore have been handling increasing container traffic headed for Canada. On the other hand, Montréal has benefited from its relationship with the United States. In the mid 1990s, about 70 percent of the containers off-loaded in the city were shipped by rail to the U.S. This traffic increased between 1984 and 1995 as the time required to ship containers from Montréal to Chicago was reduced from 72 hours to 30 hours, partly due to the expanded railway tunnel under the Detroit River at Windsor and the new tunnel completed at Sarnia in 1995 (Warkentin 1997, p. 273).

Ley (1996) describes the severe collapse of Montréal's former inner city industrial base, particularly the old manufacturing region in the southwest, adjacent to the Lachine Canal. He states that this area was the site of perhaps the greatest concentration of manufacturing activity in Canada in the immediate post war period and was devastated by de-industrialization. Between 1959 and 1988, 21,000 jobs disappeared and over a 25-year period the population of the district fell by over 50,000 (Ley 1996, p.22). The nearby district of Saint-Henri began to decline in the 1950s when increased truck and rail transportation resulted in a dramatic fall in the use of the Lachine Canal by ships (Hachey 2000, p. A9). These events led the 1993 Task Force on Greater Montréal to comment that

The Montréal city-region is faced with restructuring its economic activities as a direct

result of new technologies and more severe competition in all markets. This restructuring favours industries with more value-added and those involved in the sector of exporting services. The restructuring process is having a significant impact on conventional large industries, particularly in the manufacturing field, and leaving the region with a workforce that lacks the skills to work in this economy.

Furthermore, during the late 1980s and early 1990s, Montréal's business and professional services sector did not witness the growth evident in many other large North American cities. This sector includes law firms, consultants, accounting firms, insurance companies and head offices which tend to cluster together in the downtowns of major cities. In large part, the poor performance of this sector in Montréal since the mid 1970s is due to linguistic tensions between English and French speaking residents and political uncertainty regarding the future of Quebec as part of Canada. The departure of large corporations such as the Bank of Montréal and Sun Life Insurance has been well documented.

Coffee and Polèse (1993) examined Montréal's changing economy between 1951 and 1986 and compared it to other metropolitan areas in Canada, the United States, Europe and Asia. The study resulted in several key findings. The first was that the flight of the local economic elite, particularly Anglo-Montrealers, during the 1960s played a major role in the decline of Montréal as a Canadian metropolis. However, the authors also acknowledge that the remaining Francophone elite, to a certain extent, acted as a substitute to the departing Anglophones, helping to buffer the impact of this exodus on the city. Linteau (2000, p. 429) also discusses how the city benefited from the emergence of a Québec based entrepreneurship in the 1970s and 1980s, but argues that it was not sufficient enough to offset the losses to Toronto. Coffee and Polèse's second major finding was that Montréal's traditional industrial structure (dominated by sectors such as textiles and clothing) was unquestionably a factor in the origin of the economic problems experienced in the city over a generation. However, the authors argue that this factor should not be exaggerated, as it explains little in the decline of Montréal as a Canadian metropolis. They state that the city's economic structure cannot be classified as mono-industrial and is far less vulnerable to decline than Detroit's economy or even Toronto's, which are both highly dependent on the automobile industry.

Coffee and Polèse's third major conclusion dealt with public sector under funding. They report that compared to the United States, Canada devotes a larger share of its GNP to

public social spending, largely through transfer payments from the federal government to lower levels of administration, which in turn provide services such as education and health care. As a result, the two main forces of inequality, privatization and the decentralization of services, have had a far lesser impact in Canada. This, they argue, is why downtown Montréal does not at all resemble the inner cities of many American urban areas in crisis. It is therefore difficult, say the authors, to assert that Montréal is (or was) the target of under investment in human resources or infrastructure. Their fourth major finding was that Montréal's shrinking Canadian hinterland was the most visible result of economic transformation in the city over a 40-year period, while Toronto assumed the role as the economic capital of English Canada. But, despite the departure of the Anglophone elite, linguistic barriers placed a limit on the retreat of Montréal's hinterland - in effect it became increasingly limited to the province of Quebec (Coffee and Polèse 1993, pp. 433-434).

Coffee, Polèse and Drolet's (1996) study of the decentralization of high-order service activities in the Montréal central business district (CBD) added support to their earlier findings with respect to the relative health of the city's downtown area. High-order service functions include business services, finance, insurance, and real estate services, and head offices. The authors applied a shift-share analysis to employment data for Montréal in 1981 and 1991 and found that the CBD has remained a strong centre of employment, with producer services accounting for a growing proportion of its economic base. Furthermore, they comment that "the CBD continues to be the primary nurturing ground for producer service firms in the Montreal CMA, in the case of both the financial sector and business services" (Coffee, Polèse and Drolet 1996, p. 1811).

The restructuring of the Canadian economy during the 1980s and early 1990s was accompanied by two major recessions that were separated by a short boom period in the mid-1980s. As Rose (1996) states, the recessions played a role in pushing the private sector into implementing long term adjustments to the competitive forces of a rapidly emerging global economy.

Firms implemented various changes in the organization of their internal labour markets, aiming to cut labour costs, trim their operating budgets, increase productivity, and facilitate quick responses to shifts in market conditions. These changes have included 'downsizing' the permanent workforce and lengthening the working hours of key full-time personnel, while making increasing use of

contractual and part staff for short-term assignments, hiring new employees on lower salary scales than those in place for existing workers, and increasing the range of tasks performed by some employees. Such changes have varied between sectors but have affected employment conditions in a wide range of services as well as in manufacturing (Rose 1996, p.135).

Unemployment and Labour Force Participation

The effect of restructuring on the Montréal region during the study period can be assessed with the use of economic indicators drawn from the 1986 and 1996 censuses. Tables 4.4 and 4.5 outline the changing labour force characteristics and employment trends in East Montréal and surrounding jurisdictions between 1986 and 1996. Table 4.4-A shows that there was very little change in the unemployment rate in any of the jurisdictions over the 10-year period. The CMA recorded a rate of just over 11 percent in 1986 and 1996, up considerably from 1981 when it was 8.7 percent. Montréal continues to have one of the highest unemployment rates of any major city in North America. The table also conveys that unemployment varies considerably within the region, with the MUC, and in particular, the City of Montréal and East Montréal having the highest rates in 1996 (15.0 and 14.9 percent respectively) while the off-Island communities had a significantly lower rate (9.1 percent). It appears that the early and mid 1980s was a period of heavy job losses as the unemployment rate in the City of Montréal grew significantly from 10.2 percent in 1981 to 14.0 percent in 1986 while in the MUC it increased from 9.1 percent to 12.4 percent.

Table 4.4-A also shows that with the exception of the off-Island communities, all of the jurisdictions witnessed a drop in the labour force participation rate - that is, the proportion of the total population aged 15 and over who have paid work, either full-time or part-time. The largest declines and the lowest rates were evident in the MUC and the City of Montréal. Like the city, the study area of East Montréal in 1996 had just below 60 percent of its population engaged in the labour force. Again, region-wide disparities are significant, with the off-Island communities recording a much higher rate of 67.7 in 1996. The decline in the participation rate signifies a lack of job opportunities in the Montréal region and likely reflects a growing number of people who have simply given up looking for work. However, a low rate may also be the result of other factors such as an increasing number of students and retired seniors - both clearly evident in the city. The regional disparities in unemployment and

labour force participation are a clear indication of the economic stagnation of the central areas of the Island and the relative growth and prosperity of the suburban municipalities to the north and south.

Full and Part-Time Employment

Studies often indicate that an important outcome of economic restructuring is the trend away from full-time permanent work and an increase in part-time and contractual employment. Tables 4.4-B and C display the incidence of full and part-time employment in East Montréal and surrounding jurisdictions during the study period. The first indicates that the City of Montréal and East Montréal had the lowest rates of full-time employment in the region and the largest absolute declines between 1986 and 1996 (-10.5 and -10.2 respectively). It appears that all of the growth in full-time employment was limited to the off-Island communities, which experienced a significant 32.9 percent absolute increase in full-time workers over the 10-year period. (However, as the table shows, these communities actually witnessed a slight drop in the percentage of the total labour force engaged in full-time work).

The second table conveys only slight increases in the proportion of part-time workers in all of the areas listed during the study period. However, three of these, the study area, the central city and the MUC recorded absolute losses in this type of employment. Within the region, the highest rates of part-time workers in 1996 were found in East Montréal and the City of Montréal (48.2 and 47.4 percent respectively) while the lowest rate was in the off-Island communities (44 percent). Similar to full-time status, these communities recorded a large absolute growth in part-time employment (37.7 percent). As will be seen below, the data portraying changes in full and part-time employment on the Island of Montréal are obscured somewhat by the fact that the total labour force declined between 1986 and 1996.

Employment Trends by Sector

Table 4.5 shows the total labour force and employment trends in seven main industrial sectors. Table 4.5-A provides an interesting picture of the changing employment situation in the metropolitan area. It reveals that the study area, the central city and the MUC experienced significant declines in their labour forces over the 10-year period. East Montréal recorded the largest proportional loss at -5.7 percent, representing nearly 13,500 fewer people

engaged in the workforce. On the Island as a whole, in 1996 there were nearly 39,000 fewer people in the labour force than in 1986, a decline of -4.2 percent. The table clearly shows that the growth in the labour force in the metropolitan area occurred exclusively in the off-Island communities where it expanded by an impressive 211,000 in just 10 years, an absolute increase of nearly 35 percent. In particular, North Shore municipalities such as Laval, Boisbrand, and Blainville witnessed considerable increases in their labour forces in conjunction with their substantial population growth rates. As Tomalty (1997, p.143) observes, these trends

suggest the migration of jobs to suburban locations, especially industrial and lower order service jobs. Left behind were a number of unskilled labourers, some contaminated industrial sites, and unused infrastructure such as railyards and industrial buildings.

The census, however, provides data on where people in the labour force live but not necessarily where they work. While many new jobs have been created in the suburban communities themselves, large numbers of workers still commute daily to the MUC and the central business district. For example, most residents of Blainville, about 35 km northeast of the MUC, travel to jobs in Montréal or Laval. While this is beneficial to the core area of the city, as has been reported by Coffee, Polèse and Drolet (1996), it is the outer municipalities that still benefit the most since property taxes are paid there and most shopping, particularly the purchase of 'big ticket' items like automobiles, appliances and furniture, is likely done in suburban areas.

Table 4.5-B to H outlines the changing employment characteristics in the Montréal region according to seven industrial sectors: 1. manufacturing, 2. finance, insurance and real estate (FIRE), 3. construction, 4. transportation, storage, communications and utility, 5. trade, 6. government services, and 7. other service industries. Table 4.5-I consists of a summary of labour force and employment trends in East Montréal. The discussion of economic restructuring generally focuses on the loss of manufacturing activity in large industrial urban centres. As Table 4.5-B shows, this is certainly the case in Montréal between 1986 and 1996. Overall, in the CMA there was a drop of over 27,000 manufacturing jobs, a decline of nearly 9 percent. The losses were evident in the MUC and particularly East Montréal, where employment in this sector fell by over 15,000. The study area recorded the

greatest declines in both absolute change and as a proportion of the total labour force - from 20 percent in 1986 to 14.4 percent in 1996. On the other hand, in the off-Island communities, employment in manufacturing grew in total by 16.1 percent, largely the result of new industries, especially high-tech, aerospace, and pharmaceutical firms locating there and the deconcentration of manufacturing activity off the Island.

Of the 155 census tracts in East Montréal, only 14 experienced growth in manufacturing employment, while 55 recorded declines of more than 40 percent. As might be expected, the tracts with the largest losses in manufacturing jobs are heavily concentrated in an area stretching south of Sherbrooke St. in the industrial zone from St. Laurent Blvd. in the west to the Montréal-Est municipal boundary. This area includes the communities of Sainte-Marie, Terrasse-Ontario, Hochelaga-Maisonneuve, Longue-Pointe and Mercier.

As mentioned, growth in the finance, insurance and real estate (FIRE) sector was considerably slower in Montréal during the early 1990s than in other large urban centres in North America. Table 4.5-C shows that employment in this important sector actually declined within MUC and that all of the growth in the CMA occurred again on the off-Island suburbs, where nearly 10,000 additional people were employed between 1986 and 1996. In 1996, East Montréal had the lowest percentage of its labour force working in FIRE and experienced the largest proportional decline over the 10-year period. As indicated by Table 4.5-D, the construction industries fared badly in the late 1980s and 1990s. In particular, the areas within the MUC suffered the greatest losses with employment in these industries in the City of Montréal and East Montréal falling by over 30 percent. This is not surprising considering the slowdown in the economy in the early to mid 1990s and the flattening of real estate demand and new housing starts, coupled with growing development in the outer municipalities of the Montréal region. Similar trends are visible in the transportation, storage, communications and utility industries as well as in the trade industries (Tables 4.5-E and F) - absolute declines in employment within the MUC and growth in the off-Island communities.

While constituting a small proportion of the labour force, total employment in government service industries declined by 4.1 percent in the CMA and by over 20 percent in the areas within the MUC (Table 4.5-G). The number of people working in this sector on the Island fell by nearly 10,000 between 1986 and 1996. The downsizing in this sector in

Montréal was typical across Canada during the 1990s as all levels of government - federal, provincial and municipal - redefined the delivery of services and cut spending to deal with growing deficits. Most of these jobs were relatively high paying full-time positions with complete benefits and their disappearance certainly had a strong impact on Montréal's economy.

While the loss of manufacturing, trade and construction jobs has to this point been emphasized, the concurrent growth of employment in the service sector must also be recognized. This was clearly evident in Montréal as seen in Table 4.5-H which uses the heading 'Other Services' to refer to 1. business services, 2. educational services, 3. health and social services, 4. accommodation, food and beverage services, and 5. other services. The table indicates that in all the geographic areas listed, there was a significant increase in the proportion of the labour force employed in non-government service industries over the 10-year study period. East Montréal recorded the largest proportional increase (8.7 percent) and in 1996 had 44.1 percent of its labour force working in the service industries, 6.5 percent higher than the CMA. However, the large majority (72 percent) of new jobs in this sector in the CMA were created in the off-Island communities.

It is difficult to determine the level of change within each of the five 'Other Services' categories, as they are not dis-aggregated in the 1986 census. However, according to the 1996 census, the largest of these in the Montréal CMA in terms of employment were health and social services (162,200), business services (134,650), and educational services (112,330). It should be emphasized that many of the new jobs in consumer services consist of low-paying, unskilled and part-time or temporary work, particularly in industries such as tourism and accommodation and food. As a result, within the framework of restructuring, large increases of employment in some service industries over a period of time do not necessarily reflect a net improvement in the economic condition of an urban area like Montréal.

Table 4.5-I provides a summary of employment trends in the study area between 1986 and 1996. It reveals a drop of nearly 6 percent in the total labour force and declines in employment (both proportionate and absolute) in six industrial sectors: manufacturing, FIRE, construction, transportation and storage, trade, and government services. The largest absolute losses were in manufacturing (-32.1), construction (-36.4), and transportation and storage

(-24.0). The table also shows a 17.5 percent growth in non-government service industry jobs - a sector that now is clearly dominant in East Montréal.

Evidence of Economic Change

Since the early 1980s, the restructuring of Montréal's economy has resulted in the loss of employment and activity in some sectors such as traditional manufacturing, and gains in others such as business services, high-tech, and engineering. East Montréal was particularly hard hit during this period of change, experiencing a large number of factory closings and job losses. As mentioned, in the early 1980s four oil refineries in the area (British Petroleum, Texaco, Esso, and Gulf) were closed as a result of: amalgamations, a drop in demand due to high energy costs and conservation, and conversion from oil to gas heating (Warkentin 1997, p. 273). This was accompanied by thousands of permanent layoffs at companies such as Bombardier, Welfab metal products and Hawker Siddely during the economic recession that reached its peak in 1983. Between 1981 and 1986, 7,444 jobs disappeared in East Montréal, about two-thirds of them full-time (Harris 1989, p. B1).

The difficulties continued during the study period - 1986 to 1996. In Hochelaga-Maisonneuve, key industries such as St. Lawrence Sugar, Victor Hudon cotton mill, and W.C. McDonald Tobacco shut down, dealing a harsh blow to the community. In 1989, MIL Vickers closed its submarine component plant in East Montréal, leaving 392 people out of work. In 1991, the Kemtec Petrochemicals plant in Rosemont went bankrupt, leaving 300 jobless. In 1993, General Electric Canada Inc. closed its locomotive plant in the area, laying off 325 workers. The plant built diesel-electric locomotives for markets in Africa, South America and Asia and like many other companies in the city felt immense competitive pressure from the international market place (The Canadian Press 1993, p. B7).

One of the most striking events during this period was the closing in 1992 of CP Rail's Angus shops in Rosemont. The shops, situated on a 200-acre site bordered on the north and south by St. Joseph Blvd. and Rachel St., were established in 1904 for the building and maintenance of the CPR's rolling stock of freight cars, passenger cars and steam locomotives. The Angus Yards would become one of Montréal's largest private employers and an economic fixture, not only for the surrounding communities but also for the entire region. The yards gave birth to the Rosemont district, where at least 10 percent of its workers lived.

At its peak during World War Two, the Angus shops employed more than 12,000 people and were expanded to produce munitions, frigates, landing craft and tanks (Schoenauer 1998, p. 15). Following the war, the shops fell into a slow decline with employment dropping to 7,500 in the late 1940s and to 2,500 in the early 1980s. Its closing in 1992 put 900 people out of work.

Another major employer in East Montréal, the Canadian Vickers shipbuilding yards in the Port of Montréal, shut down in 1989. Vickers built freighters, naval vessels and Coast Guard ships and was the predecessor to Canadair, assembling aircraft for Trans-Canada Airlines in the early 1950s. The company also constructed all of the subway cars and escalators for the Montréal metro when it was built in the early 1960s. Vickers was long an economic pillar for East Montréal employing 12,000 people at its peak in the 1950s and 1960s and was once the third largest employer in Quebec (King 1999, p. A5).

The closings and job losses in the study area mirrored those in the whole Montréal area during the late 1980s and 1990s. The region suffered from massive layoffs at companies such as Air Canada, VIA Rail and Canadian Pacific Ltd., as well as closings and severe cutbacks in the early 1990s at General Motors of Canada, Pratt and Whitney Canada, Canadair Aerospace Group, Circo Craft Co., Dominion Textiles, and Gillette Co. (Picard 1991, p. A5). In 1996, large layoffs occurred in the communications industry when Radio-Québec, the Canadian Broadcasting Corporation and Bell Canada substantially reduced their operations (Bryan 1997, p. D3). While still absorbing these changes, the core areas of the city were doubly affected by the out-migration of many businesses seeking lower taxes and better working conditions in the suburbs. For example, Air Canada moved to Dorval, Esso Petroleum Canada relocated to Anjou and the Bank of Canada to Ile-des-Soeurs. Federal and provincial government ventures also followed this trend. The Canadian Space Agency was awarded to Longueuil in the south-shore, and a heavily financed high-technology park in St-Laurent, west of the city core, has attracted pharmaceutical and electronics companies. By the mid-1990s an estimated 27 percent of all commercial properties in the City of Montréal were vacant, representing a cut in the tax base of one-fifth (Allentuck 1994, p. B25).

The flip side of the restructuring story is that the Montréal region has been relatively successful in developing and attracting new businesses in emerging sectors such as high-tech.

Within North America, the city is developing into a principal centre for aerospace, biotechnology, pharmaceutical, and information technologies. In fact, a study conducted by the consulting firm Price Waterhouse found that the greater Montréal area has more businesses per capita in information technology, aerospace and pharmaceuticals than any other city in North America (Hadekel 1996B, p. 27). However, much of this activity is concentrated in suburban and off-Island communities and the core areas, particularly East Montréal, have been slower to benefit. In the aerospace industry, for example, Pratt and Whitney employs 6,000 people in Longueuil, and Canadair (now owned by Bombardier Aerospace) employs nearly 10,000 in its plants in Dorval and St. Laurent. Also, in the information technology sector, SR Telecom employs several hundred people in its manufacturing centre in St. Laurent.

The city is also regarded as Canada's primary research and development centre, accounting for 26 percent of all research activity in the country. The federal government funds 14 National Centres of Excellence in Canada, which bring together university and private sector researchers in high-tech projects considered important for the country's economic prospects. Montréal has four of these - in telecommunications, respiratory health, wood pulp, and neuroscience (Kalbfleisch 1996, p. 13). McGill University is home to a \$2.5 million photonics laboratory built in 1994 as part of the Canadian Institute for Telecommunications Research (Bagnall 1996, p. 13). In addition, the city is an important player in the manufacture of telecommunications equipment, including cellular, mobile, digital, satellite and fibre-optic products. The sector is led by SR Telecom, which exports 97 percent of its production to more than 70 countries (Hadekel 1996B, p. 27). It must be pointed out that while this emerging activity represents a positive trend for the city, the creation of new jobs in 'knowledge based' industries is relatively small compared to the large numbers of people displaced by factory closings and layoffs in traditional industries. For example, by the mid- 1990s, only about 8,000 people in the Montréal region worked in the field of pharmaceuticals and biotechnology. It is clear that the city is still in the early stages of a full economic transformation.

Examples of new economic activity, particularly in emerging sectors, are less numerous in East Montréal than in other parts of the region such as the west Island and the

north and south shore suburbs. A number of small computer businesses and multimedia firms, however, have converted some former warehouses in Old Montréal into office space. The area around Ste. Catherine St. East, with empty stores and decaying tenements, is slowly being redeveloped with new housing projects and the return of major businesses. One of these is Vidéotron Ltée, which opened a telecommunications office on Pie IX Blvd bringing several hundred jobs into the area. Another company, Sol Plastics, was persuaded to build a \$33 million high-tech plastic recycling plant on a vacant and once contaminated 225,000 square foot tract of land in the industrial zone near the L-H Lafontaine Tunnel. The plant employs about 60 people (Dean 1998, p. C1). In the area around Sherbrooke St. East, several call centres have set up offices including the firm Household Finance, employing about 225 operators who answer questions from borrowers, and issue loans and mortgages (Hadekel 1996A, p. 28).

The Société du Développement Angus, a Rosemont community group established in the mid-1990s, drew up plans to convert a large part of the former Angus railway yards into a comprehensive industrial park for enterprises active in the environmental sector. The project, which involves financial support from the Quebec and federal governments, also includes the construction of 1,200 housing units for about 5,000 people and retail and commercial space. The goal of the Société is to create 2,000 jobs in the area (Becker 1998, p. A8). The project is designed to keep families and businesses in the City of Montréal and retain their property taxes - to encourage them to stay in the city rather than select the suburbs. The housing units will be mostly low-density and will range in price from \$117,000 to \$175,000. The site will include seven parks (Ravensbergen 1998, p. C1). The former locomotive shop on the site was renovated with the intention of attracting businesses to set up operations there. By 1999, nearly half of the floor space in the building (103,000 squared feet) had been occupied (Cardinal 1999, p. A7).

Summary

This section described the impact of economic restructuring on the study area and the Montréal region during the 1980s and 1990s. The key points in this economic change are as follows:

- As a traditional industrial manufacturing centre, Montréal has been significantly affected by the forces of economic restructuring and globalization.
- Since the early 1970s, there has been a substantial loss of manufacturing employment in the region and a deconcentration of activity to the off-Island communities.
- East Montréal and the City of Montréal have the highest rates of unemployment in the region and the MUC has a considerably lower rate of labour force participation than the off-Island communities.
- East Montréal and the City of Montréal also have the lowest rates of full-time employment and the highest rates of part-time employment.
- Between 1986 and 1996, East Montréal recorded the largest decline in its labour force at -5.7 percent, representing nearly 13,500 fewer people in the workforce.
- The study area experienced significant declines in employment in six important industrial sectors: manufacturing, FIRE, construction, transportation and storage, trade, and government services. There were nearly 15,000 fewer people working in the manufacturing sector alone.
- Within East Montréal, the areas with the largest losses in manufacturing jobs were concentrated in the industrial zone south of Sherbrooke Street.
- The only jurisdiction to witness increases in the six industrial sectors was the off-Island communities.
- During the study period, employment in the service industries grew in all of the jurisdictions. In 1996, over 44 percent of the labour force in East Montréal worked in this sector, the highest rate in the region.
- Since the early 1980s, East Montréal has been adversely affected by plant closings and large lay-offs. The closing of the Angus rail shops and the Canadian Vickers shipbuilding yards were particularly difficult for the area.
- While economic restructuring has led to the development of the Montréal region as a leader in the aerospace, biotechnology and pharmaceutical industries, core areas, especially East Montréal have been much slower to benefit.

PART C: POLITICAL AND OTHER SOCIO-ECONOMIC ISSUES

This section will briefly outline several political and socio-economic issues that have affected the Montréal region since the early to mid 1980s. These include municipal fragmentation, urban sprawl, tax policy, the departure of head offices and the mobility of young Québécois. These issues have had an important impact on the core areas of the region, including the central city and East Montréal.

Municipal Structure, Urban Sprawl and Taxation

The Montréal region is a very large and complex municipal administrative structure. The management and reform of this system has been the source of much study, debate and discussion over the past several decades. Figure 4.1 is a map of the Montréal Metropolitan Region showing the location of the 102 municipalities within its boundaries. The MUC, consisting of the 29 municipalities on the Island, was created as an administrative unit by the provincial government in 1970, primarily as a reaction to a service crisis in the central city - the October 1969 strike by the Montréal municipal police. The MUC was designed as a regional body for the Island to co-ordinate police services, public transit, property evaluation, sewage treatment and other services. Its council consists of the entire membership of the City of Montréal council (now 59) and the mayors (now 27) of all the Island suburbs (Sancton 1994, p. 83). An increasing number of urban researchers, politicians, business people and citizens contend that the MUC is too fragmented a structure to deal in a coordinated and effective way with important urban policy issues.

One such critic is Tomalty (1997) who has expressed concern about a lack of economic coherence in the Montréal region.

Municipalities of all sizes compete against each other for residential growth and non-residential investments, and the lack of an effective metropolitan administrative entity means that investment in infrastructure to support growth is often inefficient. The business community, and the municipalities themselves, appear to be deeply frustrated by this situation (Tomalty 1997, p.143).

In effect, 102 city councils making decisions about zoning, housing developments, tourism and other issues has resulted in an uneven and sometimes ad hoc approach to economic development in the region.

The problem of urban sprawl became an important political issue for the Montréal region in the 1990s. In 1991, the Task Force on Greater Montréal (also known as the Pichette Commission) was established by the Government of Québec. The Pichette Report, tabled in 1993, made several recommendations to control urban sprawl. Its major recommendation was the creation of a Montréal Metropolitan Region extending from Mirabel to Chambly, comprising 102 municipalities and governed by a single regional government (Thomas 1997, p. 156). The topic of urban sprawl was an important issue in Montréal's municipal election in 1994 and was often raised during the 1994 provincial election campaign (Tomalty 1997, p. 143). Since the early 1970s, more than 200,000 people have left the City of Montréal for the suburbs, causing a steady decline in the city's tax base. While two-thirds of the region's jobs remain on the Island, 5,000 businesses have left since the mid-1980s (Lalonde 1996, p. 25). As mentioned, many young families are attracted to the suburbs by lower taxes, affordable housing, as well as by more space and privacy. Businesses are following suit in search of affluent markets and lower business taxes. A succession of provincial governments has aided this out-migration by instituting home ownership policies, construction regulations and road building programs, all of which encouraged new housing projects in suburbs where land was inexpensive and property taxes much lower than in the city core (Bauch 1996, p. 24). This migration has resulted in a widening economic, cultural and linguistic gap between the off-Island suburbs and the MUC.

The central areas of Montréal have been affected most by this situation, primarily with respect to the inequitable distribution of social costs in the region. The outward movement of population from the core to suburban areas has placed significant fiscal stress on those municipalities experiencing stagnation or population decline. While this issue is of growing concern for older suburban areas on the Island and even mature off-Island municipalities, like Longueuil and Laval, the City of Montréal has been affected the most. The Pichette Commission (1993, p.100) outlines several instances where the city is faced with responsibilities in a number of unique situations:

- Approximately three quarters of the population are tenants and most citizens do not have the financial means to own property.

- Approximately 40 percent of the households do not own a car and these people rely on public transportation for their travels.
- Its population has more small families, single-parent families, single households and elderly people than elsewhere.
- There is a great cultural diversity, and over 40 percent of immigrants to Québec have made their home in the city.
- Almost one-third of the population is low-income families and the city has the highest concentration of a workforce that is experiencing difficulties.

Because its population is older and more heterogeneous than in the suburbs, the City of Montréal requires more municipally subsidized services. Unlike suburban municipalities, the city subsidizes housing costs for large numbers of its residents, thus contributing to its tax burden. The falling population of some sections of the city “means that fixed costs for maintaining and operating existing infrastructure must be borne by a smaller assessment base, while suburbanites who do not pay taxes in the city enjoy its amenities and employment opportunities” (Tomalty 1997, p. 144). In addition, the central city has greater spending commitments as a result of its funding of regionally important recreational and cultural facilities, larger policing and planning costs, greater social outlays, and higher infrastructure maintenance costs. Therefore, as Tomalty (1997) points out, the tax rate in the City of Montréal is generally higher than on similarly assessed properties in suburban municipalities. While some of this tax burden has been transferred to the commercial sector, residential taxes in the central city have stayed above the regional average, contributing to the departure of some residents and businesses to suburbs with lower taxes.

The cost of municipal services in Montréal, as in most central cities, is higher than those in the urban region’s municipalities as a whole. For example, Montréal’s per capita expenditures in 1992 were 58 percent higher than other cities in the region. In 1985, this figure was 71 percent (The Pichette Commission 1993 p. 103). The Pichette Commission (1993, p. 101) recognizes that by involving itself in policies and services that respond to the special needs of its citizens,

Montréal has had to assume social and financial responsibilities drawn not only from its role as a municipality but also from its appeal as a core city. Other municipalities have also been led to offer more community services in order to take into

account the changes in the composition of their populations, for example, a growing number of immigrants. Still, their needs are still not as great as Montréal's. Therefore, the core city's situation is unique and must be a priority for both the regional partners and the governments.

The Departure of Head Offices

Since the mid-1970s, a great deal of attention has been paid to the departure of the head offices of large firms. One of the most notable was in 1978 when Sun Life moved its headquarters to Toronto, ending its long association with the city. Shortly after, several other national firms followed suit, including the Bank of Montréal, the Royal Bank and Dupont, taking thousands of jobs with them (Warkentin 1997, p. 274). This trend continued into the mid 1990s with Zellers re-locating its head offices and 450 jobs to Toronto; CP Rail moving to Calgary, resulting in the loss of 700 jobs (a fifth of its Montréal workforce); and KLM Royal Dutch Airlines transferring its headquarters to the Ontario capital. In November 1996, a study commissioned by the Québec Committee for Canada reported that between 1977 and 1996, 506 head offices moved from Montréal to Toronto while only 122 went the other way. But, the study also revealed that in recent years Montréal has gained almost as many head offices from Toronto as it has lost to that city (Yakabuski 1996, p. B7).

There is an ongoing debate over the reasons for head offices leaving the city. Some commentators attribute this trend to the political uncertainty regarding the future of Québec as part of Canada, and persistent linguistics tension between English and French speaking residents. Others, including some corporate executives, say that the exodus is related strictly to financial and economic factors such as high taxes, the need for corporate re-organization and proximity to new markets. There is general agreement, however, that Montréal has declined as a major North American decision-making centre. As Coffee and Polèse (1993) observe, the city now assumes more of a role as a regional headquarters for Québec and Atlantic Canada. Among the 200 largest Canadian companies in the mid 1990s, 73 had head offices in Toronto compared to 32 in Montréal. However, important international companies such as Bombardier, Power Corp., Alcan Aluminum, and BCE are still based in the city (Hadekel 1996C, p. 29). Higher tax rates have also played a role in persuading individuals and firms to leave town and have discouraged others from moving to the city. For example, a

Montrealer earning \$50,000 a year pays \$1,800 more in taxes overall than a comparable resident of Vancouver, and \$2,000 a year more than a resident of Toronto (Bauch 1996, p. 24). Furthermore, a study conducted by Québec's Ministry of Finance found that despite the recent growth of investment in the high tech sector, per capita income in the Montréal region ranked 58 out of 63 urban areas studied (Leduc 2000, p. A2). Since East Montréal is generally a working class industrial area, the loss of head offices has less of a direct impact on it, but nevertheless, the departures have contributed, along with other factors, to the overall weakening of the central city.

The Mobility of Québécois

Another socio-economic issue related to political and economic events and having an impact on the health of Montréal is the mobility trends of Québécois, particularly younger residents. Significant attention has been paid in the media to the departure from the city of English speaking citizens. As in the debate on the loss of head offices, some observers attribute this exodus to political factors, while others point to Montréal's ailing economy and better job opportunities in other parts of Canada. The city's English population accounts for about 40 percent of the employment in business services in downtown Montréal and some are leaving the city, taking their expertise, capital and business contacts with them. By contrast, the mobility of the French speaking population in Québec is much lower. For example, according to Statistics Canada, between 1986 and 1991, 53,800 English speaking Québécois moved to other provinces while only 31,600 English residents of other provinces moved to Québec. Over the same period, 37,800 French speaking Québécois left the province while 43,000 moved in. The figures are even more striking when examined over a 20-year period. Between 1971 and 1991, 449,100 English residents left the province while only 174,600 moved in, representing a net migration of -274,500. The net migration for French residents over the same period was -43,300 (Thanh Ha 1996, p. A6).

There is a tendency for young jobless and lower-income Francophones from all parts of the province to gravitate to Montréal in search work and accommodation. But, since young Francophones tend not to leave Montréal in search of better circumstance, the city becomes the 'end of the line' for them. This lack of out-migration has contributed to growing levels of unemployment and dependence on social assistance, particularly in the central city and the

study area. Rose (1996, p. 147) states that it is primarily language and associated cultural factors that limit mobility to other cities in Canada. According to the author, anecdotal evidence indicates that even a significant number of younger *Anglophone* professionals have “opted for marginal employment and residence in multicultural neighbourhoods of inner city Montréal rather than for higher earnings but a perceived lower quality of life at the other end of Highway 401” (Rose 1996, p. 148). The relatively large supply of affordable housing in the city has contributed to the retention of both Anglophone and Francophone professionals who may be experiencing difficulty finding full-time employment.

Summary

The political and socio-economic issues described in this section have had an important effect on the Montréal region, especially the central areas. However, compared to the elements of social and economic change described in the two previous parts, their impact on the study area has been more indirect in nature.

- A fragmented administrative structure, both on the Island of Montréal and in the metropolitan region, has led to an ineffective approach to urban planning and policy formulation. This has contributed to the problems of urban sprawl and an uneven regional tax structure.
- In turn, the core areas of Montréal, particularly the central city, have been placed under increasing fiscal stress as they are required to shoulder a disproportionate share of social costs.
- Since the late 1970s, several head offices and national headquarters of large companies have left Montréal, citing a mixture of political and economic reasons. The city has declined as a major decision making centre for North America and these events have contributed to the weakening of the central city.
- Since the early 1970s, English-speaking residents have been gradually leaving Montréal, although there is some evidence that by the mid 1990s this out-migration had slowed among young professionals. Meanwhile, the city is usually the ‘end of the line’ for young Francophones in Québec seeking employment and affordable housing, contributing to growing levels of unemployment and dependence on social assistance in core areas.

CONCLUSION

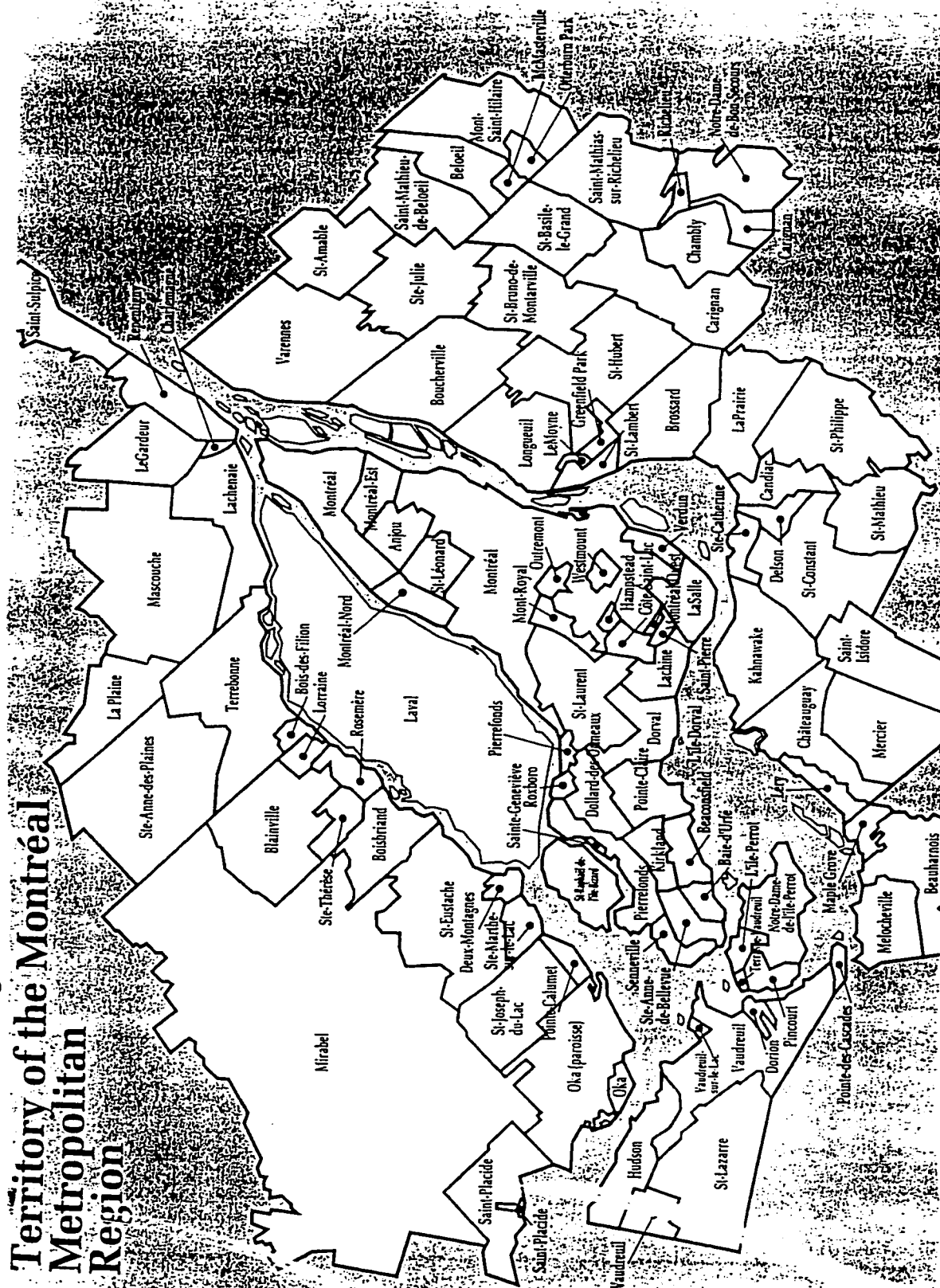
Chapter 4, organized into three parts, examined the process of urban change in East Montréal during the 1980s and 1990s from social, economic and political perspectives. The dimensions of change in the study area were considered in the context of the situation in the surrounding jurisdictions: the central city, the MUC, the off-Island suburbs and the Montréal region. This approach is important in geographical research as it provides for a better understanding of the complex links which exist between various levels in large urban regions. The issues discussed in this chapter will contribute to the interpretation of the results of the data analysis in Chapters 6, 7, and 8 as they relate to the changing nature and geography of urban deprivation in East Montréal during the study period. Some of these issues can be viewed as directly related to urban deprivation – issues such as population decline, low educational attainment, unemployment, and job losses in certain industries. On the other hand, issues such as immigration, the elderly population, municipal fragmentation and inter-provincial migration are related less directly to the concept of deprivation, but are important in considering the broad dimensions of urban social change in the study area.

East Montréal, home to nearly 440,000 people, can be described as a Francophone, working class, industrial area, which was negatively affected by economic restructuring and recessions during the 1980s and 1990s. A review of the key findings in the chapter produces a picture of an area undergoing rapid and sometimes conflicting change and gradually becoming isolated from the rest of the region in terms of socio-economic needs and responsibilities. The population of East Montréal fell by over 20,000 during the 1986 to 1996 study period. The area receives fewer immigrants than other parts of the city but contains the highest shares of elderly residents and lone-female parent families in the region. The level of education improved considerably, particularly the number of residents with university degrees. Along with the central city, East Montréal has the highest rates of unemployment and the lowest rates of labour force participation in the region. Over the 10-year period, nearly 13,500 fewer people were employed and there was a decline of nearly 15,000 in the once prominent manufacturing sector. Currently, close to half of all employment in East Montréal is in the service industries, but the area has been far slower than other parts of the region to benefit from economic restructuring, particularly in attracting new firms in

‘knowledge based’ industries. Finally, as a central part of the region, the study area has been affected by political factors, which have led to out-migration, urban sprawl, and an uneven home property and business tax structure. The next chapter (5) outlines the methodology adopted for the study of urban deprivation in East Montréal and the MUC. Chapters 6 and 7 follow a quantitative census based approach while Chapter 8 reports the findings of a survey conducted in three neighbourhoods.

Figure 4.1

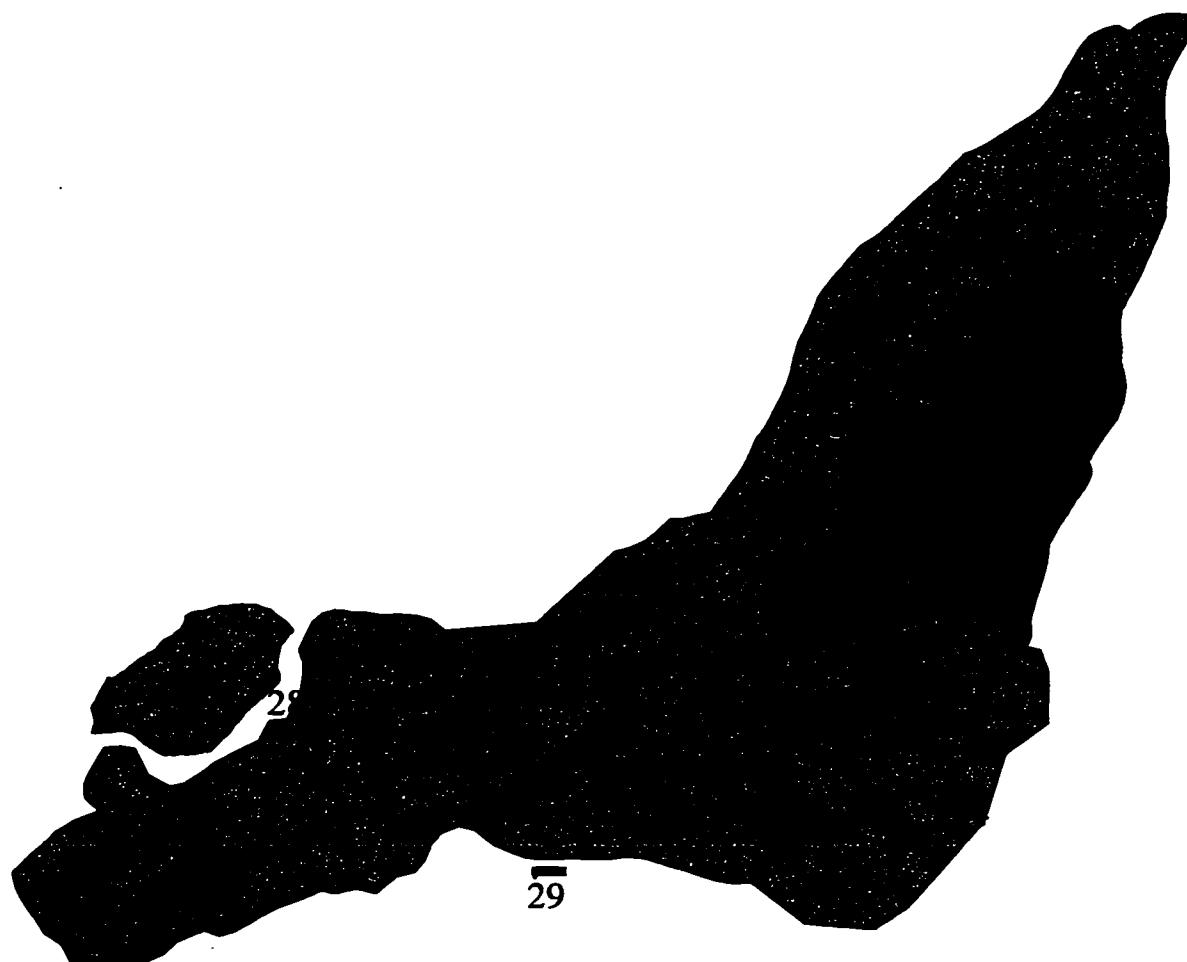
Territory of the Montréal Metropolitan Region



Source: Task Force on Greater Montréal (1993) Montréal a City-Region.

Figure 4.2

**The Montréal Urban Community (MUC)
Showing the Study Area - East Montréal**

**Municipalities**

- 1- Senneville
- 2- Sainte-Anne-de-Bellevue
- 3- Baie d'Urfé
- 4- Pierrefonds
- 5- Kirkland
- 6- Beaconsfield
- 7- Roxboro
- 8- Dollards-des-Ormeaux
- 9- Pointe-Claire
- 10- Dorval
- 11- Saint-Laurent
- 12- Lachine
- 13- LaSalle
- 14- Verdun

- 15- Saint-Pierre
- 16- Montréal-Ouest
- 17- Côte-Saint-Luc
- 18- Hampstead
- 19- Westmount
- 20- Mont-Royal
- 21- Outremount
- 22- Montréal
- 23- Saint-Léonard
- 24- Montréal-Nord
- 25- Anjou
- 26- Montréal-Est
- 27- Saint-Raphaël-de-l'île-Bizard
- 28- Sainte-Geneviève
- 29- L'île Dorval



Table 4.1
Selected Social Characteristics of East Montréal and Surrounding Jurisdictions

A. Population Trends

Area	1986	1991	1996	% change 1986-96
East Montréal	459,464	448,114	439,398	-4.3
City of Montréal	1,015,420	1,017,666	1,016,376	0.1
MUC (Island)	1,752,582	1,775,871	1,775,846	1.3
Off-Island Communities	1,168,775	1,351,371	1,550,664	32.7
CMA	2,921,357	3,127,242	3,326,510	13.9

B. Total Immigrant Population: 1986-1996

Area	1986	% of total population	1996	% of total population	change in rate	% change (absolute)
East Montréal	59,615	13.0	76,530	17.4	4.4	28.4
City of Montréal	215,680	21.2	266,880	26.2	5.0	23.7
MUC (Island)	373,820	21.3	462,905	26.1	4.8	23.8
Off-Island Communities	85,670	7.3	123,560	7.9	0.6	44.2
CMA	459,490	15.7	586,465	17.6	1.9	27.6

C. Total Number of Recent Immigrants
(Arriving Between 1991 and 1996)

Area	Total	% of total recent immigrants	% of total 1996 population
East Montréal	21,645	16.1	4.9
City of Montréal	78,520	58.4	7.7
MUC (Island)	116,735	86.6	6.6
Off-Island Communities	18,800	14.0	1.2
CMA	134,535	100	4.0

Table 4.1 (Cont.)

D. Recent Immigrants: Top Five Source Countries

East Montréal	Total 1991-1996	CMA	Total 1991-1996
France	2,525	Haiti	9,995
Haiti	1,960	Lebanon	9,610
Vietnam	1,585	France	7,540
China	1,150	China	6,650
Morocco	835	Romania	5,225

E. Population Aged 65 Years and Over: 1986-1996

Area	1986	% of total population	1996	% of total population	change in rate	% change (absolute)
East Montréal	65,310	14.2	67,710	15.4	1.2	3.7
City of Montréal	139,620	13.7	149,925	14.7	1.0	7.4
MUC (Island)	224,350	12.8	264,040	14.8	2.0	17.7
Off-Island Communities	74,250	6.3	136,095	8.8	2.5	83.3
CMA	298,600	10.2	400,135	12.0	1.8	34.0

F. Lone-Female Parent Families: 1986-1996

Area	1986	% of total families	1996	% of total families	change in rate	% change (absolute)
East Montréal	21,725	19.1	21,350	21.0	1.9	-1.7
City of Montréal	43,625	17.3	47,205	19.4	2.1	8.2
MUC (Island)	70,750	15.5	78,310	17.4	1.9	10.7
Off-Island Communities	33,065	10.1	51,385	11.6	1.5	55.4
CMA	103,815	13.3	129,695	14.5	1.2	24.9

Source: Statistics Canada. 1986, 1991, 1996 Census.

Table 4.1 (Cont).
G. Educational Attainment: 1986 -1996

Highest level of schooling	1986	% of population 15 and over	1996	% of population 15 and over	change in rate	% change (absolute)
East Montréal						
No High-School	190,085	48.4	137,860	37.0	-11.4	-27.5
High-School Dip.	53,925	13.7	51,525	13.8	0.1	-4.4
University Degree	33,955	8.6	58,555	15.7	7.1	72.4
City of Montréal						
No High-School	376,505	44.1	289,125	34.2	-9.9	-23.2
High-School Dip.	115,760	13.6	119,090	14.1	0.5	2.9
University Degree	101,200	11.8	152,945	18.1	6.3	51.1
MUC (Island)						
No High-School	595,680	41.0	472,075	32.4	-8.6	-20.7
High-School Dip.	208,290	14.3	215,790	14.8	0.5	3.6
University Degree	182,890	12.6	269,955	18.5	5.9	47.6
Off-Island Communities						
No High-School	339,720	38.0	376,655	31.3	-6.7	10.9
High-School Dip.	160,895	18.0	231,140	19.2	1.2	43.6
University Degree	74,705	8.4	139,700	11.6	3.2	87.0
CMA						
No High-School	935,400	40.0	848,730	31.9	-8.1	-9.3
High-School Dip.	369,185	15.7	446,930	16.8	1.1	21.0
University Degree	257,595	11.0	409,655	15.4	4.4	59.0

Source: Statistics Canada. 1986 and 1996 Census.

Table 4.2
Language Characteristics in East Montréal and Surrounding Jurisdictions

Home Language	1986	% of total population	1996	% of total population	change in rate	% change (absolute)
East Montréal						
English	23,835	5.2	23,870	5.4	0.2	0.1
French	360,545	78.5	336,485	76.6	-1.9	-6.7
Non-Official	39,455	8.6	53,830	12.2	3.6	36.4
City of Montréal						
English	147,115	14.5	153,045	15.1	0.6	4.0
French	635,545	62.6	606,060	59.6	-3.0	-4.6
Non-Official	131,640	13.0	189,580	18.6	5.6	44.0
MUC (Island)						
English	397,620	22.7	421,375	23.7	1.0	6.0
French	977,235	55.7	942,050	53.0	-2.7	-3.6
Non-Official	205,800	11.7	298,800	16.8	5.1	45.2
Off-Island Communities						
English	117,295	10.0	134,380	8.7	-1.3	14.5
French	996,880	85.3	1,307,970	84.3	-1.0	31.2
Non-Official	34,270	2.9	62,415	4.0	1.1	82.1
CMA						
English	514,915	17.6	555,755	16.7	-0.9	7.9
French	1,974,115	66.1	2,250,020	67.6	1.5	14.0
Non-Official	240,070	8.2	361,215	10.8	2.6	50.5

Source: Statistics Canada. 1986 and 1996 Census.

Table 4.3
Crime Rates in the Montréal Urban Community 1986-1995
(per 100,000 population)

Year	Violent crime	Property crime	Total offences
1986	1,098	7,350	10,590
1987	1,235	7,383	11,139
1988	1,298	7,543	11,346
1989	1,356	7,896	11,777
1990	1,321	7,978	11,963
1991	1,349	8,146	12,016
1992	1,392	7,581	11,348
1993	1,304	7,198	10,055
1994	1,330	6,653	10,111
1995	1,185	6,242	9,454
% change 1986-90	20.3	8.5	13.0
% change 1991-95	-12.1	-23.4	-21.3
% change 1986-95	7.9	-15.1	-10.7

Source: Canadian Centre for Justice Statistics. QuickStat Justice Statistics. 1997

Note:

Violent crime includes homicide, attempted murder, robbery, sexual assault, non-sexual assault and abduction.

Property crime includes break and enter, fraud, theft and possession of stolen property.

Total offences include violent and property crimes and all other criminal code offences.

Table 4.4
Labour Force Characteristics in the Montréal Region: 1986-1996

A- Unemployment and Labour Force Participation Rates

Area	Unemp. 1986	Unemp. 1996	change in rate	LFP 1986	LFP 1996	change in rate
East Montréal	15.0	14.9	-0.1	59.6	59.4	-0.2
City of Montréal	14.0	15.0	1.0	61.7	59.4	-2.3
MUC (Island)	12.4	13.2	0.8	63.1	60.2	-2.9
Off-Island Communities	9.7	9.1	-0.6	67.7	67.7	0
CMA	11.3	11.2	-0.1	64.8	63.2	-1.6

B. Full-Time Employment

Area	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
East Montréal	109,405	46.7	98,230	44.5	-2.2	-10.2
City of Montréal	254,095	48.2	227,365	45.4	-2.8	-10.5
MUC (Island)	470,050	51.3	424,290	48.3	-3.0	-9.7
Off-Island Communities	328,375	54.4	436,585	53.6	-0.8	32.9
CMA	798,425	52.5	860,875	50.9	-1.6	7.8

C. Part-Time Employment

Area	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
East Montréal	110,805	47.3	106,480	48.2	0.9	-3.9
City of Montréal	243,985	46.3	237,335	47.4	1.1	-2.7
MUC (Island)	409,925	44.7	403,205	45.9	1.2	-1.6
Off-Island Communities	260,620	43.2	358,845	44.0	0.8	37.7
CMA	670,545	44.1	762,050	45.0	0.9	13.6

Source: Statistics Canada. 1986, 1996 Censuses.

Table 4.5

Employment Trends by Category in East Montréal and Surrounding Jurisdictions: 1986-96

A- Total Labour Force Aged 15 and Over

Area	1986	% of total population 15 and over	1996	% of total population 15 and over	change in rate	% change (absolute)
East Montréal	234,295	59.6	220,855	59.4	-0.2	-5.7
City of Montréal	526,940	61.7	501,090	59.3	-2.4	-4.9
MUC (Island)	916,620	63.1	877,745	60.2	-2.9	-4.2
Off-Island Communities	603,830	67.7	814,815	67.7	0	34.9
CMA	1,520,450	64.8	1,692,560	63.6	-1.2	11.3

B- Manufacturing Industries

Area	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
East Montréal	46,980	20.0	31,875	14.4	-5.6	-32.1
City of Montréal	109,450	20.8	82,165	16.4	-4.4	-24.9
MUC (Island)	194,020	21.2	147,905	16.8	-4.4	-23.7
Off-Island Communities	116,685	19.3	135,465	16.6	-2.7	16.1
CMA	310,705	20.4	283,370	16.7	-3.7	-8.8

C - Finance, Insurance and Real Estate (FIRE)

Area	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
East Montréal	12,590	5.4	10,655	4.8	-0.6	-15.4
City of Montréal	29,725	5.6	26,335	5.2	-0.4	-11.4
MUC (Island)	56,110	6.1	50,200	5.7	-0.4	-10.5
Off-Island Communities	38,480	6.4	48,290	5.9	-0.5	25.5
CMA	94,590	6.2	98,490	5.8	-0.4	4.1

Table 4.5 (Cont.)
D - Construction Industries

Area	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
East Montréal	9,150	3.9	5,815	2.6	-1.3	-36.4
City of Montréal	19,585	3.7	13,615	2.7	-1.0	-30.5
MUC (Island)	34,090	3.7	24,750	2.8	-0.9	-27.4
Off-Island Communities	36,585	6.0	42,325	5.2	-0.8	15.7
CMA	70,675	4.6	67,075	4.0	-0.6	-5.1

E - Transportation, Storage, Communications and Utility

Area	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
East Montréal	18,590	7.9	14,135	6.4	-1.5	-24.0
City of Montréal	38,605	7.3	30,430	6.1	-1.2	-21.2
MUC (Island)	73,160	8.0	57,780	6.6	-1.4	-21.0
Off-Island Communities	59,095	9.8	71,875	8.8	-1.0	21.6
CMA	132,255	8.7	129,655	7.7	-1.0	-2.0

F - Trade Industries

Area	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
East Montréal	35,685	15.2	31,380	14.2	-1.0	-12.1
City of Montréal	82,350	15.6	74,800	14.9	-0.7	-9.2
MUC (Island)	157,105	17.1	146,760	16.7	-0.4	-6.6
Off-Island Communities	115,230	19.1	157,120	19.3	0.2	36.3
CMA	272,335	17.9	303,880	17.9	0	11.6

Table 4.5 (Cont.)
G - Government Service Industries

Area	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
East Montréal	15,245	6.5	12,120	5.5	-1.0	-20.5
City of Montréal	28,485	5.4	22,205	4.4	-1.0	-22.0
MUC (Island)	45,240	4.9	35,810	4.1	-0.8	-20.8
Off-Island Communities	36,980	6.1	43,070	5.3	-0.8	16.5
CMA	82,220	5.4	78,880	4.7	-0.7	-4.1

H - Other Service Industries¹

Area	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
East Montréal	82,975	35.4	97,490	44.1	8.7	17.5
City of Montréal	192,110	36.4	213,490	42.6	6.2	11.1
MUC (Island)	317,545	34.6	357,315	40.7	6.1	12.5
Off-Island Communities	176,335	29.2	278,665	34.2	5.0	58.0
CMA	493,880	32.5	635,980	37.6	5.1	28.8

I - East Montréal - Summary of Employment Trends

Category	1986	% of labour force	1996	% of labour force	change in rate	% change (absolute)
Total Labour Force	234,295	100	220,855	100	0	-5.7
Manufacturing	46,980	20.0	31,875	14.4	-5.6	-32.1
FIRE	12,590	5.4	10,655	4.8	-0.6	-15.4
Construction	9,150	3.9	5,815	2.6	-1.3	-36.4
Transp, Storage, Comm, Utility	18,590	7.9	14,135	6.4	-1.5	-24.0
Trade	35,685	15.2	31,380	14.2	-1.0	-12.1
Govt. Services	15,245	6.5	12,120	5.5	-1.0	-20.5
Other Services	82,975	35.4	97,490	44.1	8.7	17.5

Source: Statistics Canada. 1986, 1996 Census.

¹ Other service industries include business, educational, health and social services, and accommodation, food and beverage service industries.

CHAPTER 5

STUDY METHODOLOGY

This chapter outlines the methodological approach for the study of urban deprivation in East Montréal and the MUC. As described in Chapter 1, the project examined three hypotheses, which were then tested in the data analysis chapters (6, 7, 8). The improvement hypothesis would be supported by a decrease in the concentration of urban deprivation in the study area between 1986 and 1996. The stability hypothesis would be supported by little or no change in the concentration of urban deprivation, and the decline hypothesis would be supported by an increase in the concentration of urban deprivation in East Montréal. The testing of the three hypotheses involves the analysis of data derived from two main sources: census based indicators and a survey questionnaire. The chapter describes in detail the collection, analysis and presentation of these data and is divided into four main sections. The first introduces a model of urban deprivation change, which was applied to East Montréal and the MUC. The second outlines the quantitative-census based approach involving the construction of an urban deprivation index. The third describes the qualitative approach based on the collection of information from a survey questionnaire. The final section outlines the steps in the data analysis in conjunction with the model of urban deprivation change and describes the statistical techniques employed.

A MODEL OF URBAN DEPRIVATION CHANGE

This section introduces a model of urban deprivation change. It was applied to the study area - East Montréal and was used to examine changes in the geographic structure and variation of urban deprivation at the neighbourhood (census tract) level during the study period: 1986-1991-1996. At the same time, changes in urban deprivation in the study area were compared to other parts of the Island of Montréal in order to place the results of the analysis into a geographical and temporal context. The model was linked to indicators of urban deprivation drawn from the 1986, 1991, and 1996 censuses. The construction of an urban deprivation index is described in detail below. The goal was to propose a model that can be readily applied to other studies of urban deprivation.

Figure 5.1 illustrates the model, which displays the multidirectional characteristics of urban social change. It consists of three dimensions and six outcomes. The model can be

applied and tested to areas such as municipalities, postal codes, census tracts and enumeration areas - at scales where sufficient data are available. The three dimensions of the model referring to the condition of urban areas over a period of time and the six possible outcomes derived from these dimensions are listed in the figure.

The characterization of 'healthy' and 'deprived' areas is assumed to be in relation to a benchmark or threshold. For example, the threshold for a healthy area can be conditions (based on social, economic, and housing indicators) that are found to be above the municipal, metropolitan or regional average. Conversely, the threshold for a deprived area can be conditions that fall below the average. The assessment of these conditions and determining if areas are above or below a benchmark can be achieved, for example, by developing composite scores for areas such as census tracts based on a number of indicators. If a neighbourhood within the study area is found to have a higher composite score than the metropolitan area on variables such as unemployment, low educational attainment, poverty and old housing, it can be considered deprived. On the other hand, if a neighbourhood scores low on these measures and has a lower composite score it can be considered healthy.

It is important for studies of deprivation to consider both healthy and deprived areas because of the extensive variability which often exists within cities, particularly in Canada. The study area contains 167 census tracts. Some are known to be deprived, such as tracts comprising parts of the Hochelaga-Maisonneuve district, while others experience better conditions and are considered healthy. In some cases, deprived and healthy neighbourhoods are very near to one another, creating steep social gradients.

The study also considered the degree or magnitude of healthy and deprived areas. Distinctions were made between 'deprived areas' and 'most deprived areas' and between 'healthy areas' and 'very healthy areas'. These distinctions provide a finer resolution from which to better understand the complex and variable nature of urban areas. The classification of these areas (deprived and most deprived, and healthy and very healthy) can be made through statistical methods. For example, the multivariate technique of principal components analysis (PCA) can compute component scores for geographic areas based on a number of indicators of deprivation. Census tracts with negative component scores between -1 and -2 standard deviations can be classified as deprived, while those with scores greater than -2 standard deviations can be classified as most deprived.

THE QUANTITATIVE APPROACH: AN URBAN DEPRIVATION INDEX

This section describes the construction of an urban deprivation index for the research project. Here, the term 'index' refers to a selected list of urban deprivation variables collected from the census at the neighbourhood level (census tract). As defined in Chapter 3, urban deprivation is a set of conditions and problems experienced in an urban area which place some residents at a relative disadvantage compared to the population as a whole. The variables contained in the index were drawn from the 1986, 1991 and 1996 censuses corresponding to the study period - 1986 to 1996. The geographic unit of analysis was the census tract. Census tracts (CT) are small standardized units of measurement used to divide large urban communities. They are designed to be homogeneous with respect to population characteristics, economic status and living conditions. Census tracts are roughly equivalent to urban neighbourhoods and their small size makes them ideal for studying the geographic pattern of urban problems at the intra urban level. Their boundaries can change considerably between censuses, creating potential problems for spatial-temporal research. The problem of boundary changes is discussed below.

The index consists of a set of 14 variables relating to the social, economic, and housing aspects of urban deprivation:

1. Rate of population change (1981 to 1986, 1986 to 1991, and 1991 to 1996) (**PopChg**)
2. Male unemployment rate (**UnempM**)
3. Female unemployment rate (**UnempF**)
4. Male labour force participation rate (**MalePart**)
5. Female labour force participation rate (**FemPart**)
6. Youth unemployment rate (**UnempYou**)
7. Percent of lone-female parent families (**LoneFem**)
8. Percent of population with education less than grade 9 (**Grade 9**)
9. Percent of population with some high school but no diploma (**NoH-S**)
10. Percent of old housing (built before 1946) (**OldHouse**)
11. Average value of dwelling (\$) (**AvgDwel\$**)
12. Percent of families living in low income (**LowIncFam**)
13. Percent of males living in poverty - total income under \$10,000 (**MalePov**)
14. Percent of females living in poverty - total income under \$10,000 (**FemPov**)

There are no changes in the definitions of the variables over the three censuses: 1986, 1991 and 1996. However, adjustments were made to the poverty variables to reflect changes in income levels and the cost of living. From the list of 14 variables, it is clear that population change, unemployment, low educational attainment, low-income and poverty are direct measures of urban deprivation. Most of these were included in the urban deprivation indices reviewed in Chapter 3. As described in Chapter 2, a neighbourhood with a declining population can be viewed as a less desirable place for residents to live and for businesses to invest in. The problem of population decline, particularly in the central cities of many North American urban centres, has received considerable attention in urban social geography for several decades. In the literature, it has been linked to issues including the flight of middle class residents to the suburbs, the retention of disadvantaged groups such as the poor, the departure of businesses and jobs, a shrinking tax base, and the aging of infrastructure.

Deprived neighbourhoods with high unemployment and poverty can also be expected to have lower rates of labour force participation. Low rates of participation may reflect a lack of job opportunities in a neighbourhood or city or a loss of resolve in seeking work. With the economic restructuring of the central city during the 1980s and 1990s and a growing polarization of the workforce, this variable is particularly useful as an indicator of urban deprivation. According to Broadway (1989, p. 539), however, a low rate of participation may be the result of other factors. "Other possible explanations for a low rate would include high student and elderly populations and cultural constraints on participation by women."

The lone-female parent variable is not, itself, a direct measure of urban deprivation but is included because of the numerous problems that are associated with these families. As discussed in Chapters 2 and 4, lone-female parent families are becoming increasingly visible in North American cities. Many of these families are living in poverty and are dependent on social assistance. Single mothers often lack access to employment opportunities and find it difficult to advance through education and training. It is important to note, however, that not all single-female parent families are experiencing these problems. It is likely that the problems of unemployment, poverty, and low labour force participation in a neighbourhood or city (particularly one that has experienced restructuring) are also associated with lower levels of educational attainment. As indicated in Chapter 2, many central city residents with

lower education and skill levels (including those formerly employed in the manufacturing sector) face a lack of job opportunities.

The old housing component has been disputed as an appropriate measure of urban deprivation because it is proposed that many old housing units are as sound and attractive as new ones (Bradbury 1984, p.42). This indicator is included in the study for several reasons. As Bradbury (1984) states, the age of the housing stock is a useful indicator of the vintage of the city government's capital stock and associated maintenance and replacement expenses. Also, numerous studies in the U.S. have found that the presence of older housing in central cities inhibits population growth and promotes out-migration. An increase in the proportion of old housing over a period of time could mean that an area has become less attractive for new development. Furthermore, Frey and Speare (1988, p.134) discuss the condition of old housing.

It may be of poorer quality if it has been allowed to deteriorate, does not conform to new building codes or construction standards, or does not take account of changing housing preferences. For example, newer homes tend to have better insulation, more electrical outlets, and more bathrooms than older houses.

While gentrification has resulted in the renovation of older homes in central city neighbourhoods in North America, this process has been selective of certain cities and certain areas within cities and its significance should not be overstated.

The index includes one low-income and two poverty variables: the percentage of families living in low-income, and the percentages of all males and females aged 15 and over living in poverty. The low-income variable is included in each census and is based on Statistics Canada's low-income cut-off (LICO). The LICO standard is that families or individuals who spend 54.7 percent or more of their pre-tax income on food, clothing or shelter are in financial difficulty. For example, the 1996 census states that a family of four residing in an urban area with a population of 500,000 or more is considered to be living in low-income if its income is less than \$31,753 in 1995. The low-income family variable is used as a direct measure of urban deprivation. Statistics Canada, however, does not recommend applying the LICO as a measure of poverty.

In the absence of an official poverty line, the index sets a threshold of \$10,000 in 1995 (as presented in the 1996 census) as a measure of poverty for all males and females. The \$10,000 poverty threshold was selected in accordance with the 1996 census income

categories. Also, this figure represents weekly earnings of about \$200 and a minimum hourly wage. In order to conduct time series analysis, this level was adjusted to reflect changes in inflation and the cost of living. The Consumer Price Index (CPI) was used to calculate that \$10,000 in 1995 is equivalent to \$8,981 in 1990 and \$7,245 in 1985. A custom tabulation was then obtained from Statistics Canada to determine the total number of males and females aged 15 and over with income less than the levels for the three census periods. More information on the low-income family variable and the procedure to calculate male and female poverty is provided in Appendix I. As discussed in Chapter 3, authors such as Folwell (1993) state that an urban deprivation index should include as wide a range of variables as possible. In addition to the 14 variables selected for the project, other measures, such as recent immigration, and housing needing major repairs, were considered for the index but were omitted because of changes in definitions and the unavailability of some indicators between censuses. The use of a smaller number of variables can be viewed as a limitation to the data analysis. The full definitions of the 14 variables are given in Appendix I.

THE QUALITATIVE APPROACH: A SURVEY QUESTIONNAIRE

In addition to the urban deprivation index, a survey questionnaire was employed to collect information from residents in East Montréal. A subjective interview-based approach to the study, combined with the census-based analysis, provided a more complete picture of the characteristics of urban social change in the study area. The 14 indicators listed above cannot capture all of the dimensions of urban deprivation outlined in the literature review and in Figure 3.2. Therefore, it is important also to consider the actual perceptions and observations of individual urban residents. The findings of the survey can be compared with the results of the quantitative analysis to determine if they are consistent in a neighbourhood or community. For example, what are the observations and perceptions of residents in a neighbourhood that, according to the census, is in decline? Do the results match or are there significant differences? A sample of residents was interviewed in three targeted neighbourhoods. The areas were selected according to the model of urban deprivation change and represent one declining, one improving and one stable neighbourhood.

The survey involved a brief interview with a sample of residents in each of the three neighbourhoods. Respondents were approached at their homes during the Summer of 1998.

In addition to demographic information, the survey asked clear questions about the quality of life and living conditions in the respondent's community. A sample survey questionnaire is provided in Figure 5.2. The questionnaire is divided into two parts. The first asks several basic demographic questions, including the length of residence in the neighbourhood, gender, age group and occupation. The collection of this information allows the responses to be examined according to certain population characteristics. The second part asks specific questions about conditions and quality of life in the neighbourhood. Question 5 asks respondents to draw on a map what they feel are the boundaries of their neighbourhood. This gave residents a geographic framework from which to answer the remaining questions about their community. It is accepted that census tract boundaries have little or no meaning to urban residents and that the notion of neighbourhood will vary greatly among respondents.

Questions 6 to 11 are a combination of closed and open-ended types allowing respondents to elaborate more fully where necessary and where closed categories do not permit it. This was done to introduce a measure of flexibility into the survey. Questions 6 and 7 provide scales on which residents can rate the quality of their neighbourhood and indicate if it has improved, declined or remained the same. Questions 8 and 9 ask respondents what they like and dislike about their community. The categories attempt to reflect characteristics that are difficult to capture through quantitative research alone, such as sense of community, security, alienation, and lack of services. Question 10 inquires if respondents would like to move or stay in the area, and the final question provides a space for additional comments and observations. The design of the survey and the questionnaire involved a review of the literature on surveys in social and geographical research (including Gray and Guppy 1994, de Vaus 1991, Glesne and Peskin 1992, Lindsay 1997 and Parfitt 1997 and Maxfield and Babbie 1998) as well as consultation with the thesis committee. The goal was to devise a questionnaire that was clear, concise and informative.

A pilot survey was conducted in a neighbourhood in East Montréal in July 1998 and the final survey in the three-targeted areas in early September 1998. The pilot survey presented an opportunity to test the questionnaire and to confirm the sampling technique. It resulted in some modifications and improvements to the questionnaire including changes in the wording of some questions and the addition or removal of a number of categories in closed-ended questions. On balance, however, the overall structure remained the same.

A *multi-stage, cluster sampling* strategy was employed for both the pilot and the final survey. This type of sampling, also known as *area probability sampling*, is often used in national or provincial face-to-face household interviews. Gray and Guppy (1994) describe how multi-stage, cluster sampling could be applied, for example, in a survey of business firms in Canada. For the survey, rather than sending interviewers across the entire country, a better sampling strategy, they say, would be to target firms in specific areas and draw samples from only these delimited places. First, the researcher could randomly select a sample of Canadian cities, then randomly select neighbourhoods within each city, and finally randomly select firms within each of these selected areas. The sampling strategy would evolve in stages (cities, areas, firms) and the sample would be clustered as only firms in the chosen cities, in randomly selected neighbourhoods, would be included (Gray and Guppy 1994, p. 159). Lindsay (1997, p. 50) also describes cluster sampling with respect to surveys in geographical research and states that this technique is particularly helpful in household-based surveys where the researcher wants to “reduce travel time and costs during the survey without prejudicing the structure of the sample”.

The multi-stage, cluster sampling method was modified to meet the requirements of the survey in East Montréal. The first step was to select three census tracts in the study area that according to the quantitative analysis and the urban deprivation model were representative of declining, improving and stable neighbourhoods. Their selection was based on the results of the data analysis described below. The process of choosing the three areas is outlined in detail in Chapter 8. After they were selected, the next step was to produce street maps of the three neighbourhoods (census tracts). These are available through Statistics Canada's 1996 census Street Network File (SNF). The census tract boundaries were drawn on the maps and every street was divided into a number of clusters containing approximately an equal number of households. Each street was divided into segments - left and right hand side and each side was then divided into three clusters - the first third of homes, the second third and the final third. Most streets were divided into 6 clusters except the four on the outside boundary of the census tract which were divided into 3 clusters (the other side of these streets act as the boundary for the adjoining census tracts). Each cluster was assigned a code and entered into a random number generating program in MS Excel. For each of the three census tracts, 20 clusters were randomly retrieved from the program and drawn on the

map. Figure 5.3 is a map of one the surveyed census tracts (in the Plateau Mont-Royal) displaying several of the selected clusters. The interview teams were sent to these clusters where they randomly selected (with the use of a calculator) several homes to conduct the interview. Once the interview team was finished at the first cluster, they moved to the next cluster drawn on the map until all 20 clusters were covered and the desired sample size was reached. In theory, then, each cluster and each household within each cluster had an equal chance of being selected for an interview. The method of analyzing the information acquired from the survey is described in the next section.

ASSESSING URBAN DEPRIVATION CHANGE: METHODS OF ANALYSIS

This section describes the method of analysis for the research project. The analysis follows a multi-stage approach linked to statistical/quantitative techniques, spatial modeling and geographic information systems (GIS). Figure 5.4 consists of three diagrams that outline the steps in the data analysis. As indicated in the diagrams, the study was both cross-sectional and vertical. It was cross-sectional in the sense that the geography of urban deprivation in East Montréal and the MUC were examined in three time periods: 1986, 1991 and 1996. This approach involves presenting three separate 'snapshots' of the study area and examining changes in structure from one point to another. It is intended to reveal if there has been an increase, decrease, or no change in the concentration of urban deprivation over the study period as related to the three hypotheses.

The analysis was vertical in the sense that changes in the nature and level of urban deprivation in each neighbourhood in East Montréal between 1986, 1991 and 1996 were examined and compared. The vertical approach is essential for acquiring a more detailed understanding of the processes of change occurring in individual communities at the intra-urban level. Within the field of urban social geography, the cross-sectional approach is the most common in studies of urban change while the vertical approach has been used far less frequently. Examples of studies employing the cross-sectional approach include Langlois's (1985) examination of the evolution of the ethnic space in Montréal between 1931 and 1971. Data on ethnic origin in the city were collected and analyzed for three census periods - 1931, 1951 and 1971. Another example is Guay's (1978) study of the changing dimensions of urban social space in Montréal over three census periods - 1951, 1961, and 1971. A good

example of the vertical approach in urban social geography is Le Bourdais and Beaudry's (1988) study of the changing residential structure of Montréal, in which they combined social, economic and housing variables from the 1971 and 1981 censuses to conduct a direct analysis of change over the decade. In the present thesis, the cross-sectional and vertical approaches employ several statistical techniques to analyze the data, including descriptive statistics, standard score analysis, principal components analysis, and classification. These techniques were performed using MS Excel, SPSS for Windows and Statistica and the modeling and output were carried out with ArcView GIS.

Spatial/Geographic Data

The geographic data in the analysis consist entirely of census tract (CT) boundaries in the study area and the MUC. The 1991 and 1996 boundaries are available in Arc/Info format from Statistics Canada. For the three periods, the official boundaries were modified to display the St. Lawrence River shoreline. In 1986, the study area contained 169 CTs and by 1996 the number had decreased to 167. Figure 5.5 shows East Montréal according to 1996 CT boundaries. There were only minor changes in boundaries between 1991 and 1996.

There were, however, several major boundary changes in the study area between the 1986 and 1991 censuses, presenting a challenge for spatial-temporal research, particularly when applying the vertical (analysis of change) approach. Approximately 20 CTs were affected over the five-year period, as a result of large population growth or changes in infrastructure. Some CTs were split while others underwent minor and significant boundary shifts. Two possible methods can be employed to generate a consistent geographic configuration over the study period. The first is to retain the 1986 configuration and to aggregate split CTs and CTs with boundary changes in 1996. For example, the data from two CTs in 1996 (which represented one in 1986) can be combined to extract the required census indicators. Similarly, the data from an area of several CTs, which has had significant boundary changes, can be combined into one larger CT. The second method is to artificially split and change the boundaries in the 1986 configuration to match 1991 and 1996. This method involves allocating 1986 data to the newly created CTs. It could be problematic, however, if the CTs in the affected area are significantly different in terms of socio-economic characteristics. Both methods were considered and the first was chosen - keeping the 1986

configuration and adapting the 1991 and 1996 coverages to conform to it. The CTs affected by boundary changes are highlighted in Figure 5.5.

Analysis at the Census Tract Level For East Montréal and the MUC

Cross-Sectional - As indicated in Figure 5.4-A, the first step was to construct three separate data matrices for the Montréal Urban Community (MUC): 1986, 1991, and 1996. The matrices consisted of variables and cases. The variables were the 14 indicators of urban deprivation listed in the index above, while the cases comprised **all** of the census tracts in the MUC - including those of the study area. The inclusion of all census tracts permitted the relative position of neighbourhoods in East Montréal to be compared with those located in the rest of the Island. A numerical value (such as the rate of population change or male unemployment rate) was assigned to each variable for every census tract. With the exception of the average value of dwelling variable, all of the data are at the ratio scale. The matrices were constructed in MS Excel.

The second step was to calculate descriptive statistics for the 14 variables in the three data matrices. Descriptive statistics include the mean, median, standard deviation, variance, minimum, maximum and count. The rate of change for each variable over the three points of time was calculated. The descriptive statistics were used to determine if the variables were normally distributed and if data transformations were required. In most quantitative studies, descriptive statistics are an important first stage of the data analysis. In this case, the basic statistical parameters of the 14 indicators were identified and initial trends relating to levels of urban deprivation were considered.

As outlined in figure 5.4-A, the third step was to conduct a standard score analysis on the 14 variables for the three data matrices - 1986, 1991, and 1996. Census tracts were ranked to create an overall index of urban deprivation. This technique, also referred to as a 'simple additive measure', involves the transformation of raw data into 'z' scores, which have a mean of 0 and a standard deviation of 1. According to Hamelin (1987, p. 106), "the conversion thus allows for any degree of aggregation or dis-aggregation since the values are standardized". The z-scores of the 14 variables for all of the census tracts were calculated and then the scores were summed across all of the variables to produce a total score of urban deprivation for each census tract. The census tracts were then ranked from highest to lowest

on the basis of their total scores. An index was created by dividing the total number of tracts into quartiles (assuming that the total scores are normally distributed). The first quartile represents 'deprived' tracts while the fourth represents the least distressed or 'healthiest' tracts. The number and percentage of East Montréal's census tracts in these categories were calculated to assess changes in the level of urban deprivation in the area over the study period (1986, 1991, and 1996) relative to the rest of the Island. As Hamelin (1987, p. 106) states, "the utility of the model lies in the ease with which the analyst can quickly scan the results to pick out the more extreme cases". Hamelin (1987) employed this technique to examine indicators of social well-being in Canadian cities. It is also used in the United States by the Brookings Institution in two of its urban distress indices: The Intrametropolitan Hardship Index and the Intercity Hardship Index. It is appropriate for studies of urban social change to consider a variety of statistical techniques when examining trends over time and space. This multiple technique approach serves to strengthen the overall methodology of a research project and permits any major findings to be confirmed or disputed. As seen in Chapter 3, Folwell (1993) discusses the limitations of a 'simple additive' measure such as standard score analysis while promoting the value of techniques which examine the relationships between variables in a data set, such as principal components analysis, described in the next section.

The fourth step involved conducting a principal components analysis (PCA) on each of the three data matrices. The software Statistica was used to perform this procedure. Essentially, PCA is a data reduction technique. It replaces a set of variables with a smaller number of components. The components are made up of inter-correlated variables representing as much of the original data set as possible. The principal components are orthogonal (90°) to each other and are, therefore, uncorrelated. Component loadings are used to identify groups of inter-correlated variables in a data set. It is from these loadings that a component score for each case in the original data matrix is calculated. Component scores are standardized by computing their z-values, which usually have a range of + 3.0 to - 3.0. This standardization permits the relative position of each case (census tract) on each component to be compared.

According to Johnston (1980, p. 151), component scores are

weighted summed values for the observations over the variables, the weights being the component loadings. The larger the value which an observation has on the variables which have high loadings on a component, the larger the score.

PCA is a powerful tool for revealing underlying structures in data. An urban deprivation measure based on a component score is a weighted additive index. This is particularly useful in studying the spatial patterns of urban characteristics with the use of small area data such as the census tract. PCA is an informative technique that can capture underlying structures from large amounts of data and can shed light on the complex nature of urban deprivation. The component scores were used to assess the magnitude and degree of urban deprivation in the census tracts of East Montréal relative to the remainder of the MUC, and in conjunction with the model of urban deprivation. The component scores were divided into quintiles representing the following categories: 'most deprived', 'deprived', 'some distress', 'healthy' and 'very healthy'. Analysis of these scores is intended to reveal changes in the concentration of urban deprivation in the study area and in the MUC, such as whether there was an increase in the proportion of deprived and most deprived CTs in East Montréal during the study period 1986-1991-1996.

With the use of ArcView GIS, the weighted scores of the first two principal components were mapped in the study area for 1986, 1991, and 1996, and for the entire Island of Montréal. ArcView can also be used to query, visually display and map the spatial pattern of the 14 variables in the three original data matrices. The mapping of area-based data represents the majority of contemporary socio-economic applications. The conventional way to represent such data is a choropleth map (areas of equal value). In many cases involving socio-economic factors, geographic pattern is not directly observable by eye. A pattern emerges only when data are collected and mapped. Changes in the geographic pattern and characteristics of urban deprivation in East Montréal were compared over the three points in time.

Principal components analysis and factor analysis have a long tradition in urban geography. It is within the area of exploratory analysis that many geographical uses of these techniques are found (Shaw and Wheeler 1994, p. 276). In Canada, pioneering work was conducted by King (1966) when he used principal components analysis to conduct a cross-sectional study of social and economic indicators in urban Canada in 1951 and 1961. Goldberg and Mercer (1986) conducted a factor analysis to assess the major differences

between Canadian and American cities. Davies and Mercer (1991; 1993) studied intra-urban variations of social dimensions in the census tracts of Canada's 24 metropolitan areas by way of this technique. More recently, Mata (1996) conducted a factor analysis on nine economic indicators based on 1981 and 1991 census data to examine the similarities in labour force attributes among workers of different birthplace and gender residing in the Metropolitan Toronto area. Several examples of the application of factor analysis and PCA in studies of urban deprivation were described in Chapter 3, and include Broadway's (1989) comparative study of Canadian and U.S. inner cities, Fieldhouse and Tye's (1996) examination of the ecological fallacy in studies of deprivation in Britain, and Folwell's (1993) analysis of the nature of urban deprivation in the enumeration districts of the London Borough of Greenwich.

As seen in Figure 5.4-A, the fifth and final step in the cross-sectional analysis was to use classification to identify and measure the incidence of multiple deprivation and distress in East Montréal and the MUC. The literature on urban social problems indicates that regions, cities, and neighbourhoods can suffer from not just one, but several types of deprivation and distress at the same time (Broadway 1989, Broadway and Jesty 1998, Pacione 1995 and Langlois and Kitchen 2001). This outcome can display distinctive geographical patterns within urban areas. As described above, the component scores derived from the PCA were divided into quintiles to represent areas that are 'most deprived', 'deprived', 'some distress', 'healthy' or 'very healthy'. A classification procedure was devised for each year (1986, 1991 and 1996) to group census tracts into several categories according to their scores across the principal components. For example, a census tract with scores below -1 standard deviations on three components would be placed in Category A, meaning that it is deprived on all three dimensions and, therefore, suffering from multiple deprivation. On the other hand, another census tract may be deprived on Component 1 and distressed on a Component 2, assigning it to another category. The statistical parameters of the classification scheme are described in detail in Chapter 7. This approach is similar to the multivariate technique of cluster analysis with the major difference being that the categories and linking criteria are pre-determined. The incidence of multiple deprivation and distress was also mapped with ArcView to assess its changing geographical character over the study

period. The classification procedure was devised by the author after attempts at performing a cluster analysis (with both SPSS and Statistica) proved to be unsatisfactory.

Vertical - Analysis of Change - This stage of the data analysis is outlined in Figure 5.4-B. The first step was to establish a consistent census tract configuration for 1986, 1991 and 1996 for the entire MUC, including the study area, and to construct the related data matrices. The 'EDIT' function in ArcView was used to remove or add arcs on the 1996 coverage to make it geographically compatible with the 1986 and 1991 coverages. The attribute census data were then modified for the affected census tracts to create consistent data sets for the three time points based on the 14 variables. This ensured that all of the census tracts (or areas representing several CTs) could be compared over the study period. The three data matrices consisted of **all** the CTs in the MUC, allowing the changes occurring in each neighbourhood in East Montréal to be examined in relation to any other on the Island.

The second step was to combine the data for the three time periods (1986, 1991, 1996) into a single matrix. The matrix was imported into Statistica where a PCA was performed to identify groups of inter-correlated variables and to assess the structure of change with respect to urban deprivation. As described above, the component loadings were interpreted and PCA assigned a component score to each census tract. Every tract has a standardized z-value on each component for the three time points. For example, CT 060, located in the study area close to downtown, has a score for Components 1, 2 and 3 for 1986, 1991, and 1996.

The third step was to calculate change variables for all the CTs across the principal components for three time periods: 1986 to 1996, 1986 to 1991, and 1991 to 1996. This is achieved, for example, in the first period by simply subtracting the 1986 score from the 1996 score. As seen in Figure 5.4-B, the process was repeated for the two other time periods creating a total of three change matrices. Analysis of these variables provided insight into the nature and extent of urban change in the neighbourhoods of East Montréal and the MUC. The change variables were related to the model of urban deprivation: negative scores (indicating an increase in levels of urban deprivation) reflect decline, scores close to the mean $x = 0$ (no or little change) reflect stability, and positive scores (decrease in urban deprivation) reflect improvement. An index was devised to reflect the various categories of urban change based on the scores. For example, deprived areas becoming more deprived (decline), healthy areas

becoming more healthy (improvement), and healthy areas staying the same (stability). The statistical parameters of this index of urban change are provided in detail in Chapter 7. Finally, the change scores were mapped with ArcView to illustrate the geographic pattern of urban deprivation change in the study area and the rest of the MUC. The results of the analysis were compared for the three periods: 1986-1996, 1986-1991 and 1991-1996 to test the three main hypotheses. They were also compared to the results of the cross-sectional analysis.

Survey Data Analysis

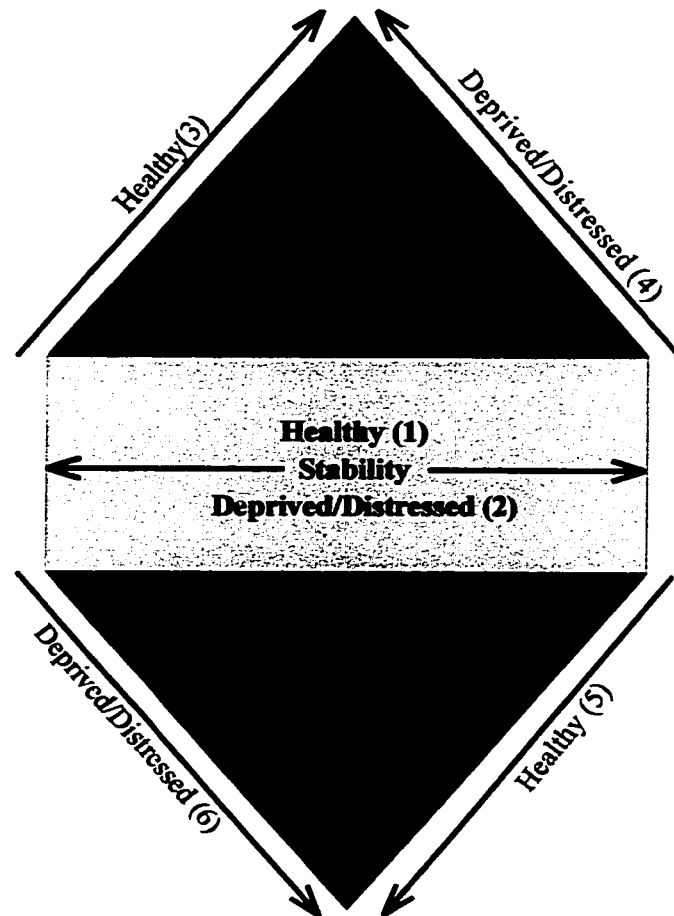
Figure 5.4-C outlines the steps in the analysis of the survey questionnaire. As mentioned, a survey was conducted with a sample of residents in three targeted areas: one improving, one stable, and one declining. The responses in the surveys, from both open and closed-ended questions, were coded and inputted into SPSS for Windows. There, the data were tabulated, categorized and analyzed with simple statistics and through the production of frequency tables. A frequency table, for example, listed the percentage of total respondents listing crime as a major concern in their neighbourhood, as well as other factors. Cross-tabulations were also conducted on the information to examine the relationships between variables and to determine if a pattern could be found in the responses, such as whether the responses vary according to gender, income, or occupation.

The overall results of the surveys in the three areas are presented in tabular and textual form. As indicated in Figure 5.4-C, the findings were compared to the results of the census data analysis for the three areas. The objective of this approach was to determine if the quantitative results are consistent with the perceptions and attitudes of residents in the targeted areas. For example, do the responses and observations of residents support the quantitative analysis in an area that was found to be deprived and in decline? Another objective of the survey analysis was to identify aspects of deprivation that cannot be captured by census information. This added another layer of meaning to the study. These aspects include sense of community, safety, and access to services. A more complete picture of the characteristics of urban deprivation was thus achieved.

Placing the Results in Geographic Context and Interpretation

The results of the census and survey analysis were placed into the context of changes occurring in the study area, the rest of the City of Montréal, and other parts of the MUC. For example, the findings from East Montréal can be compared to trends occurring in other communities on the Island such as Pointe St. Charles, St. Henri, and Cote des Neiges. The study assessed the extent to which changes in the level and nature of urban deprivation in East Montréal were also visible in other disadvantaged areas. The results of both analyses are interpreted in Chapter 9. The major findings of the study were examined in the context of social, economic and political factors affecting East Montréal, the MUC and the region. Some of these factors were discussed in Chapter 4 and included population change and mobility, economic restructuring, urban sprawl and public policy.

Figure 5.1
A Model of Urban Deprivation Change



Dimensions of change:

stability (deprived/distressed or healthy areas)

improvement (deprived/distressed or healthy areas)

decline (deprived/distressed or healthy areas)

Possible outcomes derived from the dimensions:

1. **healthy (stability)** - healthy areas remain healthy
2. **deprived/distressed (stability)** - deprived/distressed areas remain in this state
3. **healthy (improvement)** - healthy areas become healthier
4. **deprived/distressed (improvement)** - deprived/distressed areas experience improving conditions
5. **healthy (decline)** - healthy areas become less healthy
6. **deprived/distress (decline)** - deprived/distressed areas suffer worsening conditions

Figure 5.2
Sample Survey Questionnaire

Demographic Information

1. Do you live in this neighbourhood? ☐ yes ☐ no

If yes, how long have you lived in this neighbourhood?

☐ less than 1 year

☐ 1 to 3 years

☐ 4 to 10 years

☐ 11 to 20 years

☐ more than 20 years

2. Check if:

☐ male

☐ female

3. What age group are you in?

☐ Under 25

☐ 25 to 35

☐ 36 to 45

☐ 46 to 55

☐ 56 to 65

☐ over 65

4. What is your current position or job type?

☐ Student

☐ Retired

☐ Homemaker

☐ Self employed

☐ Unemployed/Social assistance

☐ Labour

☐ Skilled Labour

☐ Professional

☐ Other

Specific Information on the Neighbourhood

5. On the map provided indicate what you feel are the boundaries of your neighbourhood.

6. How do you rate your neighbourhood as a place to live?

☐ excellent ☐ good ☐ average ☐ poor ☐ very poor

7. During the time that you have lived here, do you feel that the overall condition of the neighbourhood has

☐ improved ☐ stayed the same (stable) ☐ declined (worsened)

In a few words, describe why your neighbourhood has improved, declined or remained stable.

Figure 5.2 (Cont.)
Sample Survey Questionnaire

8. What do you like most about your neighbourhood?
(Check 4 characteristics and indicate a numerical order.)

- | | |
|--|---|
| ☐ sense of community | ☐ friendly environment |
| ☐ safe | ☐ clean/well maintained |
| ☐ employment opportunities | ☐ access to park and recreation facilities |
| ☐ adequate housing | ☐ access to schools |
| ☐ access to shopping facilities | ☐ access to health care facilities |
| ☐ cost of housing | |
| ☐ other - specify _____ | |

9. What do you dislike most about your neighbourhood?
(Check 4 characteristics and indicate a numerical order.)

- | | |
|---|---|
| ☐ alienation/isolation | ☐ lack of employment opportunities |
| ☐ crime | ☐ unclean/lack of maintenance |
| ☐ inadequate housing | ☐ lack of park and recreation facilities |
| ☐ lack of services | ☐ overcrowding/rapid growth |
| ☐ inadequate schools | ☐ heavy traffic |
| ☐ difficult access to shopping | ☐ difficult access to health care facilities |
| ☐ other - specify _____ | |

10. Would you like to

- ☐ keep living in this neighbourhood
- ☐ move to another area
- ☐ undecided

11. Do you have any additional comments or observations about your neighbourhood as a place to live?

Figure 5.3
The Cluster Sampling Method For a Survey in
a Targeted East Montréal Neighbourhood

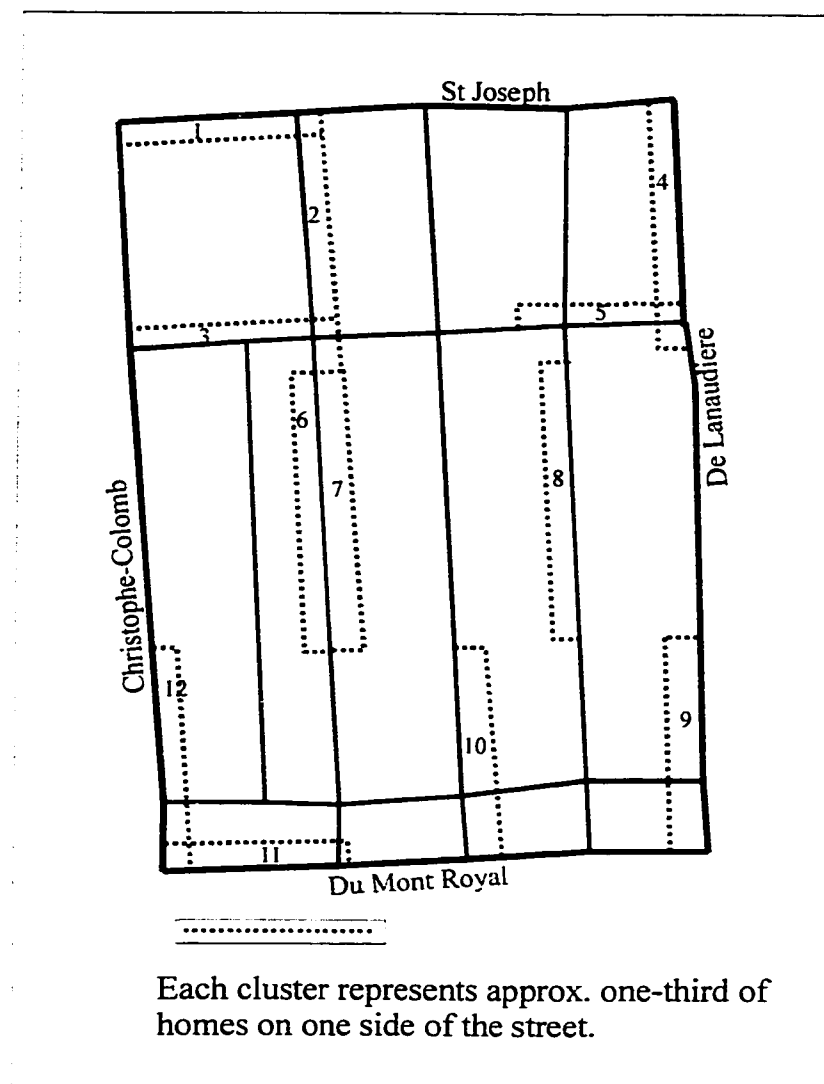
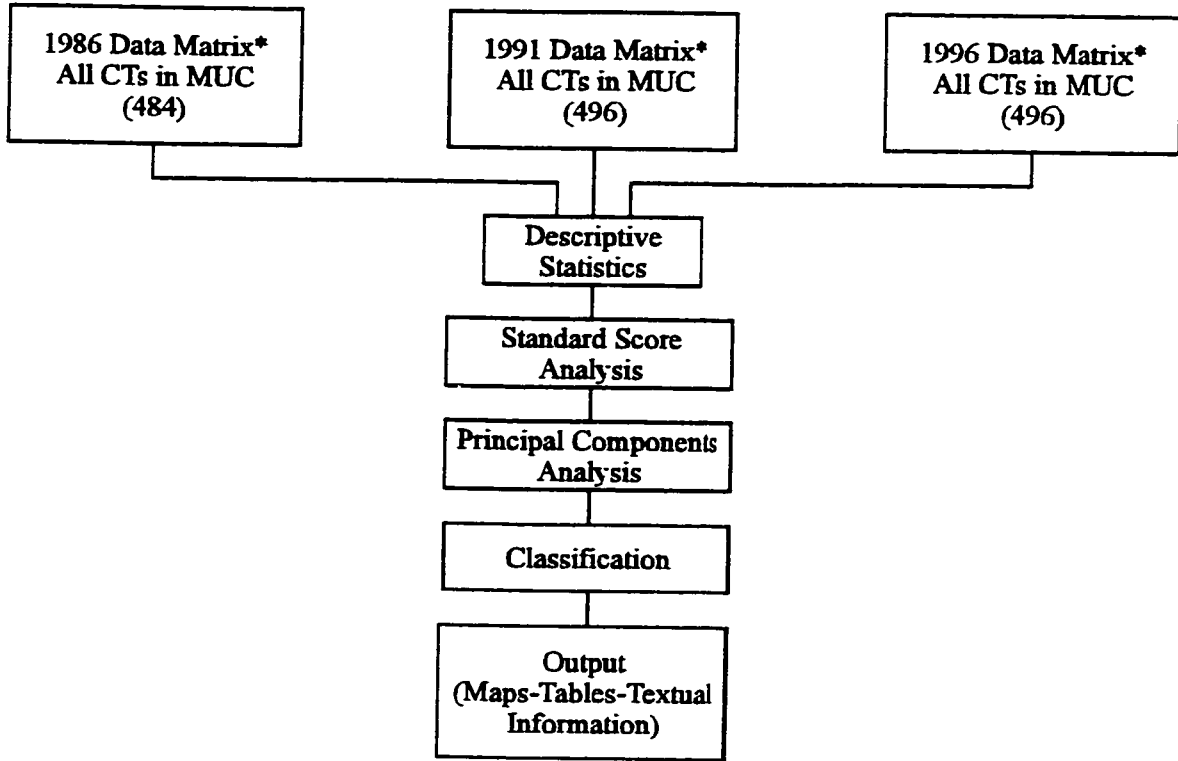


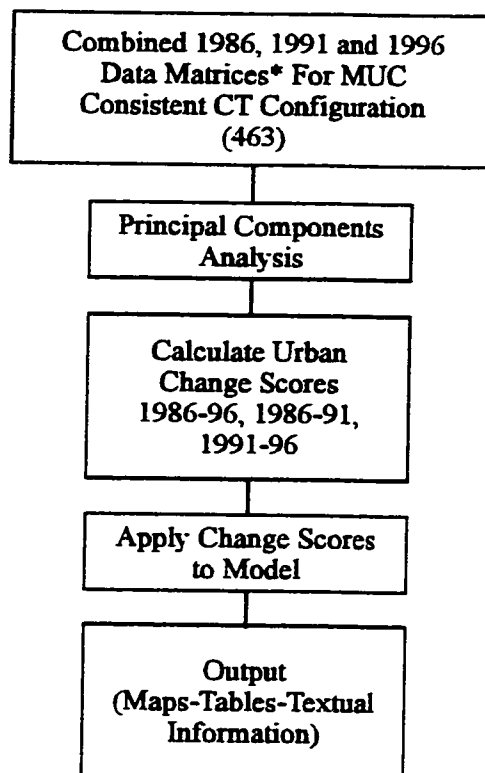
Figure 5.4 - A

Steps in the Data Analysis

Census Tract Level: Cross-Sectional



* Each data matrix consists of the 14 variables from the urban deprivation index for all of the census tracts in the MUC.

Figure 5.4 - B**Steps in the Data Analysis****Census Tract Level: Vertical - Analysis of Change**

* The combined data matrix consists of the 14 variables from the urban deprivation index for all of the modified census tracts in the MUC.

Figure 5.4-C

Steps in the Data Analysis

Survey Data Analysis: Targeted Areas - CTs

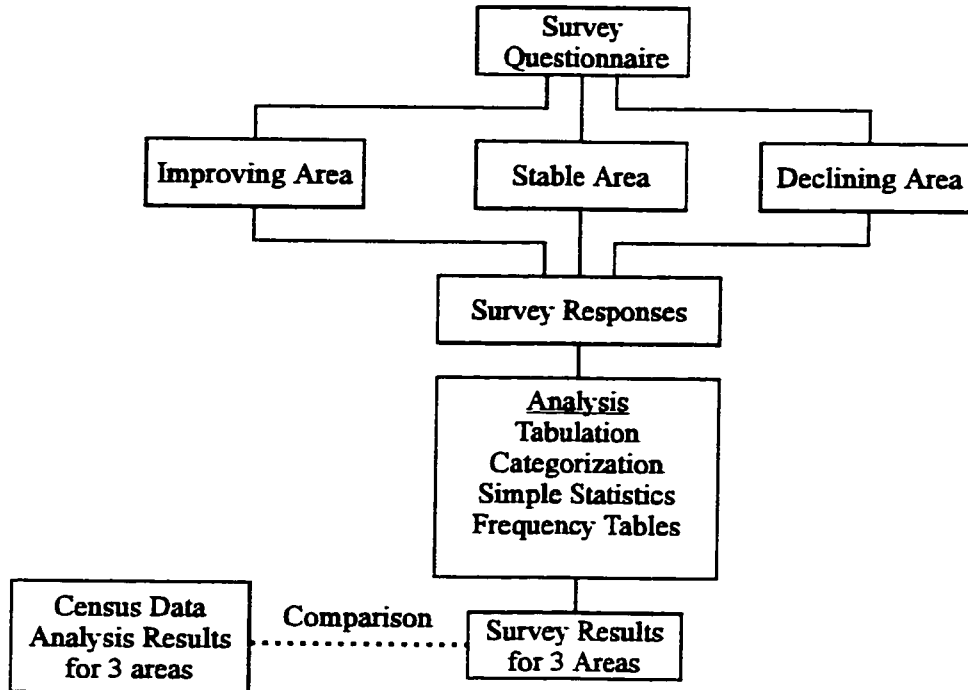


Figure 5.5
East Montréal - 1996 Census Tract Boundaries
(Census tracts affected by boundary changes are highlighted)



CHAPTER 6

URBAN DEPRIVATION IN EAST MONTRÉAL AND THE MUC: A CROSS-SECTIONAL ANALYSIS

This chapter adopts a quantitative approach to examine the changing level and geography of urban deprivation in East Montréal and the Montréal Urban Community (MUC) during the study period: 1986-1991-1996. The principal dimensions of deprivation are identified and their geographic patterns assessed over time. Census data for 14 indicators are analyzed to test the three hypotheses: the decline hypothesis (an increase in the presence of urban deprivation in the study area); the stability hypothesis (no change in the level of urban deprivation); and the improvement hypothesis (a decrease in the presence of urban deprivation). The chapter employs a cross-sectional method where census data are analyzed for the three time points separately. Four statistical techniques are used: descriptive statistics, standard score analysis, principal components analysis and a classification procedure. As in Chapter 4, the analysis of East Montréal is placed into the context of the situation in the surrounding municipalities, including the rest of the City of Montréal, and those in the MUC.

DESCRIPTIVE STATISTICS

Tables 6.1-A to D show the descriptive statistics of the 14 urban deprivation indicators for East Montréal, the City of Montréal, and the MUC in 1986, 1991, and 1996. The tables reveal several important trends. As Table 6.1-A indicates, East Montréal's census tracts experienced, on average, population decline. While the average male labour force participation fell and the male unemployment rate increased, the average female labour force participation grew by nearly 4 percent and female unemployment dropped by over 2 percent during the study period. In 1996, the average male unemployment rate was nearly 4 percent higher than the female rate. While the average youth unemployment rate was virtually unchanged at nearly 20 percent, there was a substantial decrease in the average proportion of residents without a Grade 9 education and a drop of nearly 3 percent in high school dropouts.

As might be expected, the mean proportion of old housing in East Montréal's census tracts fell considerably (-8.5). The table shows that there was a substantial increase in the average value of dwellings (in real dollars) in the study area between 1986 and 1991 followed by a decline of 6.5 percent between 1991 and 1996. This trend is likely a reflection of the

economic boom of the late 1980s and the subsequent recession and flattening of the real estate market in the early to mid 1990s. Table 6.1-A also displays interesting trends with respect to poverty and low-income in East Montréal. Surprisingly, the average rate of male and female poverty declined during the first part of the study period - 1986-1991, while the mean rate of families living in low-income grew by only 1.1 percent. However, during the second part of the study period - 1991-1996, there was a significant increase in average female poverty and low-income families and a dramatic growth of over 10 percent in the rate of male poverty. In 1996, more than one-third of males and females were living in poverty and nearly 37 percent of all families were in the low-income category.

Tables 6.1-B and C show the descriptive statistics of the 14 variables in the City of Montréal and the MUC. Table 6.1-D consists of a comparison of the means of the variables for the three areas as well as a comparison of mean percent change for each variable over the study period. It indicates that the trends visible in East Montréal generally mirror those in the City of Montréal. One important difference is that while the census tracts in the study area had an average population decline, the tracts in the City recorded population stability. The tracts of the MUC experienced growth of 1.3 percent. The City and the MUC also witnessed, on average, a falling male labour force participation rate, a rising male unemployment rate, an increasing female labour force participation rate and a declining female unemployment rate. The male and female unemployment rates were slightly lower in the MUC than the City and East Montréal. The average youth unemployment rate remained remarkably stable in the three areas during the study period (about 20 percent).

While the average proportion of the population without a grade 9 education fell in East Montréal more than in the other jurisdictions over the study period, in 1996 the area still had a slightly higher rate than the City and the MUC. Additionally, the three areas experienced similar declines in the percentage of the population without a high school diploma and in 1996, all were close to 15 percent. The three areas also recorded increases in the average proportion of lone-female parent families and throughout the study period, East Montréal maintained a higher rate - nearly 22 percent of all families in 1996. The study area had the largest drop in the average rate of old housing in its census tracts over the 10-year period (-8.5) but still held a higher rate than the City and considerably larger than the MUC.

For example, in 1996, an average of about 38 percent of all dwellings in East Montréal were old compared to only 26 percent in the MUC as a whole. Surprisingly, the average value of dwellings in the study area (in real dollars) increased more than in either the City or the MUC between 1986 and 1996 (61.7 percent). However, all of the areas witnessed a decrease between 1991 and 1996.

Table 6.1-D also displays trends in the incidence of poverty and low-income in East Montréal, the City of Montréal and the MUC in 1986, 1991 and 1996. It clearly indicates that the pattern evident in the study area was also present in the two other areas: a substantial overall increase in the average rate of male poverty and low-income families and virtually no change in the rate of female poverty. It should be noted, however, that in 1996, female poverty was still at least slightly higher than male poverty in the three areas. Like East Montréal, the average rate of male and female poverty actually fell in the City and the MUC in the first part of the study period (1986-1991) before rising considerably in the second part (1991-1996). As the table shows, the incidence of poverty and low-income families was higher in the study area and the City than in the MUC. Nevertheless, in 1996, nearly one-third of all families in the MUC were living in low-income.

In summary, the descriptive statistics of the 14 indicators reveal several trends. First, within the MUC, urban deprivation is concentrated in the central city (including East Montréal). Second, a number of the indicators point to declining conditions in the second part of the study period (1991-1996). Third, in all areas, there appears to be a growing level of deprivation among men, with a fall in male labour force participation, an increase in male unemployment and a marked growth in male poverty. Fourth, the incidence of low-income families increased considerably in the MUC over the 10-year period. In 1996, the rate was well over one-third in East Montréal and the City of Montréal. Finally, on the positive side, female labour force participation grew, female unemployment fell and the rate of female poverty stabilized over the 10 years, although there was an increase in the 1991-1996 period. Additionally, in all areas, there was an improvement in the level of education with declines in the proportion of high school dropouts and those without a grade 9 education.

STANDARD SCORE ANALYSIS

Table 6.2 shows the results of the standard score analysis. As described in Chapter 5, the z-scores of the 14 variables were calculated for all of the census tracts in the MUC in 1986, 1991 and 1996. The scores were summed to produce a composite additive measure of urban deprivation. Part A of the table displays the top 25 percent of scores representing the 'deprived' category. It indicates that in 1986, the majority of deprived census tracts were located in East Montréal (68 out of 120 or 56.7 percent of all deprived tracts). Also, 28.3 percent (34) were located in the remaining portion of the City of Montréal, outside of the study area. However, the table clearly demonstrates that there was a decrease in the presence of urban deprivation in East Montréal over the study period. By 1991, 48.4 percent of deprived tracts were in the study area (60) and by 1996 this figure had dropped to 43.5 percent (54). Meanwhile, the proportion of deprived tracts located in the 'Rest of City' increased from 28.3 percent (34) in 1986 to 34.7 percent (43) in 1991 to 36.3 percent (45) in 1996.

Part A of Table 6.2 also shows the total number and location of deprived census tracts outside of the central city. The number of these tracts grew from 18 in 1986 to 21 in 1991 and to 25 by 1996. Of the 28 other municipalities in the MUC, only 7 had some of their tracts in the deprived category. The most notable is Verdun, an older industrial area located along the St. Lawrence River just west of the City, which has the highest concentration of urban deprivation in the MUC. In 1996, nearly two-thirds of the municipality's census tracts were in the deprived category. Also of note in the table is the increase of deprived tracts in Montréal-Nord from 2 in 1986 to 7 in 1996.

Part B of Table 6.2 displays the top 10 percent of standard scores, representing the 'most deprived' category. It clearly shows a significant decrease in the incidence of 'most deprived' tracts in East Montréal over the study period. In 1986, nearly 69 percent of these tracts were located in the study area (33), but by 1991 this figure had fallen to 44 percent (22), and by 1996 to 42 percent (21). However, there was almost a doubling of 'most deprived' tracts in the 'Rest of City' from 22.9 percent (11) in 1986 to 42.0 percent (21) in 1991. By 1996, this proportion had fallen slightly to 38.0 percent (19). Part B also reveals an increase in the number of 'most deprived' census tracts located outside of the central city

from 4 in 1986 to 7 in 1991 and 10 in 1996. Again, Verdun is prominent with four of its tracts in this category.

The results of the standard score analysis suggest that while urban deprivation was most evident in East Montréal during the study period, there was, nevertheless, a significant decrease in its presence in the study area and a growth in the 'Rest of City'. In total, nearly 80 percent of all deprived tracts in the MUC in 1996 were located within the central city. In addition, over the 10-year period, urban deprivation became increasingly visible outside of the central city, particularly in the municipalities of Verdun and Montréal-Nord. A significant limitation to standard score analysis is that it treats all of the 14 indicators of urban deprivation as equally important when the final score is produced for each census tract. As a result, it is not possible to identify key factors that play a leading role in causing deprivation. The following technique, principal components analysis, is an alternative method that allows certain indicators, or groups of indicators, to be identified and given added weight in the measurement of urban deprivation.

PRINCIPAL COMPONENTS ANALYSIS

The third part of the cross-sectional analysis involved conducting a principal components analysis (PCA) on the three datasets - 1986, 1991, and 1996. Table 6.3-A shows the component loadings for each of the 14 variables. The three matrices were subjected to a varimax rotation producing components that are orthogonal to each other or independent. Only components with an eigenvalue greater than 1 were retained for further analysis. A three-component solution was produced for each of the matrices. With a few exceptions, the overall structure of the data, in terms of component loadings, was stable over the study period, particularly between 1991 and 1996. Component 1 loads highly on male and female unemployment, lone female parent families, male and female poverty and low-income families. In 1986, female poverty loads highly on the second component. The table also demonstrates higher loadings for male unemployment and male poverty, suggesting a higher incidence of urban deprivation among men. The second component is bipolar with high negative loadings on male and female labour force participation and high positive loadings on the two education variables (less than grade 9 education and no high-school diploma). The third component displays some variation over the three time points but loads highly on

population change and old housing. One important characteristic visible in the table is that in 1986, components 1 and 2 account for nearly the same proportion of variance explained (about 27 percent). However, in 1991 and 1996, component 1 is more prominent, accounting for a higher percentage of the variance.

Table 6.3-B indicates how the three components were interpreted according to types of deprivation. For 1986, 1991, and 1996, component 1 is labeled as 'Economic/Family Hardship' because of its high loadings on economic and family related variables, particularly those associated with men. In 1986, component 2 is labeled as 'Education, Work and Female Poverty' as a result of its loadings on the education and labour force variables as well as female poverty. In 1991 and 1996, component 2 is referred to as 'Education and Work', without the significant loadings on female poverty. In 1986, 1991 and 1996, component 3 is labeled 'Population Decline/Old Housing' with its higher loadings on these two indicators. However, in 1991, component 3 also highlights the value of dwellings (\$Dwelling) with a loading of -.469, and in 1996, youth unemployment (YouUnemp) with a loading of -.523. The second part of Table 6.3-B describes how the component scores were interpreted with respect to their signs (positive and negative). For the sake of easier comprehension, all scores referring to below average or 'deprived' conditions were multiplied by -1 so that, as negative values, these scores can be easily differentiated from the positive scores representing above average or 'healthy' conditions.

The third part of Table 6.3-B shows the mean component scores in 1986, 1991 and 1996 for the census tracts in East Montréal, the 'Rest of City', as well as six selected municipalities in the MUC. The table clearly indicates that the study area had the highest negative scores on components 1 and 3 in the three time points, indicating a concentration of urban deprivation with respect to 'Economic/Family Hardship' and 'Population Decline/Old Housing'. The 'Rest of City' also recorded negative scores on component 1 but had positive scores on components 2 and 3. Lachine had relatively healthy conditions with respect to component 1 but displayed deprivation on component 2. Montréal-Nord also showed a high level of deprivation on component 2, particularly in 1996. By contrast, the two West Island municipalities, Pointe-Claire and Pierrefonds, are prominent with positive scores across all components, demonstrating their healthy status and higher standard of living.

Table 6.3-C displays the total number and proportion of census tracts in the 'deprived' and 'most deprived' categories for component 1 (Economic/Family Hardship) in East Montréal, the 'Rest of City', and areas outside of the central city. The 'deprived' category consists of census tracts with component scores below -1 SD, while the 'most deprived' are those tracts with scores below -1.5 SD. Consistent with the results of the standard score analysis, the table indicates that while the large majority of 'deprived' tracts (about 90 percent) were located in the central city, the proportion in the study area fell from 52.8 percent in 1986 (38 tracts) to 50.0 percent in 1991 (37) and then to 41.8 percent in 1996 (33). Meanwhile, the remainder of the city recorded an increase from 36.1 percent in 1986 (26 tracts) to 43.2 percent in 1991 (32) and then to 48.1 percent in 1996 (38). The table also shows that very few 'deprived' census tracts were located outside of the central city (only 8 in 1996) and most of these were in industrial areas along the St. Lawrence River (Verdun, Lachine and LaSalle) and immediately to the west and north of the city (St. Laurent and Montréal-Nord). During the study period, census tracts in the 'most deprived' category were almost exclusively located in the central city, with higher proportions evident in East Montréal. In 1991, over 58 percent of these were found in the study area, but by 1996, this figure had dropped to just below 50 percent.

As indicated in Table 6.3-D, a different trend emerges with component 2 (Education and Work). While still most visible in East Montréal and the remainder of the city, this type of deprivation, unlike component 1, was also evident in many neighbourhoods outside of the central city. Within the study area, the proportion of deprived tracts fell slightly from 46.1 percent in 1986 to 45.1 percent in 1991, before dropping significantly to 36.4 percent in 1996. In the 'Rest of City', the proportion was relatively stable over the study period – just under 30 percent in 1986 and about 25 percent in 1991 and 1996. Several census tracts in Verdun, Côte-Saint-Luc, Saint-Léonard and Montréal-Nord were prominent in the 'deprived' category, demonstrating that they had much lower rates of labour force participation and significantly higher rates of low education.

As seen in Table 6.3-D, component 3 is more difficult to interpret in cross-section because of significant differences in its variable loadings between the three time points. In 1991, it had a loading of -0.469 on the value of dwellings variable (\$Dwelling), resulting in

high negative scores on census tracts with population decline, old housing and more expensive homes. This explains why the proportion of tracts in this group is so low in East Montréal in 1991 compared to 1986 and 1996. In addition, in 1996, component 3 had a loading of $-.523$ on the youth unemployment variable (YouUnemp), thereby producing high negative scores on tracts with population decline, old housing and low youth unemployment.

Table 6.3-E lists the census tracts with the lowest and highest scores on component 1. What is immediately evident is that the ‘severely deprived’ neighbourhoods with the lowest scores were almost entirely located within the central city (East Montréal and the ‘Rest of City’). As might be expected, the ‘healthiest’ tracts with the highest scores were situated primarily in more affluent municipalities outside the central city such as Westmount, Mont-Royal, and Côte-Saint-Luc. However, several East Montréal neighbourhoods were among the healthiest including CT 195.01 and CT 190.02 located in the north-central portion of the study area in the district of Rosemont (see Figure 3.3).

The spatial pattern of urban deprivation in the study area and the MUC was put into focus by mapping the scores for components 1 and 2 over the study period (Figures 6.1 and 6.2). As discussed in Chapter 5, the range of component scores was used to produce a scale of six categories measuring ‘healthy’ and ‘deprived’ neighbourhoods. Figures 6.1-A, B, and C illustrate the geographic distribution of the ‘Economic/Family Hardship’ dimension of urban deprivation in 1986, 1991 and 1996. The maps demonstrate that while there was some change in the pattern between the time points, this type of deprivation was most evident in the central and south-central parts of the Island. Not surprisingly, the ‘healthiest’ census tracts were located in suburban areas, including the West Island municipalities, which clearly displayed a growing number of ‘very healthy’ tracts between 1986 and 1996. Pockets of ‘distressed’ areas (with scores between 0 and -1) were found in Verdun, LaSalle, Lachine, Montréal-Nord, Saint-Léonard, and Rivière-des-Prairies (which is part of the City of Montréal).

The maps show that on component 1, urban deprivation was most visible in the study area and parts of the ‘Rest of City’ including Centre-Sud, Ville-Marie, Sud-Ouest (Pointe Saint-Charles) in the south and Parc Extension, Côte-des-Neiges and Notre-Dame-de-Grâce in the north and west. Within the boundaries of East Montréal, there was a significant

clustering of deprivation and distress in the western portion of the study area while the eastern part remained relatively healthy throughout the study period. There was a strong presence of 'deprived' and 'most deprived' census tracts in the area south of Sherbrooke Street, in the downtown corridor just north of the Old Port between St-Laurent and Saint-Denis and in the communities of Terrasse Ontario and Hochelaga-Maisonneuve. Deprived neighbourhoods were also found in the Plateau Mont-Royal as well as in Villeray and St-Edouard, especially in the area just south of Jean Talon between St-Laurent and Saint-Denis. However, when examined in cross-section the maps indicate an increased presence of urban deprivation in Hochelaga-Maisonneuve and a shrinking in the area north of Sherbrooke Street.

A different geographic pattern emerged with the mapping of component 2 'Education and Work' (Figures 6.2-A, B, and C). First, while still significantly visible in East Montréal, distressed and deprived tracts were more apparent in suburban locations outside of the central city including the northern and eastern portions of the MUC and even in some parts of the West Island. This indicates that these areas had lower rates of labour force participation and higher rates of low educational attainment. Second, there was a stronger presence of 'healthy' and 'very healthy' tracts in the central city, particularly in the western half. However, there remained a high incidence of deprivation in the southwestern part of the City of Montréal (including Pointe-St. Charles) and in Verdun, LaSalle and Lachine. The maps also show a growing presence of 'deprived' census tracts in Saint-Léonard and Montréal-Nord between 1986 and 1996.

Within East Montréal, distressed and deprived neighbourhoods on component 2 were discernable in the eastern part of the study area. Like component 1, 'deprived' and 'most deprived' tracts were found in the downtown area, Terrasse Ontario and Hochelaga-Maisonneuve. They were also present in St-Edouard, St-Michel and Rosemont. A careful examination of the component 1 and 2 maps reveals that several census tracts exhibited bipolar conditions between the two dimensions – 'very healthy' on component 1 and 'most deprived' on component 2. One of these is CT 190.02 located in Rosemont just east of Parc Maisonneuve. A review of the census data indicates that this area has a high proportion of seniors, which explains the very low rates of labour force participation and underlines why

some caution is required when interpreting this type of deprivation. A highly visible trend illustrated by the maps is the increased number of 'very healthy' tracts on component 2 in the Plateau Mont-Royal between 1986 and 1996. This is a direct reflection, supported by the literature on Montréal, of the movement of young, highly educated residents into this area in recent years in search of affordable housing and a location close to downtown.

The principal components analysis revealed several important findings. First, three main dimensions of urban deprivation were identified in the MUC – 'Economic/Family Hardship', 'Education and Work' and 'Population Decline/Old Housing'. The loadings on component 1 pointed to a high incidence of deprivation among men. The analysis of component scores found that the phenomenon was most prevalent in the central city, particularly in East Montréal on components 1 and 3. Second, on the 'Economic/Family Hardship' dimension there was a decline in the proportion of 'deprived' census tracts in the study area and a significant growth in the 'Rest of City' during the study period: 1986-1991-1996. On the 'Education and Work' dimension, East Montréal also recorded a fall in the proportion of 'deprived' tracts, while the percentage in the remainder of the city was relatively stable. Third, the mapping of component scores illuminated several key geographic patterns including the strong presence of deprived areas on component 1 in the central and south-central parts of the Island. This type was most visible in the western portion of East Montréal and over the study period there was a growing presence in Terrasse Ontario and Hochelaga - Maisonneuve and a lessening in the area north of Sherbrooke Street. In this part of the data analysis the three dimensions of urban deprivation were examined separately. In the next section, a classification system is used to identify and map areas of multiple deprivation and distress in East Montréal and the MUC.

CLASSIFICATION: IDENTIFYING AREAS OF MULTIPLE DEPRIVATION AND DISTRESS

As seen in Chapters 2 and 3, the literature on urban social geography suggests that regions, cities, and neighbourhoods can suffer from several types of deprivation at the same time. This important outcome is referred to as multiple deprivation or multiple distress which can exhibit distinctive geographic patterns. As discussed in Chapter 5, the component scores were applied to a classification system to measure the intensity and spatial distribution of

these conditions in the census tracts of East Montréal and the MUC during the study period: 1986-1991-1996. It is assumed that deprivation or distress must be present on component 1 'Economic/Family Hardship' before a neighbourhood can be considered as multiply deprived or distressed when the other two components are factored into the classification. In short, an area experiencing these multiple conditions has higher than average rates of unemployment, poverty, low-income, and single mothers (component 1) **and** either or both of lower rates of labour force participation and higher rates of low-education (component 2) and higher rates of population decline and old housing (component 3). This can be expressed as: multiple deprivation = $C1 + C2 + C3$; or $C1 + C2$; or $C1 + C3$. Table 6.4 describes the eight categories that rank in descending order from Category A, the highest possible level of deprivation to Category H, the presence of some distress only.

The table shows that Category A contained, in total, only three tracts (deprived on the three components) all located in East Montréal. The tracts in Categories B and C (deprived on two components) were split between the study area and the 'Rest of City' with very few appearing outside of the central city in the three time points. At the next level, the table indicates that East Montréal recorded a significant drop in the number of its tracts in Category D (a combination of deprivation and distress) between 1986 and 1996, while the remainder of the city registered an increase. Most of the tracts in Category E were situated in the 'Rest of City', which also recorded a sizeable growth in the number of its tracts in this group during the study period. Category F contains cases where deprivation was evident on component 1 but no deprivation or distress existed on components 2 or 3. The majority of these tracts were found in the study area (between 53 and 56 percent) but the proportion located in the remainder of the city expanded from 37.9 percent in 1986 to 46.7 percent in 1996. Category G, measuring multiple distress (scores between 0 and -1 SD) held the largest number of tracts in the three time points, the bulk of which were situated in East Montréal, consistent with the analysis of mean component scores in the previous section. Finally, the large majority of cases in Category F, identifying areas with distress on component 1 only, were located in the 'Rest of City', while the number of tracts in this group increased somewhat in the study area between 1986 and 1996.

Figures 6.3-A, B and C show the geographic distribution of multiple deprivation and distress in East Montréal and the MUC over the whole period. As the maps indicate, these conditions were predominantly visible in the core area of the Island. In particular, Categories A, B, C and D had a strong presence in the south central part of the City of Montréal (Sud-Ouest/Pointe-St-Claire) and within the study area, south of Sherbrooke Street. However, by 1996, several multiply-deprived tracts were found in outlying areas including Lachine, Saint-Laurent and Montréal-Nord. As the maps show, within East Montréal there was a clear concentration of multiple conditions (mostly distress) in the western part of the study area. The maps also illustrate an increase in the presence of Categories A, B, C in Terrasse Ontario and especially in Hochelaga-Maisonneuve between 1986 and 1991. Over the study period, the gradual lessening of multiple deprivation and distress was apparent in the Plateau Mont-Royal as was the growth of multiple distress in Villeray and St-Michel in the northwest of the study area.

In summary, the classification of component scores across the three dimensions of deprivation found that multiple deprivation was not confined to East Montréal but was strongly present in the remainder of the central city, and in some cases in the suburban municipalities. Moreover, the study area recorded significant declines in the number of its tracts in two multiply-deprived categories (C and D) and slight decreases in three others (E, F and G). Meanwhile, the 'Rest of City' registered sizeable increases in three categories (D, E, and F). However, cases of multiple distress were predominantly concentrated in East Montréal, at rates more than double that of the remainder of the city.

CONCLUSION

This chapter employed a cross-sectional approach to examine the changing level and geography of urban deprivation in East Montréal and the MUC. This method is used frequently in urban geography to study the process of change – essentially comparing separate 'snap-shots' of a city over several points of time to study social, economic or political problems and issues. The 14 indicators of urban deprivation were analyzed at the census tract level using four main statistical techniques: descriptive statistics, standard score analysis, principal components analysis (PCA) and classification. The results indicated a strong presence of urban deprivation and distress in the central city with declining conditions

evident particularly in the period 1991-1996. The standard score analysis, PCA and classification revealed that while urban deprivation and multiple deprivation and distress were concentrated in East Montréal in 1986, there was a significant loosening of this phenomenon in the study area between 1986-1991-1996. This finding supports the improvement hypothesis described in Chapter 1. However, the analysis also indicated a growing presence of urban deprivation in the 'Rest of City' over the study period and evidence of its spreading to several suburban municipalities such as Verdun, Montréal-Nord and Saint-Léonard. In the case of these areas, the decline hypothesis is supported.

Both the descriptive statistics and the PCA showed increasing levels of deprivation among males in the MUC. The latter technique produced three dimensions of urban deprivation – 'Economic/Family Hardship', 'Education and Work' and 'Population Decline/Old Housing'. The mapping of component scores revealed that the first component 'Economic/Family Hardship' was strongly present in the central and south-central portions of the Island. There was an overall decline in the number of deprived tracts on component 1 in the study area. Nevertheless, it was most visible in the western part of East Montréal with a growing presence in Terrasse Ontario and Hochelaga-Maisonneuve and a lessening in the area north of Sherbrooke Street, particularly in the Plateau Mont-Royal. Finally, the classification procedure showed that the study area recorded declines in 5 of the 8 categories of multiple deprivation and distress, while the 'Rest of City' saw sizeable increases in three. The following chapter (7) continues the examination of census data by conducting an analysis of change on the neighbourhoods of East Montréal and the MUC according to the model of urban deprivation.

Table 6.1-A
Descriptive Statistics- East Montréal (Census Tracts)

	Pop. Chg	Male Part	Fem Part	Unemp Male	Unemp Fem	You Unemp	Grade9	NoHS- Dip.	Lone Fem	Old House	\$Dwelling	Male Pov	Fem Pov	LowInc Fam
1986														
Mean	-4.3	69.3	49.9	16.3	15.7	19.7	30.7	17.8	20.2	46.6	74770	26.2	35.5	29.9
Median	-6.2	70.4	49.1	16.2	15.3	19.3	31.1	18.2	19.4	53.6	71422	25.4	35.5	28.6
Stand. Dev	10.0	7.1	8.8	5.9	5.1	7.0	6.9	3.9	5.8	24.9	18608	7.2	6.2	11.5
Variance	100.8	51.2	77.6	35.5	25.9	48.9	47.4	15.1	34.0	621.1	346.3 M	52.2	38.7	133.2
Minimum	-22.7	34.7	17.1	4.0	3.5	3.9	6.3	3.7	7.3	0	40813	9.9	18.7	6.7
Maximum	89.0	86.8	83.1	35.3	29.7	42.9	51.8	28.9	45.3	89.2	155381	56.8	55.2	77.9
Tracts	166	166	166	166	166	166	166	166	166	166	166	166	166	166
1991														
Mean	-1.3	70.2	53.8	16.9	14.1	19.6	24.8	16.8	19.8	41.3	129264	23.0	30.3	31.0
Median	-4.6	70.1	52.8	16.4	13.0	19.3	25.0	16.9	19.4	45.0	126145	22.5	30.1	29.3
Stand. Dev	34.0	6.4	10.3	5.4	6.3	8.9	7.4	4.2	5.9	22.0	26769.5	6.8	6.7	11.1
Variance	1158.9	41.0	100.6	29.6	39.2	79.1	54.6	17.9	35.2	485.1	716 M	46.2	44.6	123.8
Minimum	-20.4	37.8	17.8	5.5	0	0	5.3	5.0	5.8	0	78402	7.3	16.7	7.3
Maximum	425.8	87.7	80.7	38.8	45.5	60.0	52.6	34.1	50.7	86.2	246967	59.0	56.0	81.0
Tracts	164	164	164	164	164	164	164	164	164	164	164	164	164	164
1996														
Mean	-1.4	67.1	53.7	17.5	13.6	19.6	21.4	14.9	21.9	38.1	120893	33.4	34.8	36.6
Median	-2.0	67.4	53.3	17.7	12.7	18.7	22.0	15.0	20.8	41.6	118971	32.6	34.1	34.9
Stand. Dev	5.8	7.4	11.1	6.2	6.7	10.1	7.3	4.8	7.4	20.6	24369	9.0	7.6	13.8
Variance	34.3	54.7	122.5	38.9	44.5	102.1	53.3	23.1	54.5	426.7	593M	81.7	58.1	190.0
Minimum	-18.3	32.0	9.9	3.3	0	0	4.3	3.3	0	0.7	0	11.6	15.2	8.2
Maximum	29.5	87.2	78.9	50.0	50.0	66.7	45.4	27.3	49.2	75.6	215133	56.4	61.2	89.1
Tracts	164	164	164	164	164	164	164	164	164	164	164	164	164	164
Mean Percent Change														
1986-1991	3.0	0.9	3.9	0.6	-1.6	-0.1	-5.9	-1.0	-0.4	-5.3	72.9	-3.2	-5.2	1.1
1991-1996	-0.1	-3.1	-0.1	0.6	-0.5	0	-3.4	-1.9	2.1	-3.2	-6.5	10.4	4.5	5.6
1986-1996	2.9	-2.2	3.8	1.2	-2.1	-0.1	-9.3	-2.9	1.7	-8.5	61.7	7.2	-0.7	6.7

Table 6.1-B
Descriptive Statistics- The City of Montréal (Census Tracts)

	Pop. Chg	Male Part	Fem Part	Unemp Male	Unemp Fem	You Unemp	Grade9	NoHS- Dip.	Lone Fem	Old House	\$Dwelling	Male Pov	Fem Pov	LowInc Fam
1986														
Mean	-0.1	71.2	52.5	15.0	15.1	20.1	27.2	17.4	18.8	38.9	87346	24.7	33.8	28.0
Median	-4.7	71.9	51.7	14.3	14.6	19.4	29.0	17.6	17.8	40.6	79979	24.0	34.5	27.6
Stand. Dev	20.1	7.6	9.6	5.9	5.6	7.3	10.3	4.9	6.7	26.6	37718	7.8	7.9	12.6
Variance	404.7	58.3	92.8	35.5	31.9	54.1	100.7	24.0	44.7	706.9	1.4B	60.2	62.2	159.5
Minimum	-54.6	34.7	17.1	3.8	0	0	0	0	3.6	0	0	0	0	0
Maximum	174.3	100	90.5	35.3	46.2	66.7	51.8	36.2	53.2	100	481630	56.8	55.2	77.9
Tracts	310	310	310	310	310	310	310	310	310	310	310	310	310	310
1991														
Mean	2.7	71.2	55.3	16.2	14.0	19.8	22.0	16.2	18.2	33.7	148615	22.2	29.4	29.3
Median	-3.5	71.0	54.6	15.8	13.3	19.1	23.0	16.2	17.8	30.5	138525	21.6	29.3	28.3
Stand. Dev	30.1	6.4	9.4	5.7	5.7	8.9	9.3	5.1	6.4	23.6	50986	7.4	7.6	12.7
Variance	908.8	41.1	88.0	33.1	33.0	80.3	85.8	26.5	40.6	556.7	2.6B	54.5	58.3	162.0
Minimum	-25.1	37.8	17.8	0	0	0	1.9	0	3.8	0	0	0	0	0
Maximum	425.8	90.9	81.5	38.8	45.5	66.7	52.6	34.1	54.0	86.2	422808	59.0	56.0	81.0
Tracts	319	319	319	319	319	319	319	319	319	319	319	319	319	319
1996														
Mean	0.8	67.3	53.8	16.8	13.8	20.9	19.4	14.4	19.7	31.4	136740	32.4	34.7	35.4
Median	-1.3	67.0	52.7	16.8	12.9	20.0	19.8	14.3	19.3	27.1	128029	31.8	34.0	34.3
Stand. Dev	18.1	7.7	10.3	6.7	7.0	10.3	8.8	5.0	7.8	22.9	44453	9.7	8.2	14.8
Variance	327.1	59.0	105.6	44.8	48.5	107.2	78.3	25.2	60.6	527.0	1.9B	93.4	67.9	218.6
Minimum	-27.5	32.0	9.9	0	0	0	1.5	2.9	0	0	0	6.9	10.8	0
Maximum	293.1	92.9	90.0	50.0	50.0	75.0	45.4	29.6	54.1	87.8	441230	65.0	61.2	89.1
Tracts	319	319	319	319	319	319	319	319	319	319	319	319	319	319
Mean Percent Change														
1986-1991	2.8	0	2.8	1.2	-1.1	-0.3	-5.2	-1.2	-0.6	-5.2	70.1	-2.5	-4.4	1.3
1991-1996	-1.9	-3.9	-1.5	0.6	-0.2	1.1	-2.6	-1.8	1.5	-2.3	-8.0	10.2	5.3	6.1
1986-1996	0.9	-3.9	1.3	1.8	-1.3	0.8	-7.8	-3.0	0.9	-7.5	56.5	7.7	0.9	7.4

Table 6.1-C
Descriptive Statistics- The Montréal Urban Community (MUC) (Census Tracts)

	Pop. Chg	Male Part	Fem Part	Unemp Male	Unemp Fem	You Unemp	Grade9	NoHS- Dip.	Lone Fem	Old House	\$Dwelling	Male Pov	Fem Pov	LowInc Fam
1986														
Mean	-0.5	73.0	53.0	13.0	13.9	19.3	24.3	17.7	17.0	31.6	98167	22.4	33.0	23.9
Median	-4.2	73.4	52.9	11.9	13.2	19.0	26.3	17.7	16.1	23.5	86256	21.1	33.1	22.1
Stand. Dev	17.0	7.5	9.1	6.1	5.3	6.8	10.8	4.9	6.9	27.9	47803	7.5	7.4	13.0
Variance	290.0	55.8	82.1	36.8	28.2	46.8	117.6	24.2	48.3	778.7	2.2B	56.4	54.4	170.0
Minimum	-54.6	34.7	17.1	0	0	0	0	0	3.6	0	0	0	0	0
Maximum	174.3	100	90.5	35.3	46.2	66.7	51.8	36.2	53.2	100	481630	56.8	55.2	77.9
Tracts	480	480	480	480	480	480	480	480	480	480	480	480	480	480
1991														
Mean	2.6	72.4	56.0	14.5	13.2	19.0	20.1	16.4	16.7	27.8	164552	20.4	28.6	25.3
Median	-3.0	72.3	55.8	14.0	12.3	18.6	21.5	16.4	16.2	21.8	144450	19.3	28.1	23.4
Stand. Dev	26.2	6.8	9.0	5.9	5.4	8.3	9.9	5.4	6.7	24.8	74662	6.9	7.1	13.2
Variance	688.0	46.8	80.5	34.5	29.1	68.7	97.7	28.8	44.5	614.8	5.6B	48.3	50.4	174.6
Minimum	-47.7	37.8	17.8	0	0	0	1.3	0	0	0	0	0	0	0
Maximum	425.8	92.4	81.5	38.8	45.5	66.7	52.6	34.1	54.0	87.6	782851	59.0	56.0	81.0
Tracts	495	495	495	495	495	495	495	495	495	495	495	495	495	495
1996														
Mean	1.3	67.9	53.8	15.0	12.9	19.4	18.1	14.6	18.3	26.0	150728	29.4	33.4	31.0
Median	-1.4	67.5	53.2	14.4	12.1	18.7	18.6	14.2	17.9	19.2	132902	28.1	32.9	29.6
Stand. Dev	24.2	7.5	9.6	6.8	6.6	9.6	9.2	5.0	7.8	24.0	65589	9.6	8.0	15.5
Variance	586.9	56.6	93.2	45.7	43.7	93.1	85.3	25.3	60.7	575.3	4.3B	92.5	63.6	240.0
Minimum	-27.5	32.0	9.9	0	0	0	0.4	2.9	0	0	0	6.9	10.8	0
Maximum	420.1	92.9	90.0	50.0	50.0	75.0	45.4	29.6	54.1	87.8	745948	65.0	61.2	89.1
Tracts	495	495	495	495	495	495	495	495	495	495	495	495	495	495
Mean Percent Change														
1986-1991	3.1	-0.6	3.0	1.5	-0.7	-0.3	-4.2	-1.3	-0.3	-3.8	67.6	-2.0	-4.4	1.4
1991-1996	-1.3	-4.5	-2.2	0.5	-0.3	0.4	-2.0	-1.8	1.6	-1.8	-8.4	9.0	4.8	5.7
1986-1996	1.8	-5.1	0.8	2.0	-1.0	0.1	-6.2	-3.1	1.3	-5.6	53.5	7.0	0.4	7.1

Table 6.1-D
Comparison of Means for Deprivation Indicators

	Pop. Chg	Male Part	Fem Part	Unemp Male	Unemp Fem	You Unemp	Grade9	NoHS- Dip.	Lone Fem	Old House	SDwelling	Male Pov	Fem Pov	LowInc Fam
East Montréal														
1986	-4.3	69.3	49.9	16.3	15.7	19.7	30.7	17.8	20.2	46.6	74770	26.2	35.5	29.9
1991	-1.3	70.2	53.8	16.9	14.1	19.6	24.8	16.8	19.8	41.3	129264	23.0	30.3	31.0
1996	-1.4	67.1	53.7	17.5	13.6	19.6	21.4	14.9	21.9	38.1	120893	33.4	34.8	36.6
City of Montréal														
1986	-0.1	71.2	52.5	15.0	15.1	20.1	27.2	17.4	18.8	38.9	87346	24.7	33.8	28.0
1991	2.7	71.2	55.3	16.2	14.0	19.8	22.0	16.2	18.2	33.7	148615	22.2	29.4	29.3
1996	0.8	67.3	53.8	16.8	13.8	20.9	19.4	14.4	19.7	31.4	136740	32.4	34.7	35.4
Montréal Urban Community (Island)														
1986	-0.5	73.0	53.0	13.0	13.9	19.3	24.3	17.7	17.0	31.6	98167	22.4	33.0	23.9
1991	2.6	72.4	56.0	14.5	13.2	19.0	20.1	16.4	16.7	27.8	164552	20.4	28.6	25.3
1996	1.3	67.9	53.8	15.0	12.9	19.4	18.1	14.6	18.3	26.0	150728	29.4	33.4	31.0

Comparison of Mean Percent Change for Deprivation Indicators

	Pop. Chg	Male Part	Fem Part	Unemp Male	Unemp Fem	You Unemp	Grade9	NoHS- Dip.	Lone Fem	Old House	SDwelling	Male Pov	Fem Pov	LowInc Fam
East Montréal														
1986-1991	3.0	0.9	3.9	0.6	-1.6	-0.1	-5.9	-1.0	-0.4	-5.3	72.9	-3.2	-5.2	1.1
1991-1996	-0.1	-3.1	-0.1	0.6	-0.5	0	-3.4	-1.9	2.1	-3.2	-6.5	10.4	4.5	5.6
1986-1996	2.9	-2.2	3.8	1.2	-2.1	-0.1	-9.3	-2.9	1.7	-8.5	61.7	7.2	-0.7	6.7
City of Montréal														
1986-1991	2.8	0	2.8	1.2	-1.1	-0.3	-5.2	-1.2	-0.6	-5.2	70.1	-2.5	-4.4	1.3
1991-1996	-1.9	-3.9	-1.5	0.6	-0.2	1.1	-2.6	-1.8	1.5	-2.3	-8.0	10.2	5.3	6.1
1986-1996	0.9	-3.9	1.3	1.8	-1.3	0.8	-7.8	-3.0	0.9	-7.5	56.5	7.7	0.9	7.4
Montréal Urban Community (Island)														
1986-1991	3.1	-0.6	3.0	1.5	-0.7	-0.3	-4.2	-1.3	-0.3	-3.8	67.6	-2.0	-4.4	1.4
1991-1996	-1.3	-4.5	-2.2	0.5	-0.3	0.4	-2.0	-1.8	1.6	-1.8	-8.4	9.0	4.8	5.7
1986-1996	1.8	-5.1	0.8	2.0	-1.0	0.1	-6.2	-3.1	1.3	-5.6	53.5	7.0	0.4	7.1

Table 6.2

Standard Score Analysis

A- Top 25% of Scores - 'Deprived' Census Tracts

Year	MUC	East Montréal			Rest of City - Montréal		
	Top 25% 'Deprived'	Total	% of Deprived	% of Area's Total Tracts	Total	% of Deprived	% of Area's Total Tracts
1986	120	68	56.7	41.0	34	28.3	23.6
1991	124	60	48.4	36.6	43	34.7	27.7
1996	124	54	43.5	32.9	45	36.3	29.0

'Deprived' Census Tracts Outside of the Central City

MUC Municipality	1986 Total	% of Area's Total Tracts	1991 Total	% of Area's Total	1996 Total	% of Area's Total
Verdun	10	55.5	11	57.9	12	63.1
Lachine	2	20.0	3	30.0	2	20.0
Saint-Laurent	2	15.4	2	14.3	2	14.3
Montréal-Nord	2	11.1	4	22.2	7	38.9
LaSalle	1	5.9	1	5.9	1	5.9
Pierrefonds	1	33.3	0	0	0	0
Saint Léonard	0	0	0	0	1	0.5
Total	18		21		25	

B- Top 10% of Scores - 'Most Deprived' Census Tracts

Year	MUC	East Montréal			Rest of City - Montréal		
	Top 10% 'Most Deprived'	Total	% of Most Deprived	% of Area's Total Tracts	Total	% of Most Deprived	% of Area's Total Tracts
1986	48	33	68.7	19.1	11	22.9	7.6
1991	50	22	44.0	13.4	21	42.0	13.5
1996	50	21	42.0	12.8	19	38.0	12.2

'Most Deprived' Tracts Outside of the Central City

MUC Municipality	1986 Total	% of Area's Total Tracts	1991 Total	% of Area's Total Tracts	1996 Total	% of Area's Total Tracts
Verdun	3	16.7	4	21.0	4	21.0
Lachine	0	0	0	0	1	10.0
Saint-Laurent	0	0	2	14.3	2	14.3
Montréal-Nord	0	0	1	5.5	2	11.1
LaSalle	1	5.9	0	0	1	5.9
Total	4		7		10	

Table 6.3-A
Principal Components Analysis
Component Loadings in the Montréal Urban Community (MUC)
(Varimax Rotation)

Variables	1986				1991				1996			
	Components			Variables	Components			Variables	Components			Variables
	1	2	3		1	2	3		1	2	3	
PopChg	.002	-.150	-.695	PopChg.	-.009	-.423	.507	PopChg.	-.034	-.253	-.638	
MalePart	-.226	-.702	-.302	MalePart	-.278	-.801	.159	MalePart	-.306	-.760	.025	
FemPart	-.035	-.837	-.159	FemPart	-.175	-.856	.034	FemPart	-.207	-.845	-.008	
UnempMale	.822	.221	.222	UnempMale	.823	.249	-.096	UnempMale	.847	.250	-.018	
UnempFem	.769	.298	-.059	UnempFem	.733	.103	.043	UnempFem	.756	.249	-.251	
YouUnemp	.715	-.136	-.100	YouUnemp	.463	.061	-.296	YouUnemp	.538	.002	-.523	
Grade9	.410	.756	.080	Grade9	.484	.658	.245	Grade9	.441	.702	.085	
NoHS-Dip.	.205	.747	-.233	NoHS-Dip.	.301	.682	.369	NoHS-Dip.	.362	.709	.003	
LoneFem	.670	.365	.311	LoneFem	.737	.356	-.052	LoneFem	.628	.333	.269	
OldHouse	.421	-.040	.707	OldHouse	.363	-.090	-.659	OldHouse	.364	-.492	.579	
\$Dwelling	-.317	-.496	.078	\$Dwelling	-.458	-.179	-.469	\$Dwelling	-.429	-.193	-.124	
MalePov	.677	.402	.300	MalePov	.816	.150	-.167	MalePov	.868	.121	.126	
FemPov	.392	.639	-.079	FemPov	.659	.356	.247	FemPov	.747	.267	.045	
LowIncFam	.687	.570	.171	LowIncFam	.856	.343	.011	LowIncFam	.887	.299	.068	
% Variance	27.5	27.0	10.4	% Variance	32.7	21.1	9.5	% Variance	34.7	21.7	8.5	
Cumulative %	27.5	54.5	64.9	Cumulative %	32.7	53.8	63.4	Cumulative %	34.7	56.4	64.9	

Table 6.3-B
Interpreting the Principal Components:
Types of Deprivation

1986	
Component 1	"Economic/Family Hardship"
Component 2	"Education, Work and Female Poverty"
Component 3	"Population Decline/Old Housing"
1991	
Component 1	"Economic/Family Hardship"
Component 2	"Education and Work"
Component 3	"Population Decline/Old Housing" (high value dwellings)
1996	
Component 1	"Economic/Family Hardship"
Component 2	"Education and Work"
Component 3	"Population Decline/Old Housing"

Interpreting the Component Scores

Component 1	Negative scores (-) refer to above average rates of unemployment, poverty and family hardship in census tracts. Positive scores (+) refer to below average rates.
Component 2	Negative scores (-) refer to below average rates of labour force participation and above average rates of low educational attainment. Positive scores (+) refer to above average rates of labour force participation and below average rates of low educational attainment.
Component 3	Negative scores (-) refer to population decline and above average rates of old housing. Positive scores (+) refer to population growth and below average rates of old housing.

Mean Component Scores* in East Montréal
and Selected Municipalities in the MUC

	1986			1991			1996		
	Components			Components			Components		
Area	1	2	3	1	2	3	1	2	3
East Montréal	-0.370	-0.341	-0.445	-0.449	-0.186	-0.172	-0.431	0.073	-0.413
Rest of City	-0.233	0.225	0.185	-0.164	0.194	0.006	-0.226	0.116	0.262
Verdun	0.086	-0.676	-0.355	-0.094	-0.696	-0.122	-0.077	-0.457	-0.632
Lachine	0.788	-0.779	-0.088	0.504	-0.619	0.337	0.365	-0.530	-0.516
Montréal-Nord	0.387	-0.663	0.490	-0.058	-0.749	0.629	0.003	-1.145	0.253
Saint-Laurent	0.429	0.095	0.435	0.167	-0.041	0.330	0.224	-0.214	1.096
Pointe-Claire	0.742	0.637	0.833	1.027	0.595	0.507	1.310	0.387	0.323
Pierrefonds	0.475	0.364	1.091	0.364	1.136	1.299	0.606	0.428	0.742

* Component scores have a mean of 0 and a standard deviation of 1

Table 6.3-C

COMPONENT 1 "ECONOMIC/FAMILY HARDSHIP"

Component 1 Scores Greater than -1 Standard Deviation - 'Deprived' Census Tracts

Year	MUC	East Montréal			Rest of City – Montréal		
	'Deprived' > 1 S.D.	Total	% of Deprived	% of Area's Total Tracts	Total	% of Deprived	% of Area's Total Tracts
1986	72	38	52.8	23.0	26	36.1	18.0
1991	74	37	50.0	22.6	32	43.2	20.6
1996	79	33	41.8	20.1	38	48.1	24.5

Component 1 Scores Greater than -1.5 Standard Deviations - 'Most Deprived' Census Tracts

Year	MUC	East Montréal			Rest of City – Montréal		
	'Most Deprived' > 1.5 S.D.	Total	% of Most Deprived	% of Area's Total Tracts	Total	% of Most Deprived	% of Area's Total Tracts
1986	38	19	50.0	11.4	17	44.7	11.8
1991	41	24	58.3	14.6	14	34.1	9.0
1996	35	17	48.6	10.3	15	42.8	9.7

Component 1 Scores Greater than -1 Standard Deviation -
'Deprived' Census Tracts Outside of the Central City

MUC Municipality	1986 Total	% of Area's Total Tracts	1991 Total	% of Area's Total Tracts	1996 Total	% of Area's Total Tracts
Verdun	4	22.2	2	11.1	3	16.7
Lachine	0	0	0	0	1	10.0
Saint-Laurent	1	7.7	2	14.3	2	14.3
Montréal-Nord	0	0	1	5.5	1	5.5
LaSalle	1	5.9	0	0	1	5.9
Outremont	1	12.5	0	0	0	0
Anjou	1	12.5	0	0	0	0
Total	8		5		8	

Component 1 Scores Greater than -1.5 Standard Deviations -
'Most Deprived' Census Tracts Outside of the Central City

MUC Municipality	1986 Total	% of Area's Total Tracts	1991 Total	% of Area's Total Tracts	1996 Total	% of Area's Total Tracts
Verdun	1	5.5	1	5.5	0	0
Outremont	1	12.5	0	0	0	0
Saint-Laurent	0	0	1	7.1	1	7.1
Montréal-Nord	0	0	1	5.5	1	5.5
LaSalle	0	0	0	0	1	5.9
Total	2		3		3	

Table 6.3-D

COMPONENT 2 "EDUCATION AND WORK"

Component 2 Scores Greater than -1 Standard Deviation - 'Deprived' Census Tracts

Year	MUC	East Montréal			Rest of City – Montréal		
	'Deprived' > 1 S.D.	Total	% of Deprived	% of Area's Total Tracts	Total	% of Deprived	% of Area's Total Tracts
1986	65	30	46.1	18.1	19	29.2	13.2
1991	71	32	45.1	19.5	18	25.3	11.6
1996	66	24	36.4	14.4	17	25.7	11.0

Component 2 Scores Greater than -1 Standard Deviation -
'Deprived' Census Tracts Outside of the Central City

MUC Municipality	1986 Total	% of Area's Total Tracts	1991 Total	% of Area's Total	1996 Total	% of Area's Total
Verdun	5	27.8	10	55.5	4	22.2
LaSalle	1	5.9	0	0	1	5.9
Côte-Saint-Luc	1	14.3	3	42.8	4	57.1
Lachine	4	40.0	3	30.0	2	20.0
Montréal-Est	1	100	0	0	1	100
Saint-Léonard	0	0	0	0	4	20.0
Montréal-Nord	4	22.2	4	22.2	8	44.4
Hampstead	0	0	1	100	0	0
Saint-Laurent	0	0	0	0	1	7.1
Total	16		21		24	

COMPONENT 3 "POPULATION DECLINE /OLD HOUSING"

Component 3 Scores Greater than -1 Standard Deviation

Year	MUC	East Montréal			Rest of City – Montréal		
	'Deprived' > 1 S.D.	Total	% of Deprived	% of Area's Total Tracts	Total	% of Deprived	% of Area's Total Tracts
1986	76	40	52.6	24.1	18	23.7	12.5
1991	63	14	22.2	9.0	26	41.3	16.8
1996	64	35	54.7	21.0	13	20.3	8.4

Table 6.3-E
 COMPONENT 1: "ECONOMIC/FAMILY HARDSHIP"
 HIGH AND LOW SCORES

Component 1 'Severely Deprived' Census Tracts

1986			1991			1996		
Tract	Score	Location	Tract	Score	Location	Tract	Score	Location
166	-4.13	Rest of City	060	-4.10	East Montréal	060	-3.46	East Montréal
062	-3.83	Rest of City	166	-3.31	Rest of City	068	-3.09	Rest of City
142	-2.88	East Montréal	068	-2.61	Rest of City	220	-2.95	Rest of City
059	-2.85	East Montréal	057	-2.57	East Montréal	063	-2.85	Rest of City
080	-2.77	Rest of City	021	-2.51	East Montréal	023	-2.42	East Montréal
048	-2.62	East Montréal	039	-2.43	East Montréal	043	-2.42	East Montréal
041	-2.60	East Montréal	038	-2.36	East Montréal	057	-2.37	East Montréal
077	-2.55	Rest of City	064	-2.28	Rest of City	050	-2.33	East Montréal
068	-2.49	Rest of City	026	-2.18	East Montréal	216	-2.33	East Montréal
063	-2.41	Rest of City	075	-2.17	Rest of City	033	-2.29	East Montréal
034	-2.37	East Montréal	417.02	-2.17	Saint-Laurent	166	-2.29	Rest of City
057	-2.33	East Montréal	076	-2.07	Rest of City	021	-2.22	East Montréal
050	-2.28	East Montréal	041	-2.02	East Montréal	024	-2.11	East Montréal
165	-2.24	Rest of City	187.02	-1.97	East Montréal	073	-1.99	Rest of City

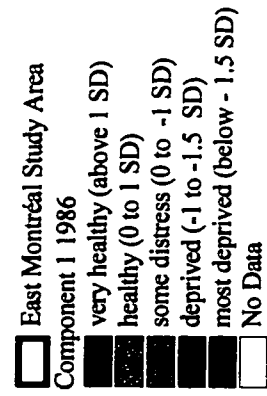
Component 1 - 'Least Deprived' or 'Healthiest' Census Tracts

1986			1991			1996		
Tract	Score	Location	Tract	Score	Location	Tract	Score	Location
385	2.35	Côte-Saint-Luc	055.02	2.67	Rest of City	055.02	2.70	Rest of City
189	2.52	East Montréal	288	2.58	Rest of City	190.02	2.52	East Montréal
355	2.36	Westmount	385	2.48	Hampstead	288	2.40	Rest of City
461	2.10	Beaconsfield	382.01	2.31	Côte-Saint-Luc	385	2.38	Côte-Saint-Luc
316	2.05	Verdun	190.02	2.25	East Montréal	356	2.33	Westmount
602.01	2.00	Saint-Léonard	356	2.20	Westmount	382.01	2.09	Côte-Saint-Luc
500	1.90	Senneville	195.01	1.95	East Montréal	195.01	2.03	East Montréal
313	1.81	Verdun	403	1.92	Mont-Royal	480	1.74	Baie-d'Urfé
195.01	1.79	East Montréal	351	1.90	Westmount	401	1.66	Mont-Royal
091	1.70	Rest of City	380	1.87	Côte-Saint-Luc	383.02	1.66	Côte-Saint-Luc
383.02	1.70	Côte-Saint-Luc	404	1.84	Mont-Royal	355	1.65	Westmount
225	1.64	Rest of City	370	1.83	Hampstead	450	1.64	Pointe-Claire
004	1.62	East Montréal	585.01	1.75	Rest of City	491	1.60	St. Anne Bellevue
392	1.60	Lachine	401	1.73	Mont-Royal	403	1.57	Mont-Royal

East Montréal

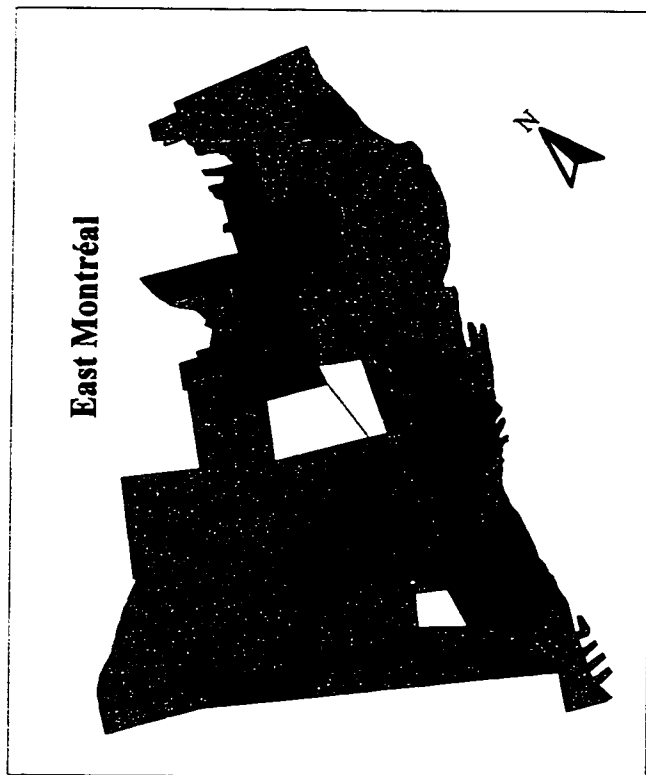


Figure 6.1-A
Component 1 Scores - 1986
'Economic/Family Hardship'
Montréal Urban Community - Census Tract Level



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Figure 6.1-B
Component 1 Scores - 1991
'Economic/Family Hardship'
Montréal Urban Community - Census Tract Level



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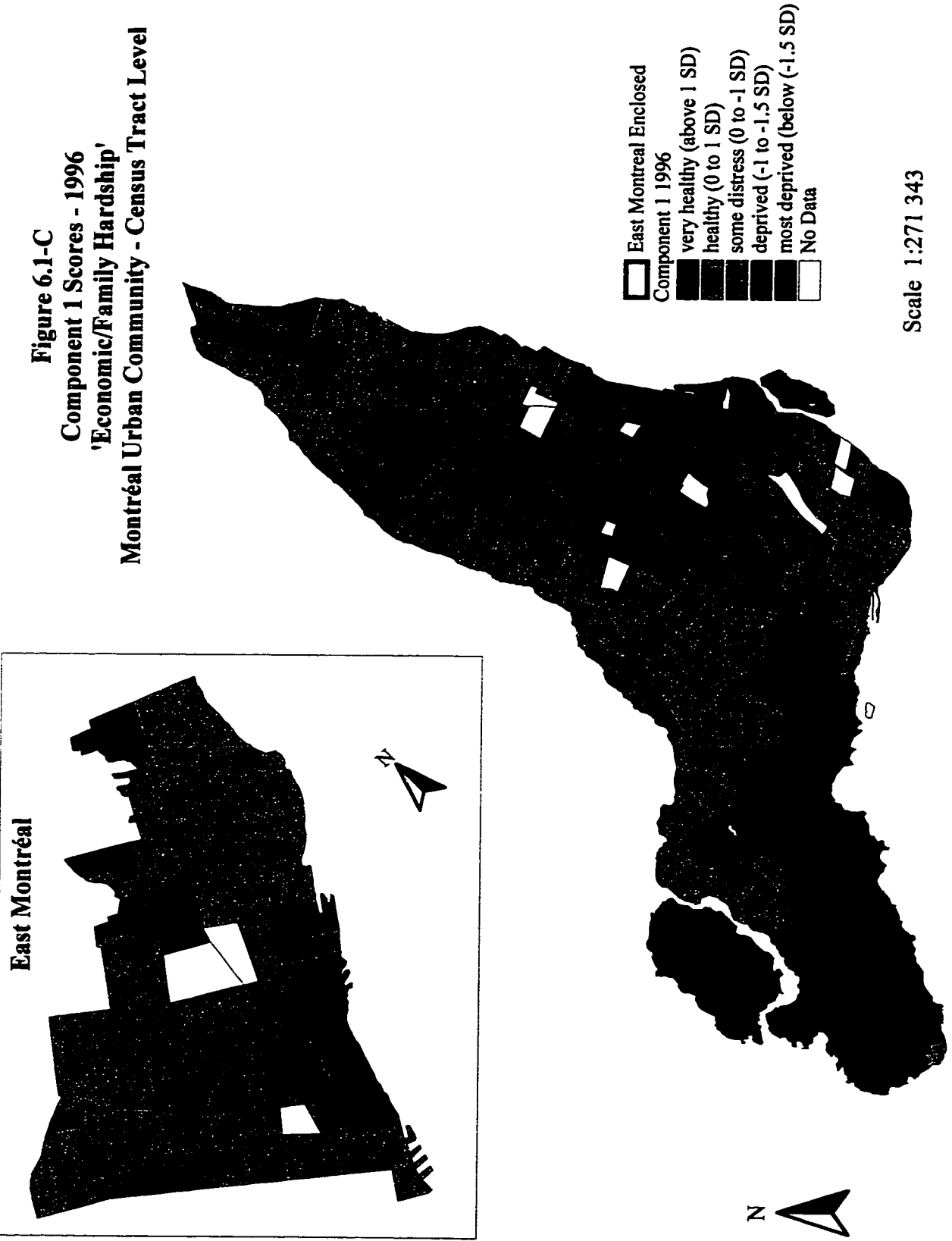
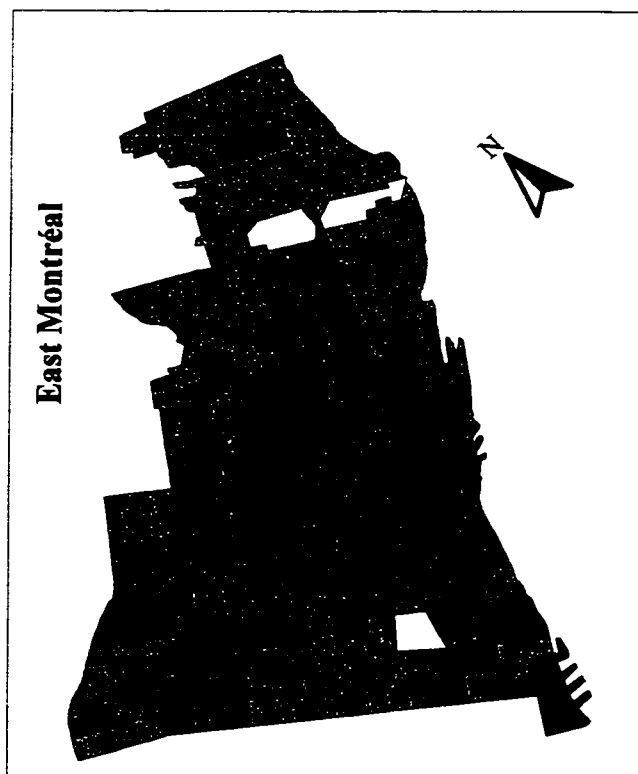
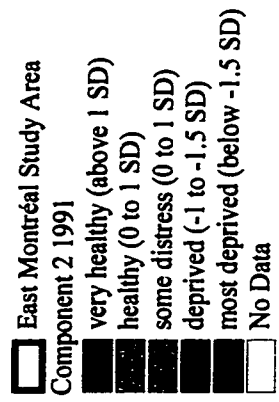
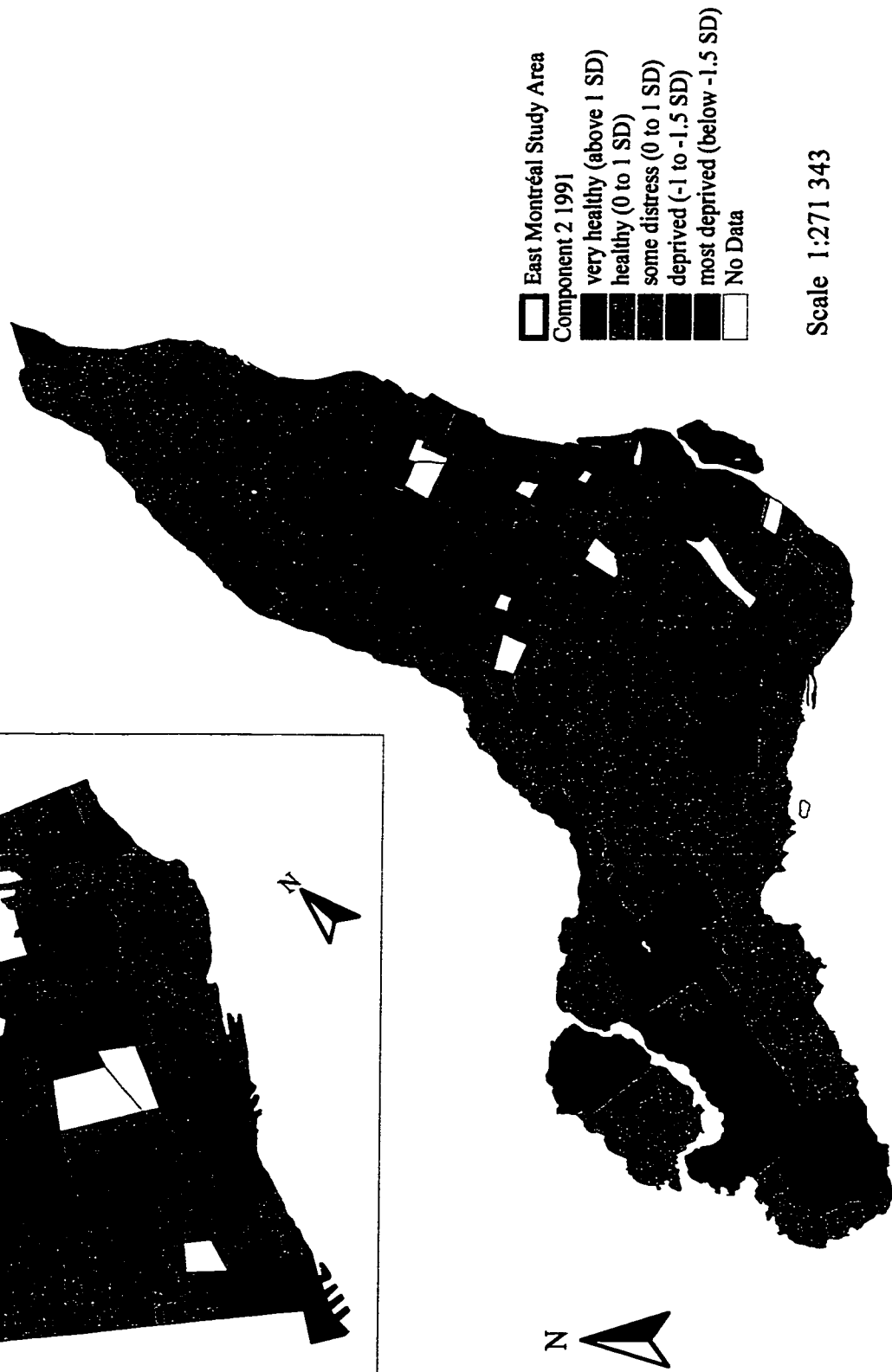


Figure 6.2-A
Component 2 Scores - 1986
'Education, Work and Female Poverty'
Montréal Urban Community - Census Tract Level



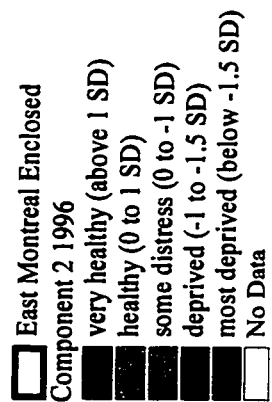
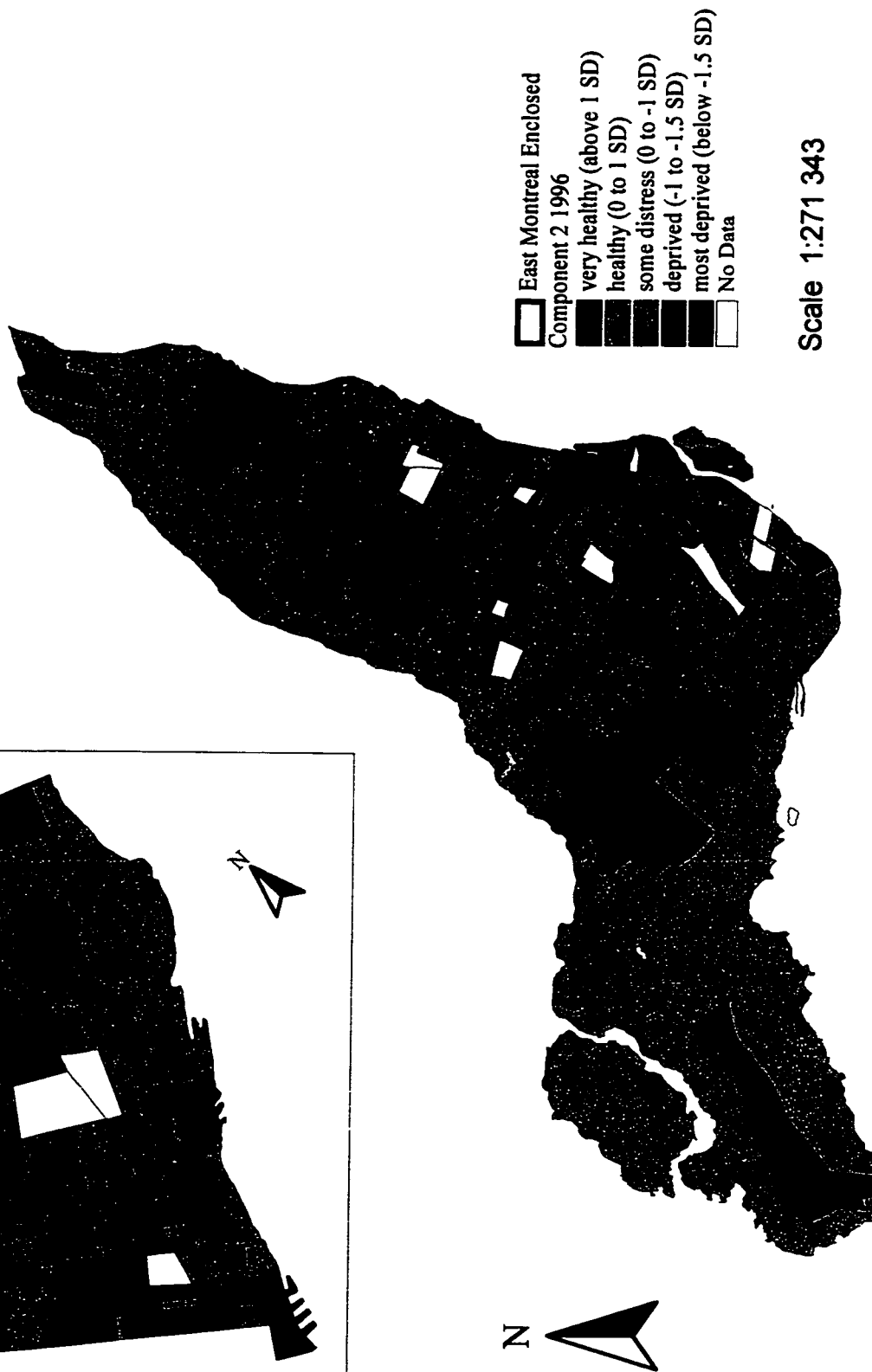
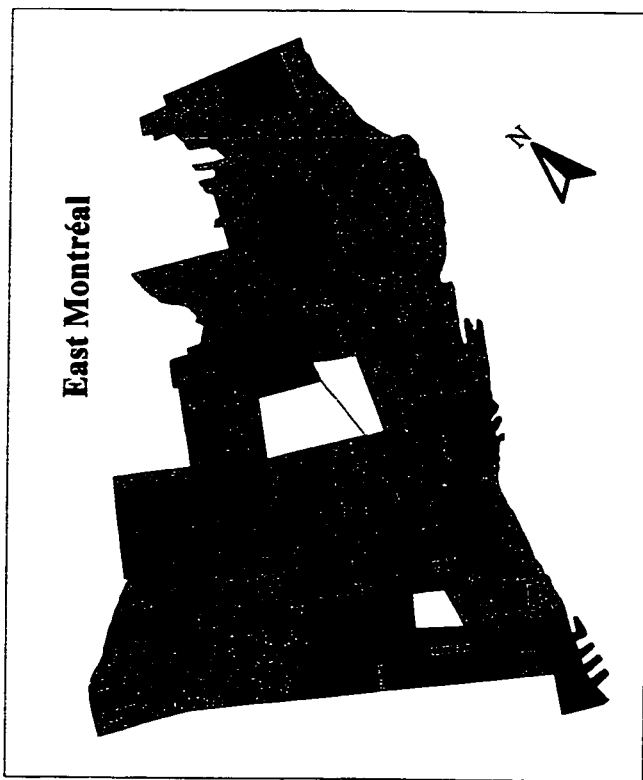
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Figure 6.2-B
Component 2 Scores - 1991
'Education and Work'
Montréal Urban Community - Census Tract Level



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Figure 6.2-C
Component 2 Scores - 1996
'Education and Work'
Montréal Urban Community - Census Tract Level



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Table 6.4

Multiple Deprivation and Distress: A Classification

Category A	Deprived on components 1, 2, and 3 (scores ≤ -1 SD)
Category B	Deprived on components 1 and 2 (scores ≤ -1 SD)
Category C	Deprived on components 1 and 3 (scores ≤ -1 SD)
Category D	Deprived on component 1 and distressed on 2 and 3 (comp. 1 scores ≤ -1 SD and comp. 2 and 3 scores between 0 and -1 SD)
Category E	Deprived on component 1 and distressed on 2 (comp. 1 scores ≤ -1 SD and comp. 2 scores between 0 and -1 SD)
Category F	Deprived on component 1 only (scores ≤ -1 SD)
Category G	Multiple distress (comp. 1 scores between 0 and -1 SD and either of comp. 2 or 3 scores < 0 SD)
Category H	Distress on component 1 only (comp. 1 scores between 0 and -1 SD)

Incidence of Multiple Deprivation and Distress

1986

Category	A	B	C	D	E	F	G	H
Total Tracts – MUC	0	11	5	14	13	29	114	32
East Montréal		3	3	13	3	16	68	3
% of Total		27.3	60.0	92.8	23.1	55.2	59.6	9.4
% of Area's Tracts		1.8	1.8	7.8	1.8	9.6	41.0	1.8
Rest of City		6	2	1	6	11	31	22
% of Total		54.5	40.0	7.1	46.1	37.9	27.2	68.7
% of Area's Tracts		4.2	1.4	0.7	4.2	7.6	21.5	15.3
Outside of Central City		2	0	0	4	2	15	7
% of Total		18.2	0	0	30.8	6.9	13.1	21.9

1991

Category	A	B	C	D	E	F	G	H
Total Tracts – MUC	2	12	10	11	14	25	128	18
East Montréal	2	7	5	6	3	14	72	3
% of Total	100	58.3	50.0	54.5	21.4	56.0	56.2	16.7
% of Area's Tracts	1.2	4.3	3.0	3.6	1.8	8.5	43.9	1.8
Rest of City	0	5	5	3	8	11	39	10
% of Total	0	41.7	50.0	27.3	57.1	44.0	30.5	55.5
% of Area's Tracts	0	3.2	3.2	1.9	5.2	7.1	25.2	6.4
Outside of Central City	0	0	0	2	3	0	17	5
% of Total	0	0	0	18.2	21.4	0	13.3	27.8

Table 6.4 (Cont.)
Incidence of Multiple Deprivation and Distress
1996

Category	A	B	C	D	E	F	G	H
Total Tracts - MUC	1	11	9	10	18	30	130	25
East Montréal	1	4	4	4	4	16	75	7
% of Total	100	36.4	44.4	40.0	22.2	53.3	57.7	28.0
% of Area's Tracts		2.4	2.4	2.4	2.4	9.7	45.7	4.3
Rest of City		5	3	4	12	14	33	16
% of Total		45.5	33.3	40.0	66.7	46.7	25.4	64.0
% of Area's Tracts		3.2	1.9	2.6	7.7	9.0	21.3	10.3
Outside of Central City		2	2	2	2	0	22	2
% of Total		18.2	22.2	20.0	11.1	0	16.9	8.0

Summary: The Percentage of Census Tracts in Each Category by Area

Category	A	B	C	D	E	F	G	H
East Montréal								
1986		27.3	60.0	92.8	23.1	55.2	59.6	9.4
1991	100	58.3	50.0	54.5	21.4	56.0	56.2	16.7
1996	100	36.4	44.4	40.0	22.2	53.3	57.7	28.0
Rest of City								
1986		54.5	40.0	7.2	46.1	37.9	27.2	68.7
1991		41.7	50.0	27.3	57.1	44.0	30.5	55.5
1996		45.5	33.3	40.0	66.7	46.7	25.4	64.0
Outside of Central City								
1986		18.2	0	0	30.8	6.9	13.1	21.9
1991		0	0	18.2	21.4	0	13.3	27.8
1996		18.2	22.2	20.0	11.1	0	16.9	8.0

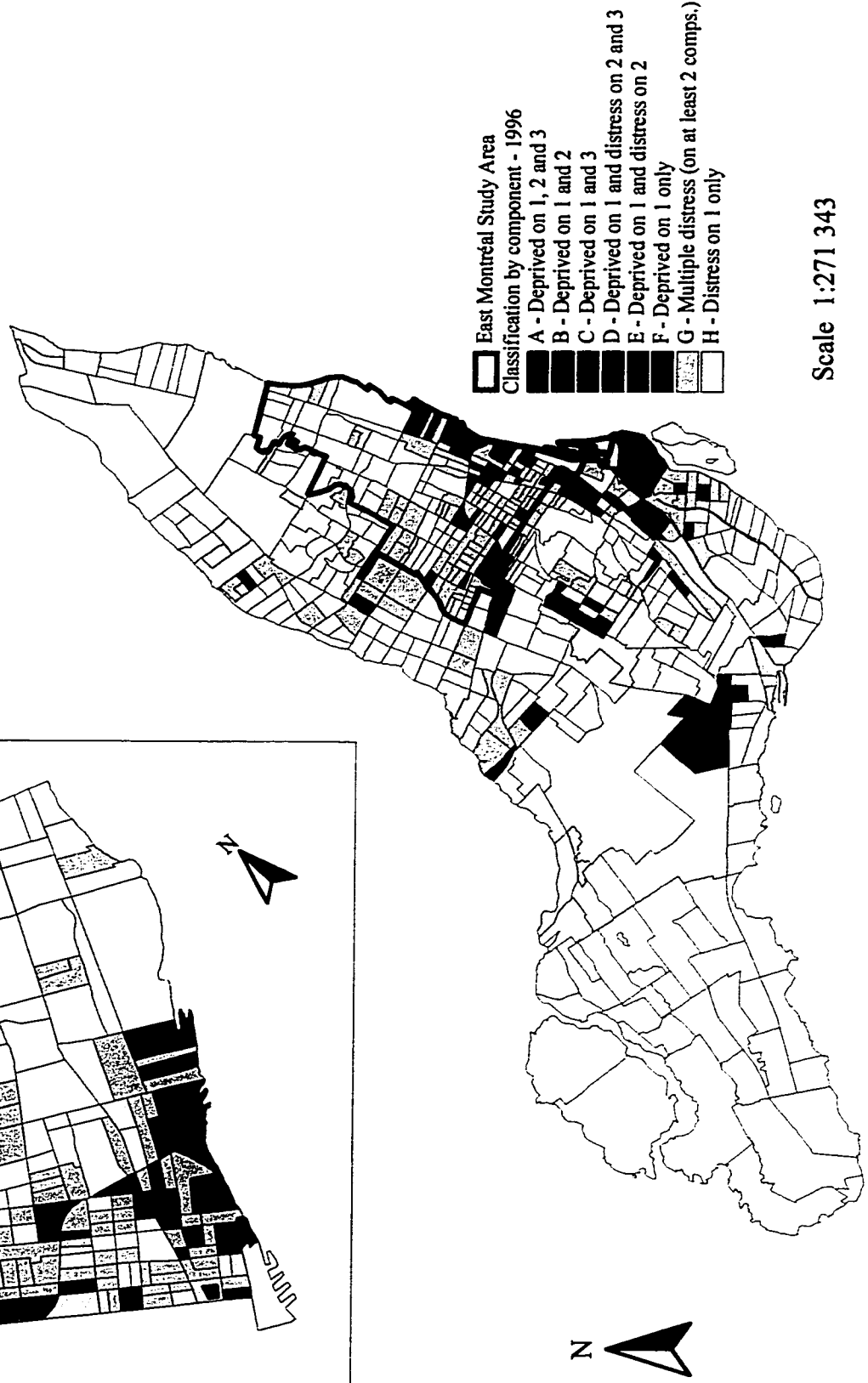
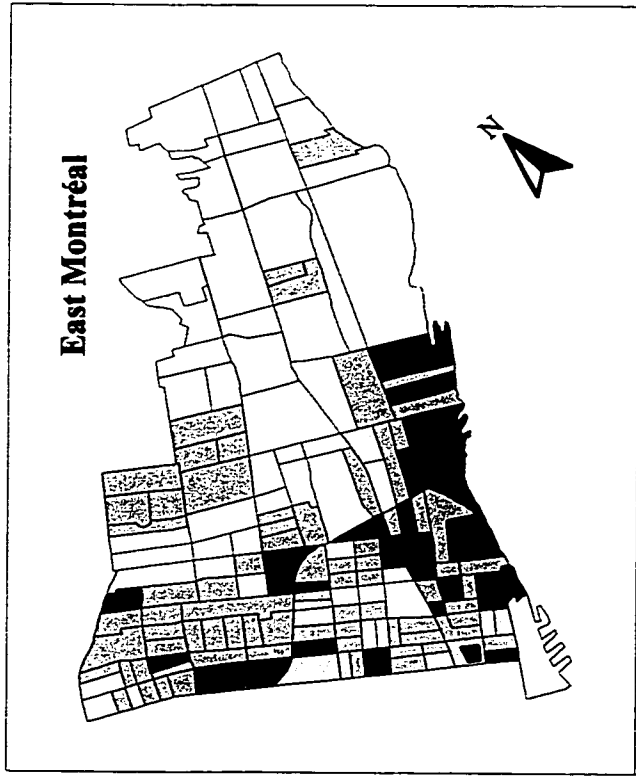
Figure 6.3-A
Multiple Deprivation and Distress - 1986
Scores on Components 1, 2 and 3
Montréal Urban Community - Census Tract Level



Figure 6.3-B
Multiple Deprivation and Distress - 1991
Scores on Components 1, 2 and 3
Montréal Urban Community - Census Tract Level



Figure 6.3-C
Multiple Deprivation and Distress - 1996
Scores on Components 1, 2 and 3
Montréal Urban Community - Census Tract Level



- East Montréal Study Area
- Classification by component - 1996
- A - Deprived on 1, 2 and 3
 - B - Deprived on 1 and 2
 - C - Deprived on 1 and 3
 - D - Deprived on 1 and distress on 2 and 3
 - E - Deprived on 1 and distress on 2
 - F - Deprived on 1 only
 - G - Multiple distress (on at least 2 comps.)
 - H - Distress on 1 only

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CHAPTER 7

URBAN DEPRIVATION IN EAST MONTRÉAL AND THE MUC: AN ANALYSIS OF CHANGE (1986-1991-1996)

Chapter 6 followed a cross-sectional approach by examining a series of ‘snap-shots’ of the study area. In this chapter, a vertical approach (analysis of change) is employed to assess the changing level of urban deprivation in each neighbourhood in East Montréal and the MUC during the period 1986-1991-1996. This method is important when attempting to understand the complex and changing geography of urban areas. As specified in the model of urban deprivation change (figure 5.1), there are three possible dimensions related to the condition of a neighbourhood over a period of time - it can experience decline, it can witness improvement or it can remain stable. The 14 indicators of urban deprivation are analyzed at the census tract level by way of principal components analysis (PCA) to determine the level and geography of urban deprivation change in the study area and surrounding jurisdictions. In the process, the three hypotheses of urban deprivation will be tested: the decline hypothesis (an increase in the presence of urban deprivation in the study area), the improvement hypothesis (a decrease in urban deprivation), and the stability hypothesis (no change).

The chapter is divided into three sections. The first considers the nature and extent of urban deprivation change in East Montréal and the MUC through the analysis and interpretation of principal components loadings and urban change scores. In the second section, the model of urban deprivation is applied directly to the data to examine the level and direction of change in the study area and surrounding jurisdictions. The third illustrates the geography of urban deprivation change through the mapping of change scores.

THE NATURE AND EXTENT OF CHANGE

As described in Chapter 5, the 1986, 1991 and 1996 data sets, consisting of the 14 deprivation variables and all of the standardized census tracts in the MUC, were combined into a single matrix. A PCA was performed on the data and a three-components solution was derived. Table 7.1 shows the loadings for each of the 14 variables. The structure of the data is quite similar to that obtained in the cross-sectional analysis, with the three components accounting for nearly two-thirds of the total variance. Component 1 is again labeled

‘Economic/Family Hardship’ with its high loadings on male and female unemployment, youth unemployment, lone-female parent families, male poverty and low-income families. This dimension of urban change also highlights deprivation among men, with higher loadings on male unemployment and male poverty. Component 2 is again bi-polar and labeled ‘Education and Work’ with its high loadings on labour force participation (particularly female) and the two education variables (less than grade 9 and no high school education). Component 3 is referred to as ‘Population Decline/Old Housing’ with its higher loadings on these two indicators. The advantage of conducting change analysis with PCA on a single matrix is that the component structure is unchanged when comparing areas between time points. As seen with the cross-sectional approach in Chapter 6, the data structure varied slightly between 1986, 1991, and 1996, making comparisons somewhat less precise.

The next step was to examine the extent of urban change in the study area according to the three dimensions. As outlined in the methodology, this was achieved by calculating change scores for each census tract for three time periods: 1986-1996, 1986-1991 and 1991-1996. Table 7.2 displays the mean change scores for these periods in East Montréal, the ‘Rest of City’, and selected municipalities in the MUC. Negative scores signify declining conditions while positive scores point to improving conditions. What is immediately obvious in the table is that during the entire study period (1986-1996) there was significant decline in the MUC on component 1 (C1), substantial improvement on component 2 (C2) and some improvement on component 3 (C3). On the ‘Economic/Family Hardship’ dimension (C1), the average change score for the MUC was -0.625 . All but one of the areas listed in the table experienced declining conditions between 1986 and 1996, with East Montréal (-0.495) recording an average change score lower than the MUC and substantially less than the ‘Rest of City’ (-0.822). As the table indicates, the greatest decline occurred in three suburban municipalities – Montréal-Nord (-1.051), Saint-Laurent (-1.032) and Saint-Léonard (-0.910). Even the West-Island municipality of Pierrefonds witnessed declining conditions during this period (-0.584). Surprisingly, on the ‘Education and Work’ dimension (C2), East Montréal had the second highest positive score (0.765), signifying considerable improvement. With respect to the ‘Population Decline/Old Housing’ dimension (C3), the study area had an average change score (0.298). This was close to those of the MUC and the ‘Rest of City’,

pointing to some improvement during the first study period – population stability and a drop in old housing.

An examination of the change scores for the two sub-study periods (1986-1991 and 1991-1996) reveals several interesting trends. First, between 1986 and 1991, East Montréal experienced virtually no change in its level of 'Economic/Family Hardship' (0.059) while the 'Rest of City' and the MUC as a whole witnessed only slight declines (-0.196 and -0.121 respectively). Among the selected municipalities, the highest negative scores were again found in three suburban communities – Montréal-Nord (-0.490), Saint-Laurent (-0.434) and Pierrefonds (-0.338). As Table 7.2 shows, overall, much of the decline on C1 occurred during the second half of the study period (1991-1996). During this time, most of the areas listed had higher negative scores than the previous five-year period. In particular, East Montréal and the 'Rest of City' witnessed substantially worsening conditions of 'Economic/Family Hardship' (-0.554 and -0.626 respectively), as did Montréal-Nord, Saint-Laurent and Saint-Léonard. Outremont was the only selected area to record a positive score between 1991 and 1996.

Table 7.2 clearly indicates that within the MUC much of the improvement on the 'Education and Work' dimension (C2) occurred during the 1986-1991 period. All of the selected areas registered relatively high positive scores, including East Montréal (0.514), Lachine (0.721), Pierrefonds (0.844) and Outremont (0.811). The table also shows that during the 1991-1996 period, there was a leveling off with respect to change on C2. However, while the score for the MUC indicated virtually no change (0.072), the study area recorded the highest positive score (0.251). Four municipalities experienced at least slightly declining conditions – Montréal-Nord, Pierrefonds, Saint-Léonard, and Outremont. Similarly, on the 'Population Decline/Old Housing' dimension (C3) there was overall improvement during the first five-year period, followed by a flattening of average change scores in the 1991-1996 period. Keeping in mind that component 3 accounted for only 9.5 percent of the total variance and had only two significant variable loadings, this result basically points to the fact that there was a greater fall in the percentage of old housing in MUC neighbourhoods in the first five-year period than in the second.

In summary, the preliminary examination of the nature and extent of urban deprivation change pointed to several key findings. The PCA produced a three-components

solution similar to that in the cross-sectional analysis. Three dimensions of urban change were identified: 'Economic/Family Hardship' (C1), 'Education and Work' (C2) and 'Population Decline/Old Housing' (C3). The first (C1) also highlighted urban deprivation change among males. The analysis of change scores for the three periods 1986-1996, 1986-1991 and 1991-1996 revealed several trends. Overall, during the ten-year period, there was decline (worsening) on the 'Economic/Family Hardship' dimension in the MUC. However, East Montréal suffered less of a decline than other jurisdictions, particularly the 'Rest of City' and several suburban municipalities that recorded much higher negative scores. The analysis indicated that much of the decline on C1 occurred during the second half of the study period (1991-1996), which was consistent with the findings of Chapter 6. There was significant improvement on the 'Education and Work' dimension in the MUC, with East Montréal having one of the highest positive scores. This substantial gain in the study area is in line with the findings of Chapters 4 and 6. The improvement on C2 was evident most during the first half of the study period (1986-1991). Finally, improvement was also noted on C3 in most areas – basically reflecting population stability and a fall in the proportion of old housing. In the next section, the model of urban deprivation change is applied directly to the data to measure the level and direction of change in the neighbourhoods of East Montréal and the MUC.

APPLYING THE MODEL OF URBAN DEPRIVATION CHANGE

One of the objectives of the thesis was to introduce a model of urban deprivation that attempts to reflect the complex and changing geography of urban areas. The model was described in detail in Chapter 5 and consists of three dimensions (improvement, decline and stability) as well as a number of related outcomes. The statistical parameters of the model are outlined in Table 7.3-A. It first establishes the condition of the area in 1986 and 1991, based on component scores – either deprived/distressed or healthy. The model then determines the direction of change over a period of time. Based on their change scores, census tracts are then grouped into a number of categories. As seen in the table, deprived and distressed tracts can experience **severe decline** (category A), **decline** (B), **stability** (C) or **improvement** (D). At the same time, healthy tracts can experience **decline** (E), **stability** (F), or **improvement** (G).

Tables 7.3-B, C, and D show the incidence of urban change according to component 1 'Economic/Family Hardship' for the ten-year period as well as the two sub-periods. Part B of the table indicates that between 1986 and 1996, a total of 48 deprived/distressed census tracts in East Montréal (30.7 %) suffered decline, including 8 severe decline. A further 69 remained stable (23.1 %) while 21 improved (13.5 %). Only 51 tracts in the study area were healthy in 1986 and of these 35 (22.4 %) suffered decline (became less healthy). In total, 53.1 percent of neighbourhoods in East Montréal endured declining conditions with respect to 'Economic/Family Hardship'. This means that in a composite manner, they saw increases in male, female and youth unemployment, lone-female parent families, poverty and low-income families.

The table compares urban change in the study area to the remainder of the City and the suburbs and conveys several interesting results. Incidence of severe decline (A) occurred mostly in the 'Rest of City', while stability (C) and improvement (D) was much more evident in East Montréal. In addition, cases of healthy tracts in decline (E) were more visible in the 'Rest of City'. In total, about two-thirds of all neighbourhoods in the 'Rest of City' (66.9 percent) witnessed decline on C1 compared to 53.1 percent in the study area. Furthermore, only 20 tracts in categories A and B were located outside of the central city. However, the proportion of tracts in Category E (healthy - decline) was split almost evenly between the central city and the suburbs. A total of 46 percent of tracts in this category were located in suburban municipalities with Saint-Léonard and Montréal-Nord prominent on the list.

Tables 7.3-C and D display the incidence of urban change on component 1 for the two sub-periods: 1986-1991 and 1991-1996. When comparing the two tables it is apparent that stability and improvement (C, D, F, G) were more evident in the first period, while the incidence of decline (Categories A, B and E) was significantly higher in the second. This was the case for both East Montréal and the 'Rest of City'. From 1986 to 1991 decline occurred mostly in healthy areas (E - becoming less healthy), while from 1991 to 1996 it was evident almost equally between healthy and deprived/distressed neighbourhoods. In total, during the first five-year period, 21.1 percent of East Montréal's and 32.3 percent of the 'Rest of City's' tracts experienced declining conditions on C1 compared to 51.9 percent and 55.4 percent respectively during the second five-year period.

Tables 7.4-B, C, and D show the incidence of urban change according to component 2 'Education and Work' for the ten-year period as well as the two sub-periods. In Part B of the table it is immediately apparent that the overwhelming majority of census tracts in the MUC saw either stability or improvement on C2 between 1986 and 1996. In fact, only 6 tracts recorded decline. The table also clearly shows that a large number of the study area's neighbourhoods were in Category D – deprived/distressed areas experiencing improvement (46.8 percent of the area's total tracts). Another 33 were in Category G – healthy areas becoming healthier. In total, nearly 68 percent of the census tracts in East Montréal experienced improvement on C2 reflecting primarily a growing level of educational attainment and an increasing rate of female labour force participation in the area. By comparison, the 'Rest of City' had far fewer of its tracts in Category D (35 or 25.2 percent of its total) but about the same number in G (healthy-improvement) and significantly more in F (healthy-stability). In total, 48.2 percent of its neighbourhoods witnessed improving conditions on C2. All of the tracts outside of the central city recorded either stability or improvement with the largest number in Category F (healthy-stability).

As Table 7.4-C reveals, the incidence of change on component 2 for the first sub-period (1986-1991) closely mirrors that of the 10-year period with the large majority of census tracts witnessing improvement or remaining stable. However, a different trend is evident in the second five-year period (Table 7.4-D). Between 1991 and 1996, significantly fewer neighbourhoods in the MUC experienced improvement while a higher number were listed as declining (46). In the MUC and East Montréal, the categories with the largest number of tracts were C (deprived/distressed-stability) and F (healthy-stability). The majority of tracts in Category B were located in the central city – 5 in East Montréal and 2 in the 'Rest of City'. However, in Category E (healthy-decline) 50 percent of the cases were outside of the central city in suburban municipalities.

In this section, the application of the model of urban deprivation change revealed a number of significant trends. Between 1986 and 1996, the large majority of deprived or distressed census tracts suffering decline on the 'Economic/Family Hardship' component were located in the central city. The incidence of severe decline (Category A) was found mostly in the 'Rest of City' while that of decline (Category B) was more apparent in East Montréal. In total, 66.9 percent of all neighbourhoods in the 'Rest of City' (including healthy

tracts – Category E) witnessed declining conditions compared to 53.1 percent in the study area. By contrast, cases of stability and improvement were more evident in East Montréal. Interestingly, nearly half of all healthy tracts suffering decline (Category E) were situated outside of the central city with Montréal-Nord and Saint-Léonard being prominent in this group. When comparing the two sub-periods with respect to ‘Economic/Family Hardship’, it was clear that stability and improvement (Categories C, D, F, G) were more evident in the 1986 to 1991 period, while the incidence of decline (Categories A, B, E) was significantly higher in the 1991 to 1996 period. This was the case for both East Montréal and the ‘Rest of City’.

Between 1986 and 1996, the vast majority of census tracts in the MUC witnessed either stability or improvement on the ‘Education and Work’ component. Nearly 50 percent of East Montréal’s neighbourhoods were in Category D – deprived or distressed experiencing improvement. In total, about 68 percent of tracts in the study area became healthier on this component compared to 48 percent in the ‘Rest of City’. The 1986 to 1991 period was similarly marked by improvement and stability on ‘Education and Work’ while the 1991 to 1996 period saw an increase in the incidence of decline, particularly among healthy areas (Category E). In the next section, the change scores for the two components are mapped to assess the geography of urban deprivation change.

THE GEOGRAPHY OF URBAN DEPRIVATION CHANGE

The geographic pattern of urban deprivation change in East Montréal and the MUC was put into focus by mapping the change scores for Components 1 and 2. Figures 7.1, 7.2 and 7.3 illustrate the spatial distribution of change with respect to ‘Economic/Family Hardship’ for the 10-year study period and the two sub-periods. The first map shows that between 1986 and 1996 declining conditions were apparent throughout a large part of the Island. Deprived and distressed census tracts suffering decline (Categories A and B) were visible primarily in East Montréal and the ‘Rest of City’. Within the latter, they were strongly present in Centre-Sud, St-Henri, a large part of the Sud-Ouest, Côte-des-Neiges, Notre-Dame-de-Grâce, and in Parc Extension to the north. Cases of severe decline (A) were dispersed between the study area and the ‘Rest of City’. As seen in the map, healthy tracts witnessing decline (Category E) were evident largely in suburban areas of the MUC,

including parts of the West Island, and in Dorval, Saint-Laurent, LaSalle, Montréal-Nord and Saint-Léonard.

Figures 7.2 and 7.3 display the geographic distribution of the seven categories of urban change for the two sub-periods on the 'Economic/Family Hardship' component. The map for the 1986-1991 period shows far fewer census tracts in Categories A and B (deprived/distressed – decline) and these were confined more tightly to the core area of the Island. Tracts in Category E (healthy – decline) were visible in the central part of the City of Montréal and in several peripheral suburban locations. Cases of stability and improvement were prominent throughout the MUC. By comparison, the map for the 1991-1996 period clearly demonstrates a spreading out of tracts in Categories A and B in East Montréal, the 'Rest of City' (especially in the south and central parts) as well as in Montréal-Nord and Saint-Léonard. It also shows two isolated cases of severe decline (Category A) in the western part of the Island – one in LaSalle and the other in Pierrefonds. The map also reveals an increased presence of census tracts in Category E, particularly in the study area as well as LaSalle, Verdun, and in the northern most section of the Island (still part of the City of Montréal).

The insets in Figures 7.1, 7.2 and 7.3 provide an enlarged view of urban deprivation change within the boundaries of the study area – East Montréal. All three maps display deprived/distressed tracts (Categories A, B, C, D) in the western and southwestern portions of the study area and healthy tracts (Categories E, F, G) in the northern and eastern sections. Figure 7.1 shows that between 1986 and 1996, there was a pronounced geographic concentration of severe decline (A) and decline (B) on 'Economic/Family Hardship' in the area south of Sherbrooke Street between St. Laurent and Viau Blvds. This declining corridor includes the eastern part of downtown as well as the communities of Terrasse Ontario and Hochelaga-Maisonneuve. However, the map also indicates that this section contained several improving neighbourhoods (D), including the area around Old Montréal. Just to the north, the Plateau Mont-Royal was characterized primarily by stability and improvement (C and D). Another clear pocket of decline (B) was visible in St-Michel in the northern limit of the study area. Furthermore, in East Montréal, there were a number of healthy tracts suffering decline (Category E) and these were visible in parts of St-Edouard, Villeray and Rosemont in the north and Longue-Pointe in the east.

Figures 7.2 and 7.3 illustrate how the geographic pattern of 'Economic/Family Hardship' varied in the study area during the two sub-periods. The maps indicate that the incidence of decline was far more pronounced between 1991 and 1996 compared to the previous five-year period. This was particularly the case in the area south of Sherbrooke Street, where decline (Categories A and B) was less visible between 1986 and 1991. During this period, decline was also less noticeable in St-Edouard, Villeray and St-Michel. Another interesting visual impression was that during the first five-year period, most of the eastern part of the study area was characterized as healthy - stable (Category E), while during the 1991-1996 period it was distinguished by a variable pattern of healthy – decline (E) and healthy – improvement (G).

From the analysis of change, a different geographic pattern appeared with the mapping of component 2 'Education and Work' (Figures 7.4, 7.5 and 7.6). When examining the three maps it is immediately apparent that practically the entire Island of Montréal was characterized by stability and improvement (Categories C, D, F and G) on this dimension. Very few cases of decline (A, B, or E) were evident. As the first map shows, between 1986 and 1996, a large number of healthy census tracts in the West Island and the central part of the 'Rest of City' experienced improvement (G) or remained stable (F). It also displays a band of tracts in Categories C and D (deprived or distressed – stability or improvement) in the south central portion of the Island, which includes the Sud-Ouest (Pointe Saint-Charles) section of the City of Montréal as well as large parts of Verdun, LaSalle and Lachine. Categories C and D were also prominent in Montréal-Nord and the northern tip of the Island.

Overall, this pattern of urban change was also discernable in the 1986 to 1991 period (Figure 7.5). However, as illustrated in Figure 7.6, the 1991 to 1996 period was characterized by a slightly higher incidence of decline on the 'Education and Work' dimension. Ten tracts in Category B (deprived or distressed – decline) were visible in East Montréal and the central part of the Island (two in the 'Rest of City' and one each in Lachine, Côte-Saint-Luc and Saint-Pierre). A number of cases of healthy tracts experiencing decline (Category F) were dispersed throughout the Island including several in the West Island (Pierrefonds, Kirkland and Pointe-Claire) and in Saint-Laurent, Outremont, Westmount, the 'Rest of City' and in the study area.

The insets of these three maps show a closer view of urban change on 'Education and Work' in East Montréal. They clearly indicate that like the Island as a whole, the study area was dominated by cases of improvement and stability, particularly Categories C and D. Surprisingly, even the troubled corridor south of Sherbrooke Street identified above witnessed improvement (D and G) in many of its neighbourhoods. Between 1986 and 1996, there were only two cases of decline in the study area, one in Old Montréal and the other in St-Michel. The maps also display a pronounced concentration of improvement among healthy areas (G) on 'Education and Work' in the Plateau Mont-Royal, consistent with the findings of the data analysis in Chapters 6 and 7. In the northern and eastern sections of East Montréal, the incidence of improvement among deprived or distressed areas (D) was more visible in the first five-year period (1986-1991) while the second (1991-1996) was characterized by stability(C).

In summary, the mapping of change scores for components 1 and 2 illuminated several important geographic patterns of urban deprivation change in East Montréal and the MUC. On 'Economic/Family Hardship', declining conditions were apparent throughout a large part of the Island between 1986 and 1996. Decline and severe decline were visible primarily in East Montréal and the 'Rest of City'. Meanwhile, healthy neighbourhoods suffering decline were evident largely in suburban areas of the MUC including some West Island municipalities. However, a comparison of the maps of the two sub-periods (1986-1991 and 1991-1996), clearly demonstrates an increased incidence of decline on the Island and its spreading out from the core. With respect to 'Education and Work', almost the entire MUC was characterized by stability or improvement. Very few cases of decline were apparent.

Within the boundaries of East Montréal there was a strong presence of decline on 'Economic/Family Hardship' in the urban corridor south of Sherbrooke Street, which includes a part of the downtown and the communities of Terrasse Ontario and Hochelaga - Maisonneuve. There was also a clear pocket of decline in St-Michel, while improvement and stability were visible in the Plateau Mont-Royal. The maps also displayed a number of healthy areas in decline in St-Edouard, Villeray and Rosemont. Furthermore, the incidence of decline was far more apparent in the study area during the 1991 to 1996 period. Like the rest of the Island, East Montréal was characterized by stability and improvement on 'Education and Work', including the distressed southwest corridor.

CONCLUSION

This chapter followed a vertical (analysis of change) approach to examine urban deprivation change in East Montréal and the Montréal Urban Community (MUC) over the period 1986-1991-1996. The multivariate technique of principal components analysis (PCA) was used to measure this change and apply the data to the model of urban deprivation. Compared to cross-sectional studies (Chapter 6), the vertical method is used far less frequently in urban geography, likely due to the problems of data compatibility between censuses (changing variable definitions and changing geographic boundaries). Here, these problems were overcome by employing a concise but consistent set of census variables and by altering some geographic boundaries to permit comparisons between census points.

The data analysis in this chapter uncovered several important and sometimes opposing results. With respect to the nature and extent of change, the PCA produced a three-components solution similar to that in the cross-sectional analysis. Accounting for nearly two-thirds of the total variance, these were identified as 'Economic/Family Hardship' (C1), 'Education and Work' (C2), and 'Population Decline/Old Housing' (C3). Between 1986 and 1996, there was significant and clear decline on C1 in the MUC. While East Montréal suffered decline, it was not as severe as many other jurisdictions, including the 'Rest of City'. The greatest levels of decline were found in three suburban municipalities – Saint-Laurent, Montréal-Nord and Saint-Léonard. Furthermore, decline occurred primarily in the second half of the study period – 1991 to 1996. On the other hand, significant improvement was found in the MUC on C2 'Education and Work', with the study area recording one of the highest positive scores. This improvement happened largely in the first half of the study period – 1986 to 1991. Overall, improvement was also found on C3 'Population Decline/Old Housing'.

When related to the original 14 variables, these findings mean that over the study period, many areas on the Island, including East Montréal, experienced growing levels of male unemployment, female-headed families, male and female poverty and low-income families (C1). Conversely, the large majority of neighbourhoods, particularly those in the study area, witnessed a decrease in the proportion of people with low education (less than Grade 9 and no high-school) and an increase in female labour-force participation (C2). Lastly, there was overall population stability and a fall in the proportion of old housing (C3).

The application of the change scores to the model allowed urban deprivation change to be examined at a more detailed temporal and geographic level. The analysis found that between 1986 and 1996, most deprived/distressed census tracts suffering decline on C1 were located in the central city. Cases of severe decline were more evident in the 'Rest of City'. Furthermore, the total incidence of decline (including healthy areas in decline) was far more pronounced in the 'Rest of City' with about 70 percent of its neighbourhoods in this state compared to about 53 percent in East Montréal. Again, the model found that decline on C1 was apparent primarily in the 1991 to 1996 period, while 1986 to 1991 was characterized by stability and improvement. On C2 'Education and Work', over the ten-year period, the vast majority of census tracts in the MUC either experienced improvement or remained stable. In total, about 68 percent of East Montréal's tracts became healthier on this component compared to 48 percent in the 'Rest of City'.

With respect to the three hypotheses offered for the thesis, the findings from Chapter 7 indicate that the decline hypothesis is supported on the 'Economic/Family Hardship' dimension and that the improvement hypothesis is supported on the 'Education and Work' and 'Population Decline/Old Housing' dimensions.

Finally, the data derived from the model was mapped to provide a visual representation of urban deprivation change. Decline on C1 was discernable throughout a large part of the MUC. The central city contained most cases of decline among deprived/distressed census tracts while decline among healthy tracts was evident largely in suburban areas, including the West Island. A visual comparison of the two sub-periods clearly revealed a spreading out of declining areas from the core of the Island to a larger part of the central city and to the suburbs. On C2, stability and improvement were observed throughout the entire MUC with very few instances of decline. Within East Montréal, there was a noticeable corridor of decline in the southwest communities of Terrasse Ontario and Hochelaga-Maisonneuve. Chapters 6 and 7 followed a quantitative census based approach to the study of urban deprivation in East Montréal and the MUC. In Chapter 8, the project takes a different tack by adopting a qualitative approach. Additional aspects of urban deprivation are explored through a survey conducted with residents in three East Montréal neighbourhoods.

Table 7.1
Principal Components Analysis
(Combined 1986, 1991 and 1996 Data Matrix)

Component Loadings – MUC (Varimax Rotation)

1986-91-96 Variables	Components		
	1	2	3
PopChg	.008	-.246	-.644
MalePart	-.480	-.512	.092
FemPart	-.271	-.735	.167
UnempMale	.843	.192	.118
UnempFem	.720	.265	-.061
YouUnemp	.603	-.085	-.235
Grade9	.338	.776	.109
NoHS-Dip.	.136	.830	-.019
LoneFem	.613	.387	.331
OldHouse	.293	-.224	.742
\$Dwelling	-.148	-.529	-.281
MalePov	.829	.110	.167
FemPov	.563	.472	.076
LowIncFam	.844	.347	.123
% Variance	30.3	22.2	9.5
Cumulative %	30.3	52.5	62.0

Interpreting the Principal Components: Types of Deprivation

Component 1	“Economic/Family Hardship” (Male)
Component 2	“Education and Work”
Component 3	“Population Decline/Old Housing”

Table 7.2

Mean Change Scores* in the MUC, East Montréal and Selected Municipalities: 1986-1991-1996

1986-1996		Components		
Area		1	2	3
MUC		-0.625	0.575	0.282
East Montréal		-0.495	0.765	0.298
Rest of City		-0.822	0.539	0.273
Verdun		-0.602	0.477	0.216
Lachine		-0.573	0.785	0.229
Montréal-Nord		-1.051	0.285	0.421
Saint-Laurent		-1.032	0.499	1.076
Pointe-Claire		0.037	0.378	-0.215
Pierrefonds		-0.584	0.647	0.427
Saint-Léonard		-0.910	0.289	0.361
Outremont		-0.003	0.467	0.161

1986-1991		Components		
Area		1	2	3
MUC		-0.121	0.503	0.259
East Montréal		0.059	0.514	0.231
Rest of City		-0.196	0.485	0.227
Verdun		-0.193	0.349	0.326
Lachine		-0.071	0.721	0.337
Montréal-Nord		-0.490	0.387	0.367
Saint-Laurent		-0.434	0.468	0.319
Pointe-Claire		0.077	0.374	-0.044
Pierrefonds		-0.338	0.844	0.899
Saint-Léonard		-0.325	0.403	0.300
Outremont		-0.347	0.811	0.720

1991-1996		Components		
Area		1	2	3
MUC		-0.504	0.072	0.023
East Montréal		-0.554	0.251	0.067
Rest of City		-0.626	0.055	0.046
Verdun		-0.409	0.128	-0.111
Lachine		-0.503	0.064	-0.109
Montréal-Nord		-0.561	-0.102	0.054
Saint-Laurent		-0.598	0.031	0.757
Pointe-Claire		-0.040	0.004	-0.171
Pierrefonds		-0.246	-0.197	-0.472
Saint-Léonard		-0.585	-0.115	0.060
Outremont		0.345	-0.345	-0.559

* Negative scores signify declining conditions while positive scores signify improving conditions.

Table 7.3

A- Statistical Parameters of the Model of Urban Deprivation Change

Condition 1986 and 1991	Change over Time
	Category
Deprived and Distressed Areas (Negative component scores)	A. Severe Decline (below - 1.5 S.D.) B. Decline (-0.5 to -1.5 S.D.) C. Stability (-0.5 to 0.5 S.D.) D. Improvement (above 0.5 S.D.)
Healthy Areas (Positive component scores)	E. Decline (below -0.5 S.D.) F. Stability (0.5 to -0.5 S.D.) G. Improvement (above 0.5 S.D.)

Incidence of Urban Change – Component 1
“Economic/Family Hardship”

B- 1986-1996

	Deprived and Distressed				Healthy		
Category	A	B	C	D	E	F	G
Total Tracts – MUC	26	84	69	32	152	95	5
East Montréal	8	40	36	21	35	16	
% of Total	30.8	47.6	52.2	65.6	23.0	16.8	
% of Area's Tracts	5.1	25.6	23.1	13.5	22.4	10.2	
Rest of City	15	31	20	10	47	15	1
% of Total	57.7	36.9	28.9	31.2	30.9	15.8	
% of Area's Tracts	10.8	22.3	14.4	7.2	33.8	10.8	
Outside of Central City	3	13	13	1	70	64	4
% of total	11.5	15.5	18.8	3.1	46.0	67.4	80.0
Saint-Laurent		2			5	3	
Saint-Léonard	1	1			13	5	
Montréal-Nord	1		3		12	2	
Verdun		6	2	1	4	4	
LaSalle	1		4		7	4	1
Lachine		2			3	5	
Other Municipalities		2	4		26	41	3

Table 7.3 (Cont.)
Incidence of Urban Change – Component 1
“Economic/Family Hardship”

C- 1986-1991

Category	Deprived and Distressed				Healthy		
	A	B	C	D	E	F	G
Total Tracts – MUC	4	36	111	61	86	154	11
East Montréal	3	15	53	35	15	32	3
% of Total	75.0	41.7	47.7	57.3	17.4	20.8	27.3
% of Area's Tracts	1.9	9.6	34.0	22.4	9.6	20.5	1.9
Rest of City	1	18	37	20	26	36	1
% of Total		50.0	33.3	32.8	30.2	23.4	
% of Area's Tracts		12.9	26.6	14.4	18.7	25.9	
Outside of Central City		3	21	6	45	86	7
% of total		8.3	18.9	9.8	52.3	55.8	63.6
Saint-Laurent		1	1		4	3	1
Saint-Léonard			1	1	10	8	
Montréal-Nord		1	3		7	7	
Verdun		1	6	2	4	4	
LaSalle			4	1	1	9	2
Lachine			1	1	2	6	
Other Municipalities			5	1	17	58	4

D- 1991-1996

Category	Deprived and Distressed				Healthy		
	A	B	C	D	E	F	G
Total Tracts – MUC	18	91	77	25	112	131	9
East Montréal	7	40	38	14	34	23	
% of Total	38.8	43.9	49.3	56.0	30.3	17.5	
% of Area's Tracts	4.5	25.6	24.3	9.0	21.8	14.7	
Rest of City	9	38	23	9	30	30	
% of Total	50	41.7	29.9	36.0	26.8	22.9	
% of Area's Tracts	6.5	27.3	16.5	6.5	21.6	21.6	
Outside of Central City	2	13	16	2	48	78	9
% of total	11.1	14.3	20.8	8.0	42.8	59.5	100
Saint-Laurent		3	1		3	1	1
Saint-Léonard		1	4		9	6	
Montréal-Nord		6	3		3	6	
Verdun		3	4		7	2	1
LaSalle	1				9	7	
Lachine				1	3	6	
Other Municipalities	1		4	1	14	50	8

Table 7.4

A - Statistical Parameters of the Model of Urban Deprivation

Condition 1986 and 1991	Change over Time
	Category
Deprived and Distressed Areas (Negative component scores)	A. Severe Decline (below - 1.5 S.D.) B. Decline (-0.5 to -1.5 S.D.) C. Stability (-0.5 to 0.5 S.D.) D. Improvement (above 0.5 S.D.)
Healthy Areas (Positive component scores)	E. Decline (below -0.5 S.D.) F. Stability (0.5 to -0.5 S.D.) G. Improvement (above 0.5 S.D.)

Incidence of Urban Change – Component 2
“Education and Work”

B -1986-1996

	Deprived and Distressed				Healthy		
Category	A	B	C	D	E	F	G
Total Tracts – MUC		1	98	144	5	116	99
East Montréal		1	33	73	1	15	33
% of Total		100	33.7	50.7	20.0	12.9	33.3
% of Area's Tracts			21.1	46.8		9.6	21.1
Rest of City			27	35	4	41	32
% of Total			27.5	24.3	80.0	35.3	32.3
% of Area's Tracts			19.4	25.2	2.9	29.5	23.0
Outside of Central City			38	36		60	34
% of total			38.8	25.0		51.7	34.3
Saint-Laurent			1	3		5	1
Saint-Léonard			4	3		10	3
Montréal-Nord			11	6		1	
Verdun			8	8		1	
LaSalle			3	5		9	
Lachine			3	5			2
Other Municipalities			8	6		34	28

Table 7.4 (Cont.)
Incidence of Urban Change – Component 2
“Education and Work”

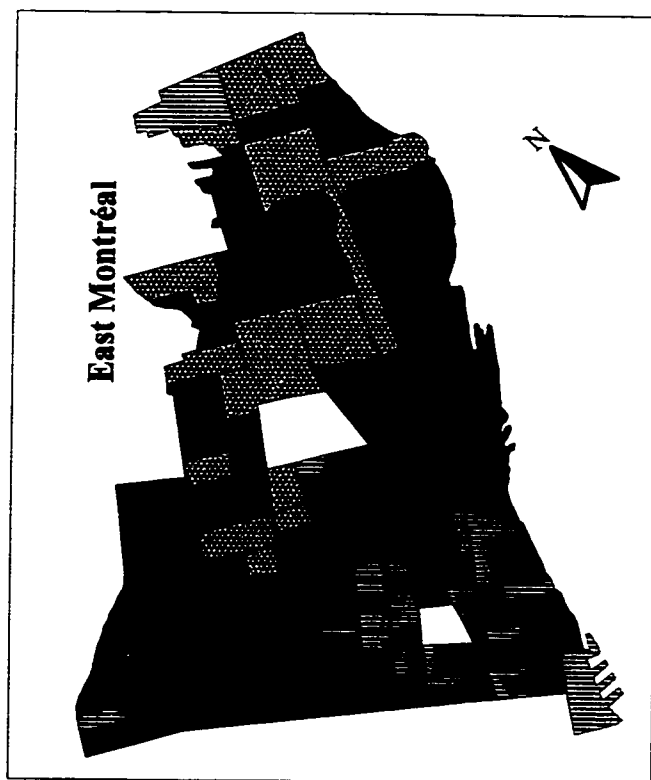
C -1986-1991

Category	Deprived and Distressed				Healthy		
	A	B	C	D	E	F	G
Total Tracts – MUC		1	116	126	6	117	97
East Montréal		1	50	56	2	24	23
% of Total		100	43.1	44.4	33.3	20.5	23.7
% of Area's Tracts			32.0	35.9	1.3	15.4	14.7
Rest of City			30	32	4	45	28
% of Total			25.9	25.4	66.7	38.5	28.9
% of Area's Tracts			21.6	23.0	2.9	32.4	20.1
Outside of Central City			36	38		48	46
% of total			31.0	30.1		41.0	47.4
Saint-Laurent			1	3		3	3
Saint-Léonard			4	3		9	4
Montréal-Nord			10	7		1	
Verdun			9	7			1
LaSalle			4	4		9	
Lachine			2	6		1	1
Other Municipalities			6	8		25	37

D -1991-1996

Category	Deprived and Distressed				Healthy		
	A	B	C	D	E	F	G
Total Tracts – MUC		10	190	51	36	147	29
East Montréal		5	64	28	7	33	19
% of Total		50.0	33.7	54.9	19.4	22.4	65.5
% of Area's Tracts		3.2	41.0	17.9	4.5	21.1	12.2
Rest of City		2	50	14	11	53	9
% of Total		20.0	26.3	27.4	30.5	36.0	31.0
% of Area's Tracts		1.4	36.0	10.1	7.9	38.1	6.5
Outside of Central City		3	76	9	18	61	1
% of total		30.0	40.0	17.6	50.0	41.5	3.4
Saint-Laurent			4	2	3	1	
Saint-Léonard			11		2	7	
Montréal-Nord			17		1		
Verdun			12	4	1		
LaSalle			12	2		3	
Lachine		1	7	1		1	
Other Municipalities		2	13		11	49	

Figure 7.1
Urban Deprivation Change - 1986-1996
Component 1 'Economic/Family Hardship'
Montréal Urban Community - Census Tract Level

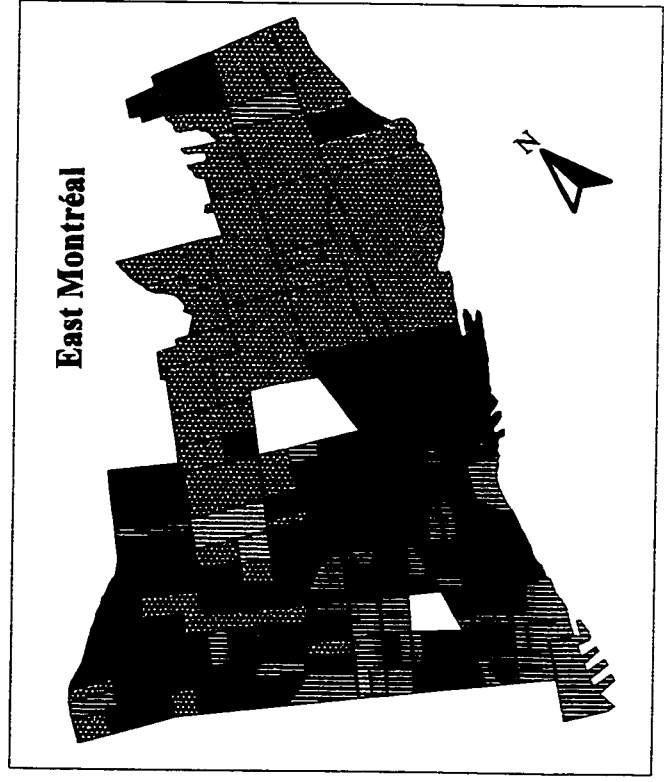


■ Categories A, B, C and D -
 ■ deprived or distressed in 1986
 ■ Categories E, F, and G -
 ■ healthy in 1986

□ East Montréal Study Area
 Urban Deprivation Change - 1986-1996
 A - Severe Decline (below - 1.5 SD)
 B - Decline (-0.5 to - 1.5 SD)
 C - Stability (-0.5 to 0.5 SD)
 D - Improvement (above 0.5 SD)
 E - Decline (below -0.5 SD)
 F - Stability (0.5 to -0.5 SD)
 G - Improvement (above 0.5 SD)
 □ No Data

Scale 1:271 343

Figure 7.2
Urban Deprivation Change - 1986-1991
Component 1 'Economic/Family Hardship'
Montréal Urban Community - Census Tract Level

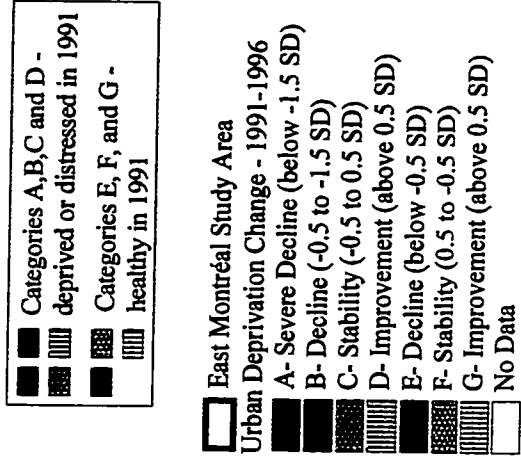
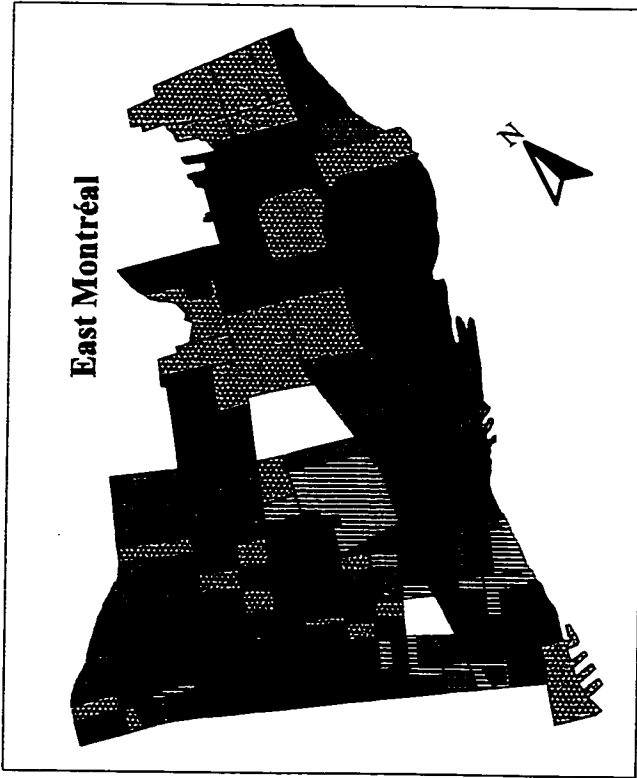


Categories A,B,C and D -
deprived or distressed in 1986
Categories E, F, and G -
healthy in 1986

East Montréal Study Area
Urban Deprivation Change - 1986-1991
A - Severe Decline (below -1.5 SD)
B - Decline (-0.5 to -1.5 SD)
C - Stability (-0.5 to 0.5 SD)
D - Improvement (above 0.5 SD)
E - Decline (below -0.5 SD)
F - Stability (0.5 to -0.5 SD)
G - Improvement (above 0.5 SD)
No Data

Scale 1:271 343

Figure 7.3
Urban Deprivation Change - 1991-1996
Component 1 'Economic/Family Hardship'
Montréal Urban Community - Census Tract Level

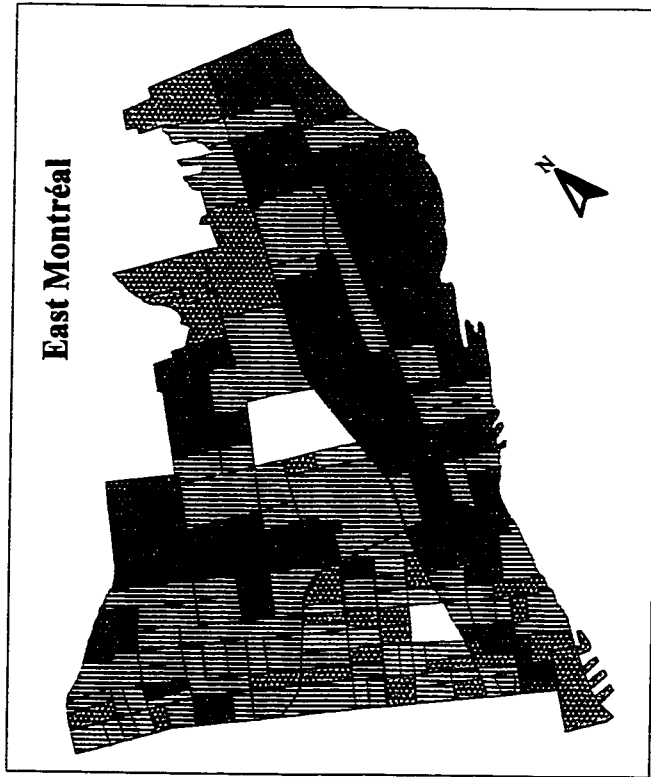


Scale 1:271 343

Figure 7.4
Urban Deprivation Change - 1986 -1996
Component 2 'Education and Work'
Montréal Urban Community - Census Tract Level



Figure 7.5
Urban Deprivation Change - 1986 - 1991
Component 2 'Education and Work'
Montréal Urban Community - Census Tract Level



- Categories B, C and D - deprived or distressed in 1986
- Categories E, F, and G - healthy in 1986

- East Montréal Study Area
- Urban Deprivation Change - 1986 - 1991
- B- Decline (-0.5 to -1.5 SD)
- C- Stability (-0.5 to 0.5 SD)
- D- Improvement (above 0.5 SD)
- E- Decline (below -0.5 SD)
- F- Stability (0.5 to -0.5 SD)
- G- Improvement (above 0.5 SD)
- No Data

Scale 1: 271 343

East Montréal

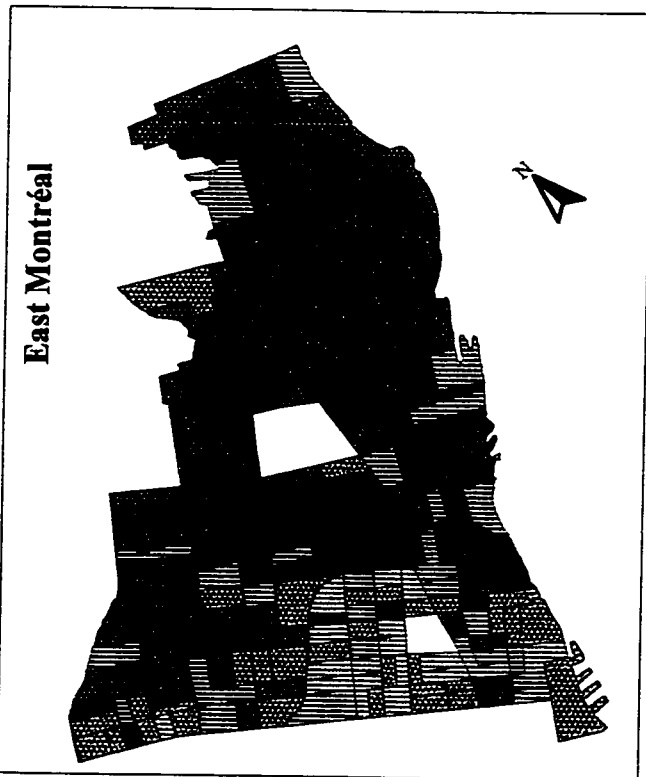


Figure 7.6
Urban Deprivation Change - 1991-1996
Component 2 'Education and Work'
Montréal Urban Community - Census Tract Level



Categories B, C and D - deprived or distressed in 1991
 Categories E, F, and G - healthy in 1991

East Montréal Study Area
 Urban Deprivation Change - 1991-1996
 B- Decline (-0.5 to -1.5 SD)
 C- Stability (-0.5 to 0.5 SD)
 D- Improvement (above 0.5 SD)
 E- Decline (below -0.5 SD)
 F- Stability (0.5 to -0.5 SD)
 G- Improvement (above 0.5 SD)
 No Data

Scale 1: 271 343

CHAPTER 8

URBAN DEPRIVATION IN EAST MONTRÉAL: A SURVEY IN SELECTED NEIGHBOURHOODS

Chapters 6 and 7 used census data to measure the nature and extent of urban deprivation change in East Montréal and the MUC. As seen, the census provides 'hard' information on the demographic, social, economic and housing characteristics of an area. However, it is clear that there are other factors, not included in the census, which should be considered in studies of quality of life and urban change. These include the observations, attitudes and perceptions of residents with respect to their city or community. In this chapter, an additional layer of meaning is added to the study of urban deprivation by examining the results of a survey conducted with residents in three targeted neighbourhoods. The objective is to identify factors related to urban deprivation and urban change that are more subjective or qualitative in nature and to compare these to the results of the census, model-based analysis. The survey was carried out on August 31 and September 1, 1998. A sample of residents was asked a series of questions about their neighbourhood. The chapter is divided into five sections. The first discusses the selection of the three areas, sample sizes and the analysis. The second outlines the demographic characteristics of the survey respondents. The third describes how respondents in the three neighbourhoods rated their communities as a place to live. The fourth examines the results of the questions on neighbourhood condition and change. The final section reviews the findings of the questions on residential preference and community likes and dislikes.

THE SELECTION OF NEIGHBOURHOODS, SAMPLE SIZES AND ANALYSIS

Figure 8.1 displays the location of the three neighbourhoods targeted for the survey questionnaire. They were selected in accordance with the dimensions of change established in the model of urban deprivation in Chapter 7. The first is referred to as 'Jarry' (because of its proximity to Parc Jarry) and is located in the community of Villeray in the northwestern limit of the study area, between St. Laurent Blvd. to the west and the Autoroute Métropolitaine to the north. The neighbourhood was identified as 'healthy' in 1986 but recorded slight decline during the following 10-years. The second neighbourhood is referred to as 'St-Joseph' and is located in the heart of the Plateau Mont-Royal in the west-central part of East Montréal, just north of Sherbrooke Street. It was identified as 'deprived' in 1986 but

experienced improvement over the study period. The third is called 'Ontario' and is located in Hochelaga, part of the distressed corridor south of Sherbrooke Street. This area was found to be 'deprived' in 1986 and suffered severe decline during the following 10 years.

Table 8.1 shows selected indicators for each of the three neighbourhoods. The data clearly reinforce the designations given to the areas: Ontario – severe decline, St-Joseph – improvement and Jarry – slight decline. Between 1986 and 1996, all three experienced population loss, particularly Ontario at –11.3 percent. Ontario also recorded a fall in labour force participation, slight increases in unemployment and low-educational attainment and an astonishing growth of nearly 30 percent in low-income families. Conversely, St-Joseph witnessed significant drops in unemployment, low-education and low-income families and an impressive expansion of over 13 percent in labour force participation. The table indicates that while Jarry is the healthiest of the three areas it nevertheless experienced some decline, with a small increase in unemployment and a growth of just over 3 percent in low-income families.

As discussed in Chapter 5, a multi-stage cluster sampling technique was employed to identify survey respondents in the three neighbourhoods. Each of the census tracts was divided into a number of clusters containing households. Several clusters were randomly selected, as were households within them until the desired sample size was reached. The goal was to achieve a sample size of approximately 5 percent of households in each area. In principal, then, each cluster and by extension each household had an equal chance of being selected. Table 8.2 displays the number of respondents interviewed in each area: 47 in Ontario (5.2 percent of households), 52 in St-Joseph (4.2 percent) and 71 in Jarry (4.6 percent) for a total of 172 (4.7 percent).

The responses from the surveys were coded and inputted into SPSS for Windows. The data were tabulated, categorized and analyzed with simple statistics and through the production of frequency tables. The statistical technique of chi-square was employed to test whether the responses in the categories of several questions were significantly different between the three neighbourhoods. Chi-square is a non-parametric test that operates on data on the nominal scale, in the form of frequencies of observations in discrete categories or classes (Robinson 1998, p. 60).

THE DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Table 8.3 shows the frequency tables for the four demographic questions: gender, age, length of residency and position or job type. With respect to gender, respondents in Ontario and St-Joseph were almost evenly split between males and females, while in Jarry there were slightly more females interviewed (53.3 percent). In terms of age, the table indicates that the largest group of respondents in each of the three neighbourhoods was those aged 25 to 35. Ontario had the largest number of respondents under 25 (about 20 percent) while Jarry had the highest number of seniors (nearly 25 percent).

Table 8.3 also displays the length of residency. In Ontario, nearly 40 percent of respondents indicated that they had lived there three years or less, pointing to a more transitory population in this community. By contrast, 50 percent of respondents in Jarry said that they had lived there for more than 11 years, with almost 37 percent indicating more than 20 years. This is possibly a reflection of the more stable nature of this community. In St-Joseph, there were a fairly even number of respondents in the four categories greater than 1 year. With respect to position or job type, the largest single category in each of the three neighbourhoods was 'retired', including 31 percent of respondents in Jarry. The category with the second largest number of responses in all three areas was 'self-employed'.

RATING THE NEIGHBOURHOODS

The first qualitative question in the survey asked residents to rate their neighbourhood as a place to live. Table 8.4 shows the results for the three areas. Just under 50 percent of respondents in Ontario considered their neighbourhood to be an 'average' place to live while a total of about 45 percent answered 'excellent' or 'good'. Surprisingly, only 3 respondents (6.3 percent) rated it as 'poor' or 'very poor' despite the fact that Ontario is among the most deprived neighbourhoods and recorded one of the highest levels of severe decline in the MUC. The outlook among residents in St-Joseph is obviously much different and in line with the findings of the census analysis. An overwhelming majority of respondents (82.7 percent) rated it as an 'excellent' place to live. The remainder (17.3 percent) replied either 'good' or 'average'. Meanwhile, the residents of Jarry were almost evenly split in rating their neighbourhood as either 'excellent' (43.7 percent) or 'good' (50.7 percent). Figure 8.2 displays a graphic representation of these results in the three communities. The results of the

chi-squared analysis (shown in Table 8.4) indicate that the responses in the three neighbourhoods are significantly different from one another.

Cross-tabulations were performed between two demographic variables and the rating of the neighbourhoods: gender and age group. For the most part, gender was not a factor, with males and females rating their neighbourhoods similarly. The exception was Ontario where a higher percentage of males (21.7) responded 'excellent' compared to females (8.3). Age group was also not significant in the ratings. However, one interesting result was that in St-Joseph, 100 percent of respondents between the ages of 25 and 45 rated the neighbourhood as 'excellent', likely a reflection of the recent influx of young professionals into parts of the Plateau Mont-Royal.

NEIGHBOURHOOD CONDITION AND CHANGE

Tables 8.5 and 8.7 show the results of the question asking residents how their neighbourhood has changed and why. In the case of Ontario, the first table clearly reveals a disparity between the census analysis and the perception of residents. While the model of urban deprivation change pointed to severe decline, only about 15 percent of respondents indicated that the condition of Ontario had declined or worsened. The majority, 55.3 percent, felt that it had stayed the same. In St-Joseph, the quantitative analysis proved to be congruent with the survey results where 50.0 percent of respondents indicated that the area had improved while about 35 percent said that it had stayed the same. The model showed Jarry as a healthy area suffering from slight decline, but the large majority of respondents (nearly 82 percent) indicated that it had either improved or stayed the same. Like the first question, gender was not a factor in the assessment of neighbourhood condition and change, nor was age group. Figure 8.3 charts the results of this question in the three areas. The results of the chi-squared analysis indicate that the responses in the three areas are not significantly different from one-another, suggesting that there was some similarity in the perception of change in the three neighbourhoods.

Table 8.7 summarizes the most frequent reasons why respondents felt their neighbourhood had improved or declined. Very few respondents offered reasons why their community had remained the same; therefore, this category was omitted from the table. In Ontario, those who observed improvement were most likely to attribute it to a calm and

friendly atmosphere (category 6), good services (10), and safety (7). Those indicating decline most often cited youth and neighbour related problems (3) and crime (2). The gentrification and social upgrading of the Plateau Mont-Royal is reflected in the responses given for the improvement of St-Joseph, namely that it is clean and that there are renovations (category 9), that the neighbourhood is close to businesses and restaurants (12) and that it is calm and friendly (6). In Jarry, the most frequently cited response for those indicating that the neighbourhood had improved was also category 9 – clean and renovations. For the small percentage of those who felt the area had declined the most popular reasons were noise (15), crime (2) and youth and neighbour related problems (3).

RESIDENTIAL PREFERENCE AND NEIGHBOURHOOD LIKES AND DISLIKES

Table 8.6 presents the results of the question asking respondents what their residential preference is. It clearly shows that the large majority of residents in each of the three neighbourhoods would like to remain there, suggesting an attachment to their communities and a certain level of satisfaction with them. In St-Joseph, an impressive 90.4 percent of respondents indicated they would like to stay while only about 2 percent said they would like to move. Given Ontario's high level of deprivation and significant decline over the study period, it is telling that just over 70 percent of respondents would, nevertheless, like to remain in that community. This neighbourhood, however, had the highest percentage of those indicating they would like to move (17.0) and those undecided (12.8). Figure 8.4 conveys graphically the results of the question on residential preference. The results of the chi-squared analysis (Table 8.6) show that the responses in the three areas are not significantly different from one-another, reinforcing statistically the notion of residential satisfaction.

Table 8.8 shows the results of the survey question asking respondents to identify the characteristics that they like and dislike the most about their neighbourhood. They were instructed to check up to four characteristics and the total number and percentage are listed in the table. In all three communities, respondents identified more often the characteristics they liked rather than disliked, particularly in Jarry. In Ontario, the most frequently cited 'likes' were cost of housing, access to shopping, access to parks and recreation, and a friendly environment, while the most prominent 'dislikes' were heavy traffic, crime, lack of employment opportunities, and unclear/lack of maintenance. The respondents in St-Joseph

listed similar 'likes' (access to shopping and parks and recreation and a friendly environment) but also frequently identified sense of community as a positive attribute. Their most cited 'dislikes' were essentially the same as Ontario – heavy traffic, crime, lack of employment opportunities and unclear/lack of maintenance. The table indicates that in terms of dislikes, 13.6 percent of total responses in St-Joseph were in the 'other' category in which the high cost of housing (including high rent) was often singled out. Finally, in Jarry, the two most frequently stated 'likes' were access to shopping and safety, followed by clean/well maintained and a friendly environment. As for 'dislikes', a large percentage of responses were listed in the 'other' category in which residents often identified noise (from nearby Dorval airport) and parking and traffic related problems.

The survey included several open-ended questions where residents were given an opportunity to answer without the constraint of pre-determined categories. One of these was the final question (K) where respondents were asked if they had any additional comments or observations about their neighbourhood as a place to live. As expected, a wide range of responses was offered and these were grouped into 19 main categories as shown in Table 8.9. The most frequent responses are highlighted and they generally reinforce the issues and characteristics identified in previous questions. For example, in Ontario, several respondents observed that crime was a problem while others discussed the friendly and sociable atmosphere and the affordability of housing. Given the opportunity to comment further, most respondents in St-Joseph spoke positively of their community emphasizing the quality of life, their neighbours, and how the area is clean and well maintained. However, several again brought up the issue of the high cost of housing. The respondents in Jarry were also generally satisfied, pointing to good access to services and to the friendly, sociable and stable nature of the community. Again, noise, mostly from traffic and the airport was cited as a problem.

SUMMARY AND CONCLUSIONS

The objective of the survey was to explore additional dimensions of urban deprivation that cannot be captured through the census and to assess whether the observations and perceptions of residents in a neighbourhood match the results of the model-based analysis. The survey produced several key findings. Table 8.10 summarizes and compares the principal outcomes from the model of urban deprivation change and the survey questionnaire

in the three neighbourhoods. The results indicate that, generally, residents were satisfied with their communities as a place to live. When asked to rate their neighbourhoods, very few answered 'poor' or 'very poor'. In fact, the majority of respondents in Ontario, a deprived area in severe decline, considered it to be an 'average' or 'good' place to live while almost 15 percent said it was 'excellent'. Another indication of the overall satisfaction of residents was that the large majority in each neighbourhood said that they would like to keep living there.

In St-Joseph, the results of the census analysis were in line with the perceptions of residents. Both indicated that the neighbourhood had experienced improvement. This is likely an indication of the changing social geography of the Plateau Mont-Royal, specifically the attraction of younger professionals and families into the district. Parts of the Plateau have benefited from social upgrading, gentrification and the resurgence of economic activity. The results were incongruent in Ontario where residents felt the neighbourhood had remained the same despite the findings from the model of urban deprivation change, which pointed to severe decline. Almost 30 percent thought that it had improved while just 15 percent said it had declined. The disparity in findings may be partly due to the transitory nature of the population in this community. The survey indicated that Ontario had a high proportion of respondents under 35 (nearly 45 percent) and those living in the neighbourhood less than three years (about 40 percent). At the same time, however, the survey also revealed that 42.6 percent of respondents had lived there for more than 11 years. The model found Jarry to be a healthy area that experienced slight decline. The residents replied that it was a 'good' or 'excellent' place to live and that it had remained the same. The overall impression of Jarry as a stable community is likely a reflection of the respondents, a large proportion of whom had lived there long-term (nearly 50 percent more than 11 years) were older residents (nearly 40 percent over age 55) and retired (31 percent). In summary, it appears that the residents of these three communities were more inclined to recognize or acknowledge improvement and stability than deterioration. However, this outcome puts into question how the concept of urban deprivation should be measured and this issue will be discussed in more detail in Chapters 9 and 10.

The strength of conducting a survey as a complement to census analysis is that it uncovers the tangible aspects of urban life which can only be identified by interviewing residents. A better sense of a community is afforded by gauging what pleases and concerns

the people who live there. The survey revealed that two of the most important attractions in the three neighbourhoods were access to shopping and a friendly, sociable environment. In addition, respondents in Ontario and St-Joseph identified access to parks and recreation as an important 'like'. Interestingly, in terms of concerns or 'dislikes', respondents in each neighbourhood identified the same issues in the same order of importance – heavy traffic, crime, and a lack of job opportunities. These ranked substantially ahead of other issues such as poor housing, lack of services, inadequate schools, and poor access to health care. While crime and lack of jobs are important indicators of deprivation, the listing of heavy traffic as the primary concern suggests that urban deprivation, at least in these three communities, should be considered as more of a relative phenomenon. In the context of the findings of the census and survey analysis, the notion of relative versus absolute urban deprivation will be explored in Chapter 10.

Table 8.1
Selected Indicators for Surveyed Neighbourhoods

	Population	Labour Force Participation	Unemployment Rate	No High-School Dip.	Low-Income Families
Ontario					
1986	2005	53.2	21.1	22.7	35.1
1991	1863	51.0	16.1	19.6	37.5
1996	1779	50.2	23.2	24.7	64.1
% change (86-96)	-11.3	-3.0	2.1	2.0	29.0
St-Joseph					
1986	2135	55.5	18.1	15.3	32.0
1991	1963	62.5	13.1	12.6	28.2
1996	1977	68.7	14.3	9.7	26.5
% change (86-96)	-7.4	13.2	-3.8	-5.6	-5.5
Jarry					
1986	3416	65.6	11.2	14.8	19.5
1991	3204	67.0	10.3	14.5	20.4
1996	3188	66.5	12.5	12.7	22.7
% change (86-96)	-6.7	0.9	1.3	-2.1	3.2

Table 8.2
Survey Respondents (Households) - August 31 and September 1, 1998

Area	Total Respondents	Population 1996	Households 1996	% of Population	% of Households
Ontario	47	1779	895	2.6	5.2
St-Joseph	52	1977	1240	2.7	4.2
Jarry	71	3188	1535	2.2	4.6
Total	172	6944	3670	2.5	4.7

Table 8.3
The Demographic Characteristics of Respondents
Gender

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
Male	23	48.9	25	48.1	33	46.5
Female	24	51.1	27	51.9	38	53.5
Total Responses	47	100	52	100	71	100

Table 8.3 (Cont.)
The Demographic Characteristics of Respondents
Age Groups

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
Under 25	9	19.1	7	13.7	6	8.5
25 to 35	12	25.5	15	29.4	19	26.8
36 to 45	6	12.8	9	17.6	11	15.5
46 to 55	8	17.0	5	9.8	8	11.3
56 to 65	4	8.5	6	11.8	10	14.1
Over 65	8	17.0	9	17.6	17	23.9
Total Responses	47	100	51	100	71	100

Length of Residency in Neighbourhood

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
Less than 1 year	7	14.9	4	8.0	5	7.0
1 to 3 years	11	23.4	12	24.0	12	16.9
4 to 10 years	9	19.1	10	20.0	19	26.8
11 to 20 years	10	21.3	12	24.0	9	12.7
More than 20 years	10	21.3	12	24.0	26	36.6
Total Responses	47	100	50	100	71	100

Current Position or Job Type

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
Student	6	12.8	9	17.6	7	9.9
Retired	10	21.3	10	19.6	22	31.0
Homemaker	4	8.5	2	3.9	4	5.6
Self Employed	9	19.1	11	21.6	10	14.1
Unemployed/social assistance	5	10.6	4	7.8	4	5.6
Labour	4	8.5	1	2.0	3	4.2
Skilled labour	6	12.8	5	9.8	9	12.7
Professional	1	2.1	6	11.8	8	11.3
Other	2	4.3	3	5.9	4	5.6
Total Responses	47	100	51	100	71	100

Table 8.4

How do you rate your neighbourhood as a place to live?

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
Excellent	7	14.9	43	82.7	31	43.7
Good	14	29.8	6	11.5	36	50.7
Average	23	48.9	3	5.8	4	5.6
Poor	1	2.1	0		0	
Very Poor	2	4.2	0		0	
Total	47	100	52	100	71	100

Pearson Chi-Square (.000)

Table 8.5

During the time that you have lived here, how has the overall condition of your neighbourhood changed?

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
Improved	14	29.8	26	50.0	28	39.4
Stayed the same	26	55.3	18	34.6	30	42.2
Declined (worsened)	7	14.9	8	15.4	13	18.3
Total	47	100	52	100	71	100

Pearson Chi-Square (.261)

Table 8.6

What is your residential preference?

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
Stay in this neighbourhood	33	70.2	47	90.4	55	77.5
Move to another	8	17.0	1	1.9	8	11.3
Undecided	6	12.8	4	7.7	8	11.3
Total	47	100	52	100	71	100

Pearson Chi-Square (.099)

Table 8.7
Reasons why the respondent's neighbourhood has improved or declined

Categories of Responses

1	Traffic, cars and parking problems	10	Good services, recreation and transportation
2	Crime – prostitution, drugs, gangs	11	Stability/good quality of life
3	Youth and neighbour related problems	12	Good access to businesses, restaurants
4	Cultural diversity, less racism	13	Not enough businesses, restaurants
5	Poverty, people out of work	14	Neighbourhood/ethnic change
6	Calm, friendly, community spirit	15	Noise
7	Safer, less crime	16	High rent
8	Not clean/inadequate municipal services	17	Alienation/loneliness
9	Clean, renovations, improvement	18	Homes are owned

Most Frequent Responses By Observed Condition of Neighbourhood

Ontario

Observed Condition	Category/Reason	% of Responses
Improved	6 Calm, friendly, community spirit	15.6
	10 Good services, recreation and transportation	12.5
	7 Safer, less crime	9.4
Declined	3 Youth and neighbour related problems	12.5
	2 Crime – prostitution, drugs, gangs	6.2

St-Joseph

Observed Condition	Category/Reason	% of Responses
Improved	9 Clean, renovations, improvement	22.4
	12 Good access to businesses, restaurants	16.3
	6 Calm, friendly, community spirit	8.2
Declined	13 Not enough businesses, restaurants	6.1

Jarry

Observed Condition	Category/Reason	% of Responses
Improved	9 Clean, renovations, improvement	25.0
	10 Good services, recreation and transportation	13.5
	6 Calm, friendly, community spirit	11.5
Declined	15 Noise	5.8
	2 Crime – prostitution, drugs, gangs	3.8
	3 Youth and neighbour related problems	3.8

Table 8.8

What do you like the most about your neighbourhood? (Check up to 4 characteristics)

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
Sense of community	4	2.8	28	14.1	17	6.4
Safe	8	5.5	20	10.0	43	16.3
Employment opportunities	3	2.1	5	2.5	1	0.4
Adequate housing	7	4.9	10	5.0	24	9.1
Access to shopping	20	13.9	37	18.6	44	16.7
Cost of housing	24	16.7	5	2.5	18	6.8
Friendly environment	16	11.1	24	12.1	27	10.2
Clean/well maintained	15	10.4	11	5.5	35	13.2
Access to parks and recreation	19	13.2	33	16.6	19	7.2
Access to schools	10	6.9	10	5.0	15	5.7
Access to health care Facilities	11	7.6	9	4.5	14	5.3
Other	7	4.9	7	3.5	12	2.6
Total	144	100	199	100	264	100

What do you dislike the most about your neighbourhood? (Check up to 4 characteristics)

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
Alienation/isolation	1	0.8	1	0.8	3	2.7
Crime	21	16.4	25	20.0	10	9.2
Inadequate housing	7	5.5	4	3.2	2	1.8
Lack of services	4	3.1	5	4.0	6	5.5
Inadequate schools	1	0.8	1	0.8	3	2.7
Difficult access to shopping	4	3.1	3	2.4	5	4.6
Lack of employment opportunities	16	12.5	11	8.8	10	9.2
Unclean/lack of maintenance	15	11.7	11	8.8	3	2.7
Lack of parks and recreation	12	9.4	4	3.2	7	6.4
Overcrowding/rapid growth	8	6.2	10	8.0	7	6.4
Heavy traffic	24	18.7	26	20.8	24	22.0
Difficult access to health care facilities	8	6.2	7	5.6	0	0
Other	10	5.5	17	13.6	29	26.6
Total	128	100	125	100	109	100

Table 8.9

Do you have any additional comments or observations
about your neighbourhood as a place to live?

Categories of Responses

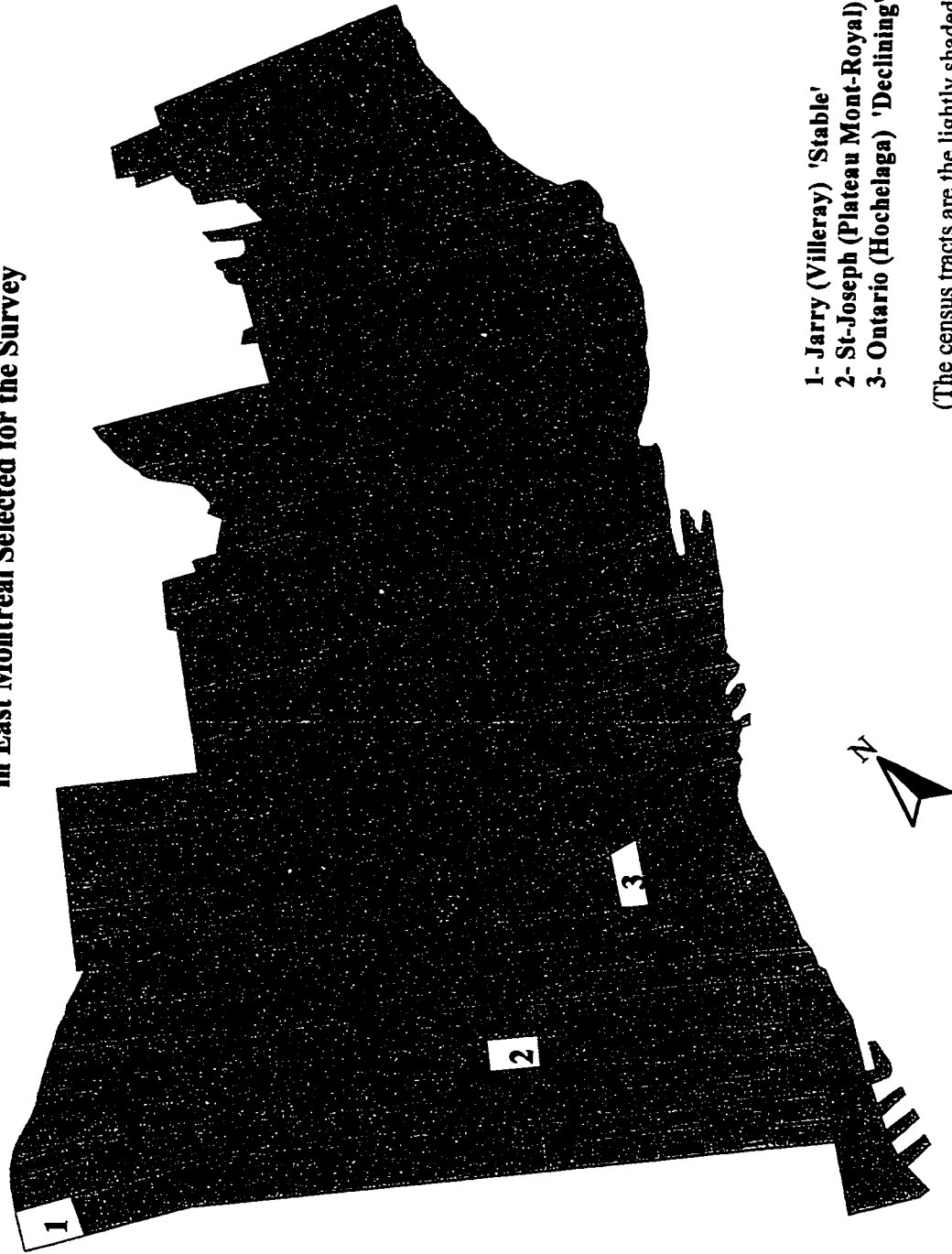
1	Good neighbours, friendly, sociable	11	Clean, maintained, improvement
2	Crime – prostitution, drugs, safety issues	12	Unclean, lack of maintenance
3	Misrepresentation of area – media bias	13	Alienation, isolation, lack of comm. 'spirit'
4	Affordable housing	14	Safe/secure
5	Calm/quiet	15	High cost of housing
6	Good access to services	16	Land-lord related problems
7	Typical neighbourhood/stable	17	Quality of life – diversity, no racism
8	Traffic, cars, parking problems	18	Noise
9	Lack of jobs/social problems – disparities	19	Neighbourhood change as concern
10	Lack of services – municipal, business		

Category	Ontario		St-Joseph		Jarry	
	Frequency	% Total	Frequency	% Total	Frequency	% Total
1	3	10.7	5	11.4	9	15.3
2	5	17.9	2	4.5	1	1.7
3	2	7.1				
4	3	10.7	1	2.3	1	1.7
5	1	3.6	3	6.8	4	6.8
6	1	3.6	2	4.5	10	16.9
7	3	10.7	1	2.3	10	16.9
8	1	3.6	3	6.8	2	3.4
9	1	3.6	3	6.8		
10	2	7.1	2	4.5	5	8.5
11	2	7.1	5	11.4	4	6.8
12	1	3.6			1	1.7
13	2	7.1	1	2.3		
14			1	2.3	2	3.4
15			5	11.4	1	1.7
16	1	3.6	2	4.5		
17			6	13.6	3	5.1
18					6	10.2
19			2	4.5		
Total	28	100	44	100	59	100

Table 8.10
A Comparison of Census Analysis and Survey Based Results: A Summary

Neighbourhood	Urban Deprivation Model Census Indicators	Survey Questionnaire – Selected Results			
		Rating	Condition	Likes	Dislikes
Ontario	Deprived – Severe Decline	Average and Good	Stayed the same	Affordable housing Access to shopping Parks and recreation Friendly	Heavy traffic Crime Lack of jobs Unclean
St-Joseph	Deprived – Improvement	Excellent	Improved	Access to shopping Parks and recreation Sense of community Friendly	Heavy traffic Crime Lack of jobs Unclean Other – cost of housing
Jarry	Healthy – Slight Decline	Good and Excellent	Stayed the same	Access to shopping Safe Clean/maintained Friendly	Heavy traffic Crime Lack of jobs Other – noise and parking

Figure 8.1
The Three Neighbourhoods (Census Tracts)
in East Montréal Selected for the Survey



- 1- Jarry (Villeray) 'Stable'
- 2- St-Joseph (Plateau Mont-Royal) 'Improving'
- 3- Ontario (Hochelaga) 'Declining'

(The census tracts are the lightly shaded areas)

Figure 8.2
How do you rate your neighbourhood as a place to live?

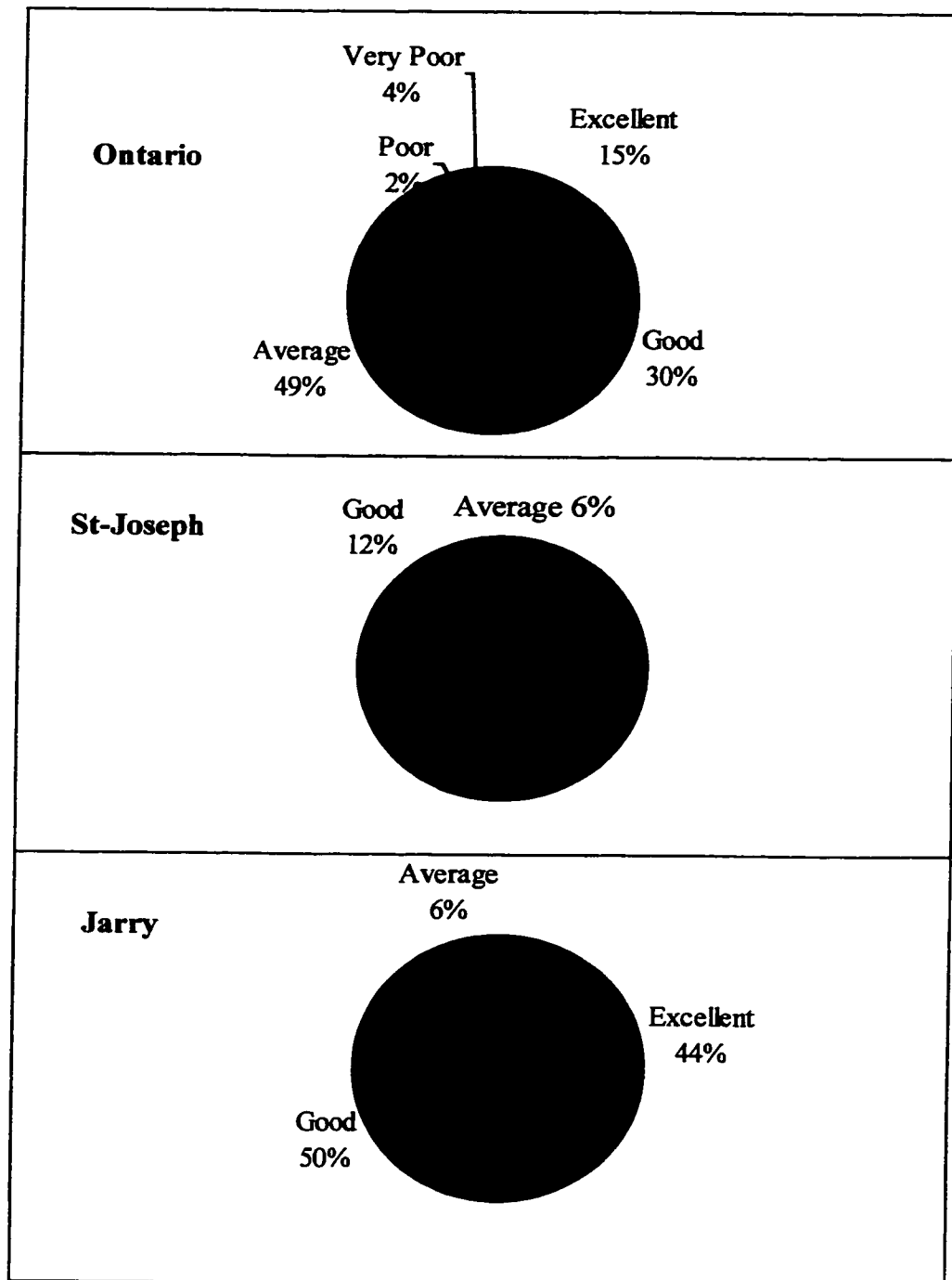


Figure 8.3
Has the condition of your neighbourhood changed?

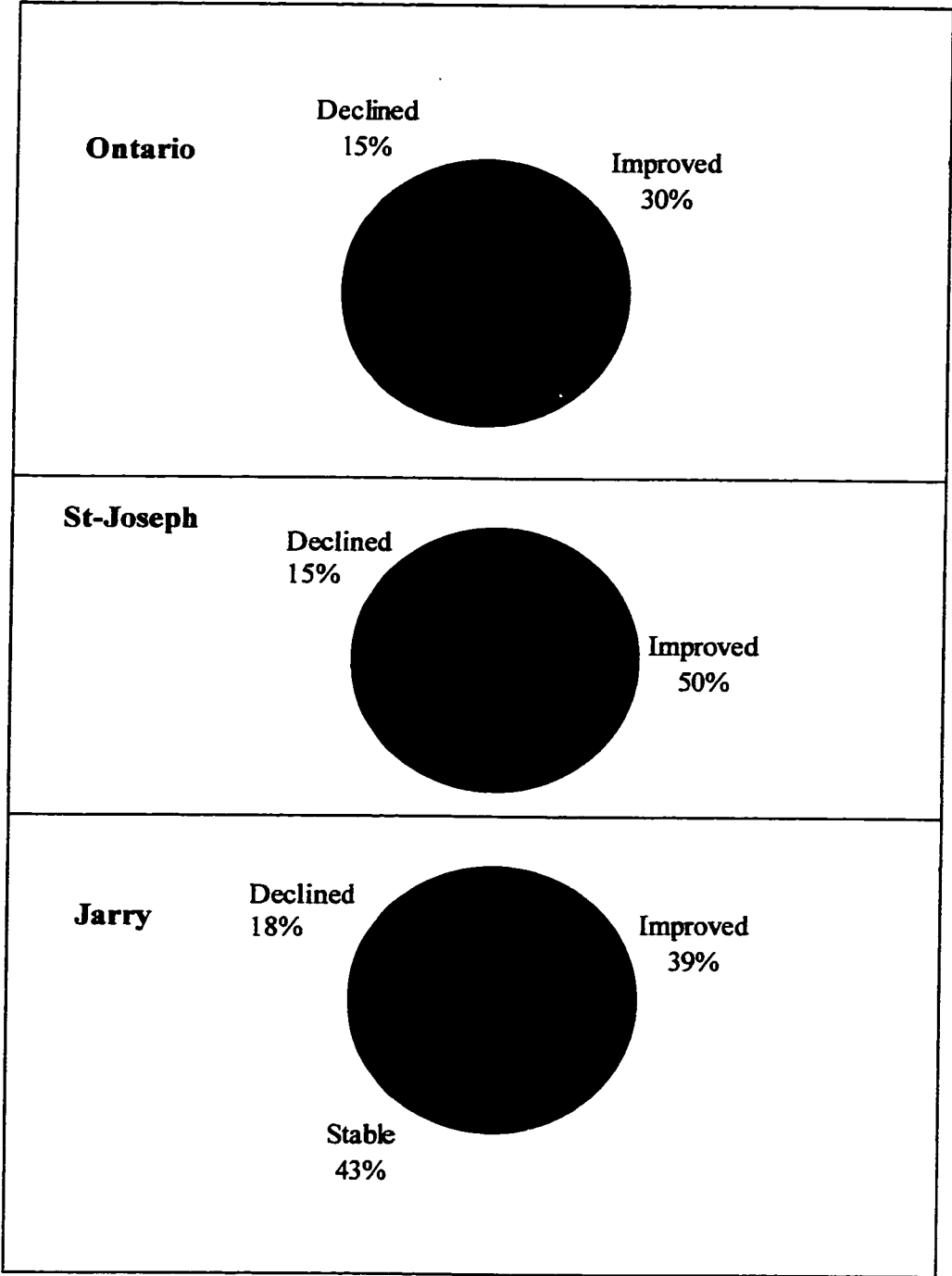
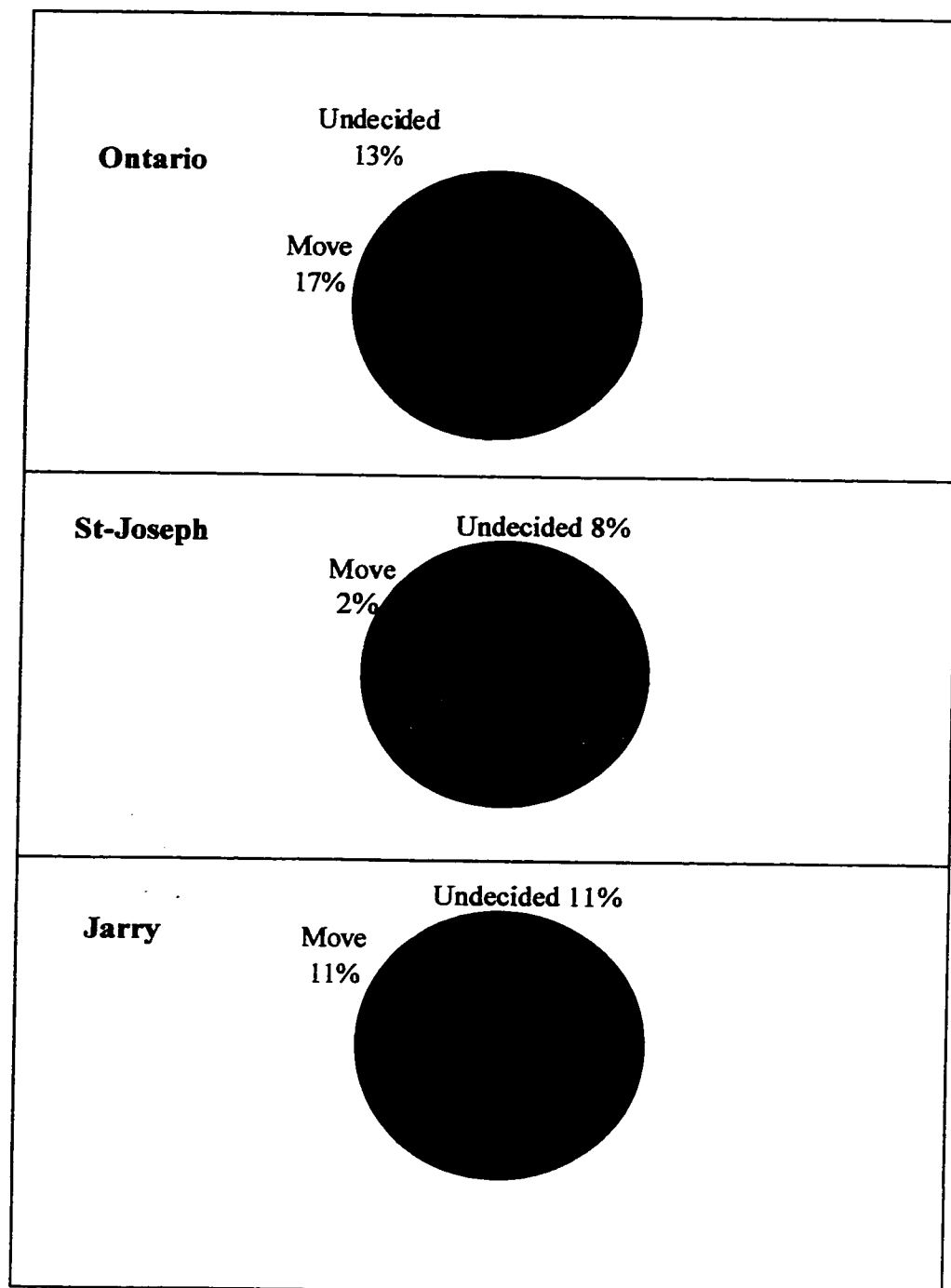


Figure 8.4
What is your residential preference?



CHAPTER 9

CENSUS AND SURVEY ANALYSIS: INTERPRETING THE RESULTS

Chapters 6 and 7 employed census data to examine the nature and changing geography of urban deprivation in East Montréal and the MUC by following cross-sectional and vertical (analysis of change) approaches. Chapter 8 presented the findings of a survey conducted with residents in three neighbourhoods in East Montréal where the aim was to uncover additional aspects of deprivation and quality of life which cannot be captured in the census. A number of significant findings and trends emerged from the analysis and this Chapter will attempt to interpret these in light of the social, economic and political issues affecting the study area and by extension the Montréal region. Chapter 4 provided a comprehensive examination of urban change in the city and several of the issues dealt with will be reviewed here, chiefly, migration, urban sprawl, economic restructuring and public policy. The discussion and interpretation will be organized into several themes corresponding with the major findings of the analysis.

A decrease in the concentration of urban deprivation in East Montréal and a spreading of the phenomenon to the rest of the central city and to suburban municipalities.

The study found that in 1986, urban deprivation, in the form of 'Economic/Family Hardship' was concentrated in East Montréal. However, during the following ten years (1986-1996) there was a clear decrease in its presence in the study area and a significant growth in the remainder of the central city and in some suburban municipalities, including Verdun, Montréal-Nord and Saint-Léonard. Furthermore, the application of the model found that the total incidence of decline (including healthy areas) was far greater in the 'Rest of City', with about 70 percent of its neighbourhoods in this state compared to 53 percent in East Montréal. The highest levels of decline were found in three suburban municipalities – Saint-Laurent, Montréal-Nord, and Saint-Léonard.

These findings led to the improvement hypothesis being supported for East Montréal and the decline hypothesis for the 'Rest of City'. However, the de-concentration of urban deprivation in the study area is largely attributable to the overall worsening of conditions in the entire central city between 1986 and 1996, more so than outright improvement in East Montréal. The census indicators clearly bear this out, showing that the study area had

increases in male unemployment and lone-female parent families and marked growth in male poverty and low-income families. Also, the statistical techniques of standard score analysis and principal components analysis listed the relative position of each neighbourhood in the MUC according to the 14 original variables and pre-determined thresholds for deprivation and health. In short, the cross-sectional analysis (Chapter 6) focused on where neighbourhoods were positioned relative to one another rather than their changing conditions.

Nevertheless, there are a number of important issues that need to be examined with respect to the declining health of Montréal's core area - the central city and several inner suburban municipalities. Some of these were discussed in Chapter 4 and are worth revisiting here. The core area of the city has been adversely affected by the out-migration of an increasing number of French-speaking middle class residents, particularly young families, to suburban areas such as Laval and the South Shore. They are often professionals who are attracted to better paying jobs in the region's growing high-tech industries, which are located primarily in the suburbs. There are also important quality of life and housing related factors that have precipitated this movement, including bigger home lots offering more privacy, better parks and recreation facilities and lower property taxes. As a consequence, the City of Montréal and nearby suburban communities such as Montréal-Nord and Saint-Léonard are becoming home to a growing concentration of vulnerable and disadvantaged groups including the poor, the elderly, the jobless and the ill and this has certainly contributed to their growing levels of deprivation and decline.

Another important issue having a strong impact on the health of Montréal's core area is economic restructuring. As discussed in Chapter 4, this phenomenon involved the rapid disappearance of jobs in traditional manufacturing industries and a growth in service sector employment. In Montréal, like many other cities in North America, this was accompanied by a shift in manufacturing from the central city to the suburbs. Between 1986 and 1996, the City of Montréal witnessed a loss of over 27,000 jobs in manufacturing, of which about 15,000 were in East Montréal. In addition, the central city was not nearly as successful as suburban municipalities in attracting new jobs in emerging sectors, such as high-tech. The area was doubly impacted by the out-migration of many businesses in search of lower taxes and better working conditions in the suburbs, such as Air Canada (to Dorval), Esso Petroleum Canada (to Anjou) and the Bank of Canada to (Ile-des-Soeurs). As Table 4.5

shows, between 1986 and 1996, the City of Montréal experienced significant drops in employment in six sectors: 1. Manufacturing, 2. Finance, Insurance and Real Estate (FIRE), 3. Construction, 4. Transportation, Storage, Communications, and Utility, 5. Trade, and 6. Government Services. The only sector where the central city recorded gains in employment was in 'Other Services'. However, many of the jobs in consumer services are made up of lower paying, unskilled and temporary or part-time work in industries such as tourism and accommodation and cannot be considered as adequate or equivalent replacements for jobs lost in manufacturing or professional services. Overall, during the ten-year study period, nearly 26,000 fewer people were engaged in the workforce in the City of Montréal, including nearly 13,500 in East Montréal.

As mentioned in Chapter 4, the problems of Montréal's central city and several inner suburbs have been compounded by issues such as political fragmentation, public policies encouraging urban sprawl and an unequal distribution of social costs. The Island of Montréal consists of 29 municipalities that are often in heavy competition with one-another over the delivery of municipal services and the generation of revenue. It is widely recognized that the Montréal Urban Community (MUC) is a highly fragmented and inefficient organization lacking the mandate or vision to deal with key urban policy issues, particularly as related to the declining social and economic health of the core area. A related public policy issue contributing to the growing levels of urban deprivation and decline in the core area is Montréal's inability to curb urban sprawl. Over half a million people have left the central city for the suburbs since the early 1970s leading to a steady erosion of its tax base. In addition, thousands of businesses have departed in search of more affluent markets and lower taxes, especially in the off-Island communities.

This out-migration has been aided by provincial governments that have instituted home ownership policies, construction regulations and road building programs that have encouraged an explosive growth of new housing projects in the suburbs where land is inexpensive and property taxes much lower than in the city. Montréal's core area has been affected the most by these issues, primarily in terms of the inequitable distribution of social costs in the region. In particular, the City of Montréal is faced with a number of unique responsibilities in terms of its population. About 75 percent of its residents are tenants; there is a heavy reliance on public transportation; it has larger numbers of single-parent families,

single households and elderly people; it contains a very large concentration of immigrants; and almost one-third of families are living in low-income (The Task Force on Greater Montréal 1993, p. 100). The city has significantly higher spending commitments, particularly with respect to subsidized housing, social assistance and infrastructure maintenance costs. As a result, the City of Montréal generally has a higher property tax rate than suburban municipalities and this has led to the departure of residents and businesses.

In addition to the issues discussed above, three inter-related factors are offered as explanations for the spreading of urban deprivation from East Montréal to the remainder of the central city and to several inner suburban municipalities, and for decline being more prominent in these areas. The first deals with population growth and decline within the central city. The census analysis found that while the majority of neighbourhoods in East Montréal experienced population decline between 1986 and 1996 (a total loss of just over 20,000), most neighbourhoods in the 'Rest of City' witnessed population growth (a total increase of just over 21,000). In the context of the broader issues affecting the central city – the out-migration of middle-class families and professionals, the departure of businesses and significant job losses, it appears that there was a relationship between population growth and the spreading of deprivation and decline. Many neighbourhoods in the western part of the city and in several nearby suburban municipalities came to house greater absolute numbers of deprived people – the poor, the unemployed, single mothers and low-income families. In short, the impact of population change or turnover, (out-migration versus in-migration) was likely greater in the 'Rest of City' than in East Montréal. One area where this is likely a factor is Parc Extension in the northwestern part of the city. With a population of about 30,000 (representing more than 75 ethnic groups) it has by far the highest density among all of Montréal's districts. By the early 1990s, Parc Extension was an urban area in crisis and was considered to be Canada's poorest neighbourhood. It had unemployment rates over 30 percent, inadequate housing, a crime problem, a significant lack of park space and an unclean appearance (Trottier 2000a, p. A6).

As observed in Chapter 4, the mobility of young Québécois has had a strong impact on the city. Many young, jobless Francophones do not choose to leave the province, so Montréal in effect is the 'end of the line' for them and this has contributed to growing levels of unemployment and dependence on social assistance. By contrast, net migration in East

Montréal was negative with far more people leaving (including many families and professionals) than arriving, particularly those that would increase levels of deprivation.

The second factor, directly related to population change, is the effect of immigration on deprivation and decline. As seen in Chapter 4, nearly 60 percent of all recent immigrants (1991-1996) to the Montréal CMA settled in the central city. However, the large majority of these (72.4 percent) decided to live in communities in the 'Rest of City', obviously contributing to population growth there. East Montréal received a relatively small number of recent immigrants. It is likely that the culturally diverse communities in the central and western parts of the city are viewed by newcomers as more 'accepting' places in which to settle, at least initially. The three municipalities recording the greatest levels of decline during the study period also had the highest in-flows of recent immigrants (after of the City of Montréal) – Saint-Laurent (9,465), Montréal-Nord (4,405) and Saint-Léonard (4,210). Within the 'Rest of City' several areas experiencing high levels of deprivation and decline also had large numbers of recent immigrants. These include Côte-des-Neiges and Parc Extension and their adjacent districts as well as a number of downtown neighbourhoods and several areas in the west, north and northwest sections of the city. It is likely that the problems faced by many new immigrants, particularly barriers to employment, affected the social and economic health of these areas. However, it is important to note that outside of these selected areas, the relationship between deprivation and immigration in Montréal is not strong (Germain et al 1995). In fact, research conducted by Ley and Smith (2000) found that deprivation in the city was associated mainly with the Canadian-born.

The third factor accounting for the spread of deprivation and decline is that substantial parts of East Montréal were characterized by improvement and stability between 1986 and 1996. These include the area in and around the Old Port of Montréal, as well most of the Plateau Mont-Royal and several neighbourhoods in the eastern part of the study area in Rosemont, Longue-Pointe, and Tetreaultville. The factors contributing to improvement and stability in these areas are discussed in more detail in the next section.

Pockets of deprivation and decline persist within East Montréal.

The presence of urban deprivation and the incidence of decline were not as prominent in the study area as in the 'Rest of City' and several suburban municipalities. Nevertheless,

the analysis showed a variable pattern of deprived and healthy neighbourhoods within the boundaries of East Montréal. The study revealed a pronounced corridor of deprivation and decline in the area south of Sherbrooke Street, which includes part of the downtown and the communities of Terrasse Ontario and Hochelaga-Maisonneuve. At the same time, the study found that there was a lessening of urban deprivation and significant improvement in the area north of Sherbrooke, particularly in the Plateau Mont-Royal.

The southern corridor of East Montréal, extending from St. Laurent Blvd. in the west to Viau Blvd. in the east, has historically been a French speaking, working class district heavily dependent on employment in nearby factories, rail yards and the Port of Montréal. While still largely low-income, the area flourished during the first half of the 20th century when Montréal was at its economic and industrial peak. The city's container port was a major employer in the area, handling large numbers of Ontario and U.S. bound ships. In addition, the nearby CP Rail Angus shops in Rosemont and the Canadian Vickers shipbuilding yards each employed up to 12,000 people during the height of their operations in the 1950s and 1960s.

However, by the early 1970s, the area began to suffer from the effects of Montréal's decline as Canada's primary metropolis as well as de-industrialization and the decentralization of population and economic activity from the city's core. By the 1980s and 1990s, the southern corridor was affected by thousands of lay-offs as major employers closed including the Angus Yards, Canadian Vickers, Johnson and Johnson and American Can (Sénécal 1998, p. 255). In addition, prominent businesses such as St. Lawrence Sugar, Victor Hudon cotton mill, and W.C. McDonald tobacco shut their doors, and in the early 1980s, British Petroleum, Texaco, Esso and Gulf all closed oil refineries. As mentioned in Chapter 4, the area was dealt a further blow when in 1990 new container facilities were built in Contrecoeur, 25 km downstream, contributing to a drop in the number of container ships loading and unloading at the port in East Montréal.

With economic activity in the corridor dwindling, the population began to fall rapidly. Nowhere was this felt more than in the district of Hochelaga-Maisonneuve where the population plummeted from 82,000 in 1960 to 36,000 in 1991 (Sénécal 1998, p. 256). During the study period, the population of the entire corridor (including Old Montréal) fell by 6 percent from 89,145 in 1986 to 83,885 in 1996, with nearly two-thirds of census tracts

witnessing losses. However, a large number of neighbourhoods in Hochelaga-Maisonneuve had population declines exceeding 10 percent. Furthermore, total employment in the southern corridor dropped by nearly 2,000 over the 10 years, while manufacturing jobs declined by 3,100, representing a 40 percent loss in this once prominent sector.

Within the Montréal region, the southern corridor of East Montréal, for several decades, has stood out as an area with important social and economic problems. This is confirmed in the study by Drouilly (1996) of the city's changing demographic, social, and economic geography. The author showed that between the 1971 and 1991 censuses (5 time points), the area consistently appears as distressed with respect to a number of variables, including unemployment, low education and low-income. According to the data analysis for this project, the southern corridor has a strong concentration of lone-female parent families and residents with low educational attainment. In addition, the model of urban deprivation found that there was a high incidence of decline (worsening) with respect to 'Economic/Family Hardship', particularly increases in male unemployment, male poverty and low-income families. Of the 42 census tracts in the corridor, 26 (nearly two-thirds) suffered decline in categories A and B (severe decline and decline) while 8 were deprived/distressed that remained stable. Only 7 experienced improvement, these being Old Montréal and several neighbourhoods in Terrasse Ontario, close to downtown. As figure 7.2 clearly shows, there was a solid stretch of decline in Hochelaga, south of Ontario Street and in virtually all of Maisonneuve. The survey conducted in one of Terrasse Ontario's neighbourhoods indicated that crime was a major concern for residents, especially theft, drugs and prostitution and these problems appear to be widespread throughout the corridor as reported by the media.

In short, the southern corridor of East Montréal is an older industrial area that felt the full impact of economic restructuring and social change in the Montréal urban region. It is a de-populating area with large tracts of vacant industrial land. In recent years, several initiatives have been undertaken to re-introduce economic activity into the area. These include the re-development of the Angus Yards into a residential and commercial complex and plans to convert vacant land in Hochelaga-Maisonneuve into ecologically friendly recreation and tourist facilities (Sénécal 1995, and Sénécal and Saint-Laurent 1999). As described in Chapter 4, other initiatives in the area include the conversion of some

warehouses in Old Montréal into offices for computer and multimedia firms and the construction of a high-tech recycling plant near the L-H Lafontaine tunnel. In addition, several neighbourhoods have benefited from gentrification and social upgrading, including Old Montréal, with an influx of young professionals and the 'Gay Village' around Ste-Catherine Street in Terrasse Ontario which has seen a resurgence of economic and cultural activity. Despite these events, however, the southern corridor remains a deprived and isolated area within the region. It has generally not benefited from the positive aspects of economic change, primarily the creation of enterprises in emerging sectors such as high-tech. Compared to suburban communities, both on and off the Island, the area has attracted relatively little investment or development from either the public or private sector.

In contrast to the situation in the southern corridor, the project found that several areas within East Montréal experienced significant improvement during the 1986 to 1996 study period. Prominent among these was the Plateau Mont-Royal, situated approximately between Sherbrooke Street in the south and Saint-Joseph in the north and between St. Laurent Blvd. in the west and D'Iberville in the east (see Figure 4.3). The Plateau Mont-Royal is one of the oldest districts in the city and for most of the 20th century provided housing for workers and their families employed in the manufacturing industries in the east end of the city. Like many other older, working-class communities in the city's core, by the 1970s, it had fallen into distress and decline with a diminishing population, high unemployment and a crime problem.

The study found that in 1986, out of the 26 census tracts in the Plateau Mont-Royal 11 were 'deprived', 14 were suffering 'some distress' and only 1 was 'healthy'. By 1996, the situation had improved with 6 tracts now 'healthy', 2 'deprived' and the remainder experiencing 'some distress'. Furthermore, the analysis of change revealed that between 1986 and 1996, 10 tracts had improved, 11 were stable and only 5 witnessed decline. In the late 1980s, the Plateau began attracting young couples and singles who purchased and renovated properties in the community. With the expansion of the region's suburbs and increased housing costs, some centrally located districts, such as the Plateau, became popular for their affordable housing, quality of life, and proximity to downtown. The influx of relatively affluent residents into the area promoted a flurry of new commercial activity including theaters, restaurants, clubs and designer boutiques. Also, in some parts of the area,

there has been a recent surge in the construction of condominiums on vacant and existing lots. The popularity of the Plateau is reflected in its very low residential vacancy rate, less than 3 percent (Dufour 2000, p. A3). The survey conducted in one of its neighbourhoods found that most respondents considered it an excellent community to live in, recognized its improvement and remarked on its cleanliness and renovations.

Declining and worsening conditions evident particularly during the second half of the study period: 1991–1996.

The study found that the incidence of deprivation and decline was far greater in the 1991–1996 period with respect to ‘Economic/Family Hardship’. In particular, there was a marked growth in the incidence of low-income families in East Montréal, the City of Montréal, and the MUC. In addition, the application of the model found that there was a noticeable increase in the number of healthy neighbourhoods experiencing decline during this period.

It is clear that the census offers an invaluable wealth of information about the Canadian population at a number of scales. However, one disadvantage of using census data in time-series analysis is that it provides a ‘snapshot’ of the population at only one point in the census year (June) every five years. As a result, it is not possible to fully determine what occurred in a census area in the intervening years. The census years often represent very different phases in Canada’s economic and social position. This is certainly the case with the three time points in the study period for this project: 1986 – major economic growth and prosperity, 1991– a deep economic recession and 1996 – partial recovery and some growth. These changing conditions should be considered when interpreting the results of the census analysis.

Due to a complex set of factors and issues, the early to mid-1990s was a period of unprecedented change in Canadian society. These years were marked by recession, economic restructuring, the impact of new trade agreements, public and private sector downsizing and a falling standard of living. With the majority of Canadians living in large urban centres, it was these areas, particularly industrial cities such as Montréal, that felt the full brunt of this transformation. The economic recession, which officially began in the second quarter of 1990, lasted longer and had greater long-term unemployment and more permanent job losses

than the 1980-81 recession (Prince 1999, p. 173). At the same time, the forces of economic restructuring and the impact of trade agreements – the Free Trade Agreement (FTA) and later the North American Free Trade Agreement (NAFTA) were being felt across the country. Thousands of jobs were lost as businesses closed or relocated to the United States. The national unemployment rate increased from 8.1 percent in 1990 to 11.2 percent in 1993, before dropping to 9.7 in 1996. In Quebec, the unemployment rate reached an historic high of 13.2 percent in 1993 (The 1999 Canadian Global Almanac, p. 201).

The first half of the 1990s was also characterized by shifts in public policy that had important and direct consequences on the standard of living of Canadians. At the federal level, the Mulroney Conservative Government (1988-1993) and the Chretien Liberal Government (1993-1997) pursued policies of expenditure control and deficit reduction. For example, in 1991, the Conservatives effectively eliminated the universality of the Old Age Security Program (OAS) and ended the federal government's direct contribution to funding the Unemployment Insurance (UI) program. In 1992, it eliminated the Universal Family Allowance (Prince 1999, p. 173). The Chretien government followed the same path of restraint focusing on reducing the country's massive deficit. In their 1995 budget, the Liberals announced program spending cuts of more than \$25 billion over 3 years and the elimination of 45,000 public service jobs (Campbell 1999, p. 114). In addition, the government cut a further \$725 million from the UI program and then replaced it all together with the new Employment Insurance (EI) program. As Prince (1999, p. 181) states

Because of the repeated cuts to UI/EI through the 1990s, as well as changes in the nature of work and the labour market, the proportion of unemployed Canadians who actually receive regular insurance benefits dropped dramatically, from 83 per cent of unemployed Canadians in 1989 to only 42 per cent in 1997. In many cities, the social insurance net shrunk to the point that it offered income protection to 30 per cent or less of unemployed people.

This development obviously had a profound impact on Montréal, a city with chronically high unemployment, and contributed to its growing levels of poverty and low-income between 1991 and 1996.

Prince (1999, p. 174) estimates that the total financial impact from expenditure control measures on federal social program spending was about \$51 billion from 1990-91 to 1995-96, an average of \$8.5 billion a year in cut-backs. Prominently, this included the decreasing share of transfers to other levels of government as a portion of federal social

expenditures. After seeing significant reductions in their payments, the provinces, in turn, were forced to reduce their funding to municipalities. Cities like Montréal were then hard pressed to maintain adequate levels of social services. For example, the city must provide benefits to the nearly 300,000 adults and children in the Montréal CMA dependent on welfare (Chorney 1997, p. 191).

The changing employment picture in the Montréal region is put into focus by comparing census data for the two study sub periods – 1986 to 1991 and 1991 to 1996. The first period saw massive employment growth in the off-Island suburbs (nearly 133,000) and small gains in the MUC. In total, employment in the CMA increased by 10.1 percent from 1.520 million to 1.673 million. By contrast, the 1991-1996 period was marked by slower employment growth in the off-Island suburbs (78,000) and large declines in the MUC (nearly 60,000). During these five years, total employment in the CMA grew by only 1.1 percent from 1.673 million to 1.692 million. It is clear that the events of the early to mid 1990s – the recession, economic restructuring, downsizing and government cut-backs - played an important role in the poor employment situation in Montréal, particularly on the Island, and contributed to growing levels of urban deprivation. Furthermore, the city's recovery from this period was surely complicated by the uncertainty with respect to Québec's future as part of Canada and the 1995 sovereignty referendum. Thomas (1999, p. 155) argues that a growing number of Québécois are aware of the harmful economic impact of political uncertainty, particularly with regard to investors continuing to avoid the province and Montréal.

An increase in the level of deprivation among men.

The analysis revealed that in all areas, including East Montréal, there was a growing level of deprivation among men, with a fall in male labour force participation, an increase in male unemployment and a significant growth in male poverty. This trend was also reflected in the higher loadings for male-related variables in the PCA. By contrast, conditions among women appeared to be improving, with a growth in female labor force participation, a fall in female unemployment, and stabilization in female poverty over the 10-year period. However, it is important to note that in 1996 in all of the jurisdictions studied, the female participation rate was significantly lower than the male rate and female poverty was still slightly higher.

There are a number of possible factors that have contributed to the growing incidence of male deprivation in Montréal. Some of these have been discussed above and include the out-migration of the middle class from the core area, large numbers of recent immigrants settling in the central city, the loss of employment, the deep recession of the early 1990s, public and private sector downsizing and changes to government policy, particularly the UI/EI program. However, it is likely that economic restructuring and changes in work expectations among individuals and families are the leading explanations for this trend.

It is apparent that men suffered from the effects of economic restructuring during the 1980s and 1990s, particularly through the loss of jobs in certain sectors such as manufacturing and construction. Between 1986 and 1996, the total male labour force on the Island of Montréal declined by 3.5 percent from 485,925 to 468,780 while the total female labour force grew by 3.6 percent from 394,715 to 408,960. However, it was job losses in three census occupation groups that highlight the plight of men during this period. Between 1986 and 1996, the total number of males in the MUC employed in machining, product fabricating, assembling and repairing occupations (essentially manufacturing) dropped by nearly 34 percent from 64,490 to 42,755. This clearly reflects the decline of Montréal's traditional industrial base and the shift to a knowledge based economy. Males employed in transport equipment operating occupations fell nearly 33 percent over the 10 years from 26,235 to 17,615. Finally, the city's construction sector was severely affected during the first half of the 1990s by the recession, lay-offs, rising interest rates and stagnating incomes. As a result, the number of males employed in this occupation in the MUC decreased by nearly 70 percent from 30,105 in 1991 to 9,795 in 1996. In fact, the only major construction project during the decade in the city was the Molson Centre hockey arena.

While male employment fell in several occupational groups, it is evident that women were more likely to take up jobs in the service sector. Over the ten-year study period, the number of women employed in sales and service occupations in the MUC increased by nearly 25,000, reaching 100,255 by 1996. As discussed, many of the new jobs created in the service sector were part-time, temporary and lower paying. However, it seems that many men, particularly those formerly employed in manufacturing or construction, were unwilling or unable to make the transition to the service sector, where wages are lower and benefits much weaker. They likely opted to remain on welfare, collect EI or engage in casual work,

possibly in the underground economy. A related factor is the ‘resume gap’ problem, where men and women, who have been out of the work force for a long time, lack the recent experience, skills and references that employers look for when hiring. Added to this situation is strong competition, even for lower paying jobs, from people with higher levels of education, such as recent graduates or university students. It is apparent that the longer a person stays out of the work force the more unemployable they become. However, in recent years, some employers may be giving more favourable consideration to women who have been out of the work force for a period of time due to family responsibilities such as child rearing.

It is evident that a combination of factors led to the increase in deprivation among males in the MUC, particularly between 1991 and 1996. As a result of economic restructuring and the recession, there were significant job losses in three male dominated occupation groups – manufacturing, transport equipment, and construction. While new jobs were created in the service sector, it appears that many men formerly employed in the above occupations were not able to make the transition. The problem was compounded by government cut-backs to social programs, particularly new restrictions placed on employment insurance benefits. At the same time, more women were entering the workforce and willing to take jobs in the service sector, even if they were lower paying and with fewer benefits. In addition, the first half of the 1990s was marked by a falling standard of living precipitated by rising unemployment, stagnating and declining incomes, high interest rates and tax increases. All of these factors contributed to the declining socio-economic position of men in the MUC as seen in rising male unemployment, falling labour force participation and considerable increases in male poverty and low-income families. It should be stressed again, however, that while male deprivation expanded during the study period, in 1996 women in the MUC still fared worse on two indicators – a much lower labour force participation rate (53.8 percent compared to 67.9 percent for men) and a higher rate of poverty (33.4 percent compared to 29.4 percent for men).

Improving levels of education, particularly in East Montréal.

The study found that overall on the Island of Montréal, there was an improvement in the level of education with declines in the proportion of high school dropouts and those

without a grade 9 education. In addition, as seen in Chapter 4, between 1986 and 1996, there was a significant growth in the proportion of the population with a university degree, particularly in East Montréal. Furthermore, while there was overall improvement on the 'Education and Work' component throughout the Island, the study area recorded one of the highest positive scores. This development may be viewed as surprising in light of the significant problems present on the Island, particularly in the core area.

The discourse on economic restructuring often highlights its negative effects on urban areas, in terms of job losses, out-migration and the retention of deprived residents in the central city. However, on the positive side, the process has led to the creation of thousands of new jobs in the service sector and knowledge intensive industries such as software development, and pharmaceutical research where a higher level of education is needed. The skills required to compete in this new economy have encouraged more people to finish high school and to further their education by attending university or college. For example, between 1981 and 1996, full-time enrollment in universities and colleges in Canada expanded from 675,300 to 965,900 while the proportion of the population with a university degree grew from 8.0 to 13.3 percent (The 1999 Canadian Global Almanac, p. 79).

The level of education in Montréal has improved considerably as a result of its changing economy, the development of new technology industries and increasing enrollment in the city's many universities and colleges. Within the central city, the proportion of the population without a high school diploma fell from 44.1 percent in 1986 to 34.2 percent in 1996 while those holding a university degree increased from 11.8 percent to 18.1 percent. Montréal has the highest student population among the 30 largest cities in North America with 4.38 university students per 100 population. Boston is second at 4.37. The city benefits from a significant comparative advantage with 125,000 students enrolled in four universities that also employ 20,000 professors. In addition, there are about 100,000 students attending college in the CEGEP system in Montréal (Macdonald 2000, p. 1).

The analysis in Chapter 7 found that improvement on the 'Education and Work' component was prominent within the central city in both East Montréal and the 'Rest of City'. Within the latter, it is likely that the high number of recent immigrants played a part in the rising level of education. As reported in Chapter 4, this group tends to be better educated with 34 percent of recent immigrants between the ages 25 and 44 holding a university degree

compared to 19 percent of Canadians. East Montréal improved considerably with a 27.5 percent drop in the number of people without a high-school education and a 72.4 percent increase in those having a university degree. The situation in the study area can be attributed not only to economic change and immigration but also to the sizeable influx of better-educated residents into areas such as Old Montréal, the Plateau Mont-Royal and parts of Rosemont. Often, they are recent graduates or young professionals in search of affordable housing in communities close to downtown. With an overall declining population in East Montréal, there is a large supply of such accommodation and many neighbourhoods in the area offer an acceptable quality of life with access to transit, parks and shopping.

An overall satisfaction of residents with their neighbourhoods and a disparity between census and survey results.

The analysis of the survey questionnaire revealed that, generally, the residents of Ontario, St-Joseph, and Jarry were satisfied with their neighbourhoods as a place to live. The majority of respondents in each indicated that they would like to continue to live where they are. In the case of Ontario, there was a clear disparity between the results of the census analysis that displayed severe decline and the survey in which respondents said they felt the neighbourhood had remained the same or even improved.

Two points can be made with respect to these results. The first is that when residents assess the quality of life of their community, they appear to attach greater importance to personal subjective factors than to strict social or economic conditions. In the case of the three neighbourhoods, it is clear that the basic needs of individuals and families are being met, chiefly adequate food, clothing and shelter. No respondents indicated otherwise. As a result, the perceptions and observations of residents tend to deal with issues that are outside the realm of daily survival. For example, two of the most important attractions for residents in the three areas were access to shopping and a friendly sociable environment, while the most often cited problem was heavy traffic. Furthermore, as discussed in Chapter 8, very few respondents referred to concerns related to inadequate housing, poor schools or difficult access to health care.

Secondly, despite all of the problems found in the southern corridor of the study area, the residents of Ontario were clearly satisfied with their community to the point where they

were much more willing to describe its positive attributes than negative ones. While some issues such as crime and employment were raised, the residents of this community did not appear to be cognizant or overly concerned with its high level of deprivation and decline as defined through census analysis. This strongly suggests that studies of urban deprivation and quality of life need to integrate both quantitative and qualitative approaches. From another perspective, the survey results may reflect the difference between ‘people’ deprivation and ‘place’ deprivation. In this case, the residents of Ontario may attribute its social and economic problems to the circumstances of individuals rather than to the place itself. For example, unemployment and poverty are seen as structural issues relevant to the entire region and not problems reflective only of the local area. So, when asked to rate their neighbourhood or list its positive and negative aspects, residents (even if they are deprived) likely will consider their immediate physical surroundings or social relations rather than the broader issues related to their socio-economic status.

The interpretation of the survey data should take several additional factors into consideration. While the aim of the survey was to verify the results of the model of urban deprivation change, only three neighbourhoods were targeted within the vast territory comprising East Montréal. As a consequence, it may be difficult to derive generalizations about urban deprivation from this small selection. Because of the extensive variability that exists within the urban landscape, the results of the survey and its comparison to the census analysis should also be viewed as case specific of the circumstances occurring in each of the three communities. As seen, Jarry is a stable, traditional residential area with a large number of retired and long-term residents. St-Joseph is a neighbourhood undergoing rapid social and economic upgrading with a sizeable influx of young professionals and families. Finally, Ontario is an older industrial community that appears to have a younger, low-income and transient population. Ideally, further verification of the model would involve conducting a survey in additional areas within East Montréal. A different or larger selection of neighbourhoods combined with greater sample sizes may reveal alternative perspectives on urban deprivation and quality of life. At the same time, the questionnaire could be modified to ask questions that deal more directly with issues such as poverty, unemployment, poor housing and crime.

CHAPTER 10

CONCLUSIONS AND DISCUSSION

This project contributes to the literature and research in urban deprivation and urban social geography from three perspectives: outlining an effective methodology and approach for examining the geography of urban deprivation; providing additional insight into the complex concept of urban deprivation; and by revealing several important trends and issues apparent in East Montréal and the Montréal Urban Community (MUC) during the study period. The methodology for the project followed primarily a positivist approach and integrated a number of statistical techniques. It also included a brief survey with a sample of residents in East Montréal. As discussed in Chapter 2, the positivist approach stresses the importance of spatial analysis in geography and is associated with the use of mapping and statistical analysis to conduct quantitative studies.

The primary objective of the study was to examine the nature and changing geography of urban deprivation in East Montréal between 1986 and 1996. As mentioned in Chapter 1, the study area was broadened so that the changes occurring in East Montréal could be compared to the situation in the rest of the Island of Montréal. The development of the methodology included the collection of 14 urban deprivation indicators drawn from the 1986, 1991 and 1996 censuses. The indicators reflect the multi-dimensional nature of the concept, covering its social, economic and housing components. One difficulty in conducting temporal census research is that it limits the number of variables that can be selected due to changes in definitions between censuses. For example, recent immigrants had to be dropped as an indicator because the time frame used to count this group changed from three years in 1991 to five years in 1996. The selection of urban deprivation indicators can be a contentious issue, particularly related to the inclusion of certain population groups, such as single mothers, ethnic minorities or immigrants, as variables. Some researchers and organizations such as the British Department of the Environment contend that an urban deprivation index should include outcome measures of deprivation and not the propensity of certain people to be deprived.

The primary geographic unit for the study was the census tract, which is roughly equivalent to an urban neighbourhood. The small size of census tracts makes them ideal for examining the extensive geographic variability that often exists within urban areas. The data

analysis followed both cross-sectional and vertical (analysis of change) approaches. It was cross-sectional in the sense that the geography of urban deprivation in East Montréal and the MUC was examined as three separate 'snapshots' (1986, 1991 and 1996) and the structure compared from one point to another. The analysis also followed a vertical approach meaning that changes in the nature and level of urban deprivation in each neighbourhood (census tract) were examined and compared during the period 1986-1991-1996. This approach posed certain methodological challenges, including dealing with changing census tract boundaries between years. A consistent geographic coverage was established by joining several census tracts and amalgamating their attribute data.

The methodology also included the design of a model of urban deprivation change. It was applied to the study area and attempted to reflect its complex and changing social and economic geography. The starting point was to identify, through census analysis, which neighbourhoods in East Montréal and the MUC were suffering from deprivation/distress or were healthy in 1986. The next step involved measuring the extent to which each neighbourhood changed over the study period (1986-1991-1996) with respect to improvement, decline or stability. From the application of the model, the geography of urban social change became visible in the study area and illuminated a number of important trends and issues. Several statistical techniques were employed to analyze the data, which included characterizing deprived/distressed and healthy areas and setting the parameters for the model. While descriptive statistics and standard score analysis uncovered initial findings, it was primarily principal components analysis (PCA) and the classification procedure that provided the greatest insight into the complex and variable nature and geography of urban deprivation in the study area. In particular, the strength of PCA was its ability to identify groups of inter-correlated variables and thus to establish independent dimensions or components of deprivation. As described in Chapter 3, many studies on this subject in North America and the U.K. rely on the use of census indicators and techniques such as PCA and factor analysis, which have proved generally effective in measuring the concept and establishing important spatial patterns.

The project also made use of ArcView GIS to provide a visual representation of the changing geography of urban deprivation in East Montréal and the MUC over the 10-year study period. With census data (both spatial and attribute) becoming increasingly available in

electronic format and with GIS software now more accessible, the ability of researchers to conduct advanced spatial analysis in urban social geography has been enhanced. The display of spatial information, including socio-economic data, in visual form is particularly important because of its power as a means of communication. For example, maps are useful in communicating to the reader (academic, citizen, planner, politician), which areas in a city are deprived or suffering decline and should be targeted for assistance. Martin (1996, p. 44) describes how digital maps are used in Britain to assist health authorities and planning departments assess the distribution and needs of the local 'client' population in terms of providing the most appropriate health care services.

Finally, the study also included a survey with residents in three targeted neighbourhoods in East Montréal to serve as a complement to the census analysis and to uncover additional dimensions of urban deprivation and quality of life. Studies combining both census and survey information are infrequent, but adopting this approach could offer researchers a more complete understanding of the nature and geography of urban deprivation. The methodology developed for this project, including the statistical techniques and the model, can be employed as a guide for further research into urban social change in Montréal and other Canadian cities.

The project also contributed additional perspectives on the concept of urban deprivation. In this study, urban deprivation was defined as a set of interrelated conditions and problems experienced in an urban area placing some residents at a relative disadvantage compared to the population as a whole. These conditions and problems are related to social, economic, political, cultural, and housing factors. Figure 3.2 shows a selection of interrelated factors leading to urban deprivation. The study demonstrated the multidimensional character of urban deprivation, with many areas in Montréal suffering from multiple socio-economic problems, including high rates of unemployment, poverty, and low-income, as well as population decline, old housing, and low educational attainment.

A neighbourhood or area is deprived when it experiences conditions (social, economic and housing), which are found to be below a certain threshold, such as the municipal, metropolitan or regional average. In the study, a deprived neighbourhood in East Montréal was one that recorded a higher composite score on a number of variables than the MUC average. For example, on the 'Economic/Family Hardship' component it had higher

than average rates of male and female unemployment, lone-female parent families, male and female poverty and low-income families. Poverty was the principal condition of deprivation. Essentially, a deprived area contains a higher concentration of disadvantaged people. A declining neighbourhood was one where these conditions worsened over the study period. As mentioned, because of the considerable variability that exists within urban regions, the study also examined healthy neighbourhoods. These were areas that recorded a lower composite score on a number of variables than the MUC average. For example, they had lower than average rates of male and female poverty and low-income families. However, as demonstrated in the project, healthy areas also experienced decline.

It is recognized that urban deprivation is largely an economic problem. Pacione (1995) argues that deprivation has two main causes: the low wages earned by people employed in declining traditional industries or employed on a part-time basis, and unemployment experienced by those marginal to the job market. The study showed that the process of economic restructuring played a central role in urban social change and increased levels of urban deprivation. This was a recurring theme in the review of the literature (Chapters 2, 3 and 4) and in the interpretation of the analysis (Chapter 9). In particular, it was the decline in total employment and the loss of jobs in certain sectors such as manufacturing and construction that contributed to the growing incidence of deprivation, both geographically and among groups (such as males). While the study indicated that economic change has positive effects (employment in emerging sectors such as high tech), many of the new jobs created in the service sector, particularly in retail, food and accommodation and tourism are lower paying, often temporary or part-time, and with few benefits. The impact of economic change also has an important geographical signature with job losses in traditional industries most evident within the central city and some inner suburban communities and new jobs in knowledge based sectors appearing in outer suburban areas.

The study also brought forth the notion of relative versus absolute deprivation. It is evident from the review of the literature and the results of the analysis that deprivation should be viewed chiefly as a relative phenomenon. This suggests that, with the exception of the homeless, the vast majority of residents in Montréal, including those living in “deprived” neighbourhoods, have at least their basic needs met – food, clothing and shelter. It is accepted that the amount and quality of these three items varies considerably among the

population. There is an increase in the use of food banks in Montréal and the city has a large number of older homes in need of repair. However, despite these problems, this situation is markedly different from the experience of “absolute deprivation” that is more common in the developing world or in some native reserves in North America where large numbers of people suffer from malnutrition, have serious health problems and live in substandard housing. The idea of “relative deprivation” was reinforced by the findings from the survey in the three neighbourhoods in East Montréal. While most of the concerns and issues raised by residents are important, such as heavy traffic, crime, lack of jobs and noise, they are not indicators of absolute deprivation. Furthermore, as discussed in Chapters 8 and 9, very few respondents referred to housing problems, poor schools or inadequate health care.

A related issue in this discussion is how poverty is measured in Canada and other western countries. Most national statistical agencies have developed indices for determining the number of individuals or families that fall below a certain income threshold, meaning that they are in risk of not meeting minimum standards of living. The U.S. Bureau of the Census uses an official poverty measure. In the 1990 census, the average poverty threshold for a family of four persons was \$12,674 in 1989. By contrast, Canada does not have an official poverty line. Statistics Canada has calculated a low-income cut-off (LICO) for families and individuals, which varies according to the place of residence and the size of the family. For example, as described in Chapter 5, the 1996 census states that a family of four residing in an urban area with a population of 500,000 or more is considered to be living in low-income, if they earned less than \$31,753 in 1995. A number of social agencies and organizations have made estimates about poverty levels in Canadian cities based on the LICO, even though Statistics Canada warns against their use as a measure of poverty. As a result, the extent of poverty in Canadian cities including Montréal is often exaggerated. While many individuals and families living at or below the LICO are experiencing financial difficulty or do not have access to some material goods, they are not necessarily living in full poverty. The project attempted to deal with this issue by retaining the indicator on low-income families but adopting custom variables for measuring male and female poverty based on 1996 census income cut-offs (see Chapter 5). Studies on urban deprivation, which include the analysis of poverty, would benefit significantly from the use of an official poverty measure created by Statistics Canada as a replacement or complement to the LICO.

The third area where the project made a contribution was in the use of the latest data from the 1996 census to reveal several trends and issues evident in East Montréal and the MUC during the study period. The major findings of the analysis were discussed in detail in Chapter 9. Most visibly, there was a spreading of urban deprivation and decline throughout the entire central city and several suburban municipalities including Saint-Laurent, Montréal-Nord and Saint-Léonard. In fact, in 1996, the total incidence of deprivation and decline was greater in the 'Rest of City' than in East Montréal. While large parts of the study area experienced improvement or stability, there was a pronounced concentration of deprivation and decline in the southern corridor, which includes part of the downtown as well as Terrasse Ontario and Hochelaga-Maisonneuve. The study also showed that declining conditions were most evident during the 1991-1996 period and that, overall, there was an increase in the incidence of male deprivation. While these problems were clearly apparent with respect to 'Economic/Family Hardship', there was considerable improvement in the level of education in the MUC, especially in East Montréal.

These developments were precipitated by a number of factors. The core area of Montréal has been adversely affected by the out-migration of middle-class residents (largely Francophone) and businesses to the suburbs, especially to the off-Island. This has been accompanied by substantial job losses in the central city, particularly in the once prominent manufacturing sector. While employment has been created in the service sector, many of the new jobs in consumer services are lower paying with fewer benefits. The area, including East Montréal, has been slower than other parts of the region in benefiting from economic change, particularly in attracting new business in emerging sectors such as information technology. While there was practically no change in the total population of the central city between 1986 and 1996, it came to house greater numbers of disadvantaged and marginalized people, including the poor, the unemployed, single mothers, recent immigrants and low-income families. The social costs of providing for this diverse population, which include social assistance and subsidized housing, have placed the City of Montréal under considerable financial burden.

In summary, the project offers an original contribution from several perspectives. It serves to fill part of the void in the Canadian literature on the multi-dimensional concept of urban deprivation. The thesis introduces a new model of urban deprivation change, which

can be applied to study other cities in Canada and abroad. It blended several approaches, including a cross-sectional examination, an analysis of change and compared the results of these to a brief survey in three targeted neighbourhoods. While research in urban social geography frequently combines survey and census information, very few attempt to directly compare the findings from the two sources, particularly in studies of urban deprivation. The project used data from the latest census to assess the nature and extent of change in the study area over three time points - 1986, 1991, and 1996. It offered a multi-scale approach to the study of urban deprivation ranging from the neighbourhood to a section of the city (East Montréal) and from the central city (the City of Montréal) to the region (the Island of Montréal and the Montréal CMA). The thesis revealed several new trends and issues occurring in the study area and confirmed others. For instance, it showed that urban deprivation is largely an economic problem with restructuring playing a leading role and brought forth the notion of deprivation as a relative phenomenon. As mentioned, the methods and approaches used in the project can be used as a guide for further research.

A number of recommendations are made to reverse the spreading of urban deprivation in the MUC and to improve the quality of life in the central city and to promote economic development:

- There is a pressing need for municipal reform in the MUC to reduce political fragmentation and competition between jurisdictions on the Island. In the process, a coherent and more unified political approach is required for dealing with the problems of the MUC, particularly in the core area. This would include a policy for the sharing of social costs borne disproportionately by the City of Montréal.
- There is a need to curb urban sprawl and encourage growth in the central city. Several initiatives can be undertaken:
 - Reform of the property tax system in the City of Montréal in an attempt to even out the 'playing field' between the central city and the suburbs.
 - Attract families and individuals back to the city's core by offering incentives such as property tax breaks or deferments, by developing more park space and by promoting the advantages of central living (proximity to work, public transit, and quality of life).

- The provincial government should continue to promote and enhance immigration to the Montréal region, particularly in the central city, to benefit from the education, business skills and capital that newcomers bring with them.
- All levels of government – federal, provincial, municipal - need to work in concert to promote economic development on the Island of Montréal. Emphasis could be placed on investing in infrastructure, offering tax incentives to firms, and promoting the advantages of conducting business in Montréal - a large multi-cultural, multi-lingual region with proximity to the U.S. market.

An example of the final recommendation occurred in 2000, when the City of Montréal and the Government of Québec announced that \$42 million would be spent over three years on a multitude of projects aimed at revitalizing 11 of the region's most 'sensitive' districts. These include Pointe-St. Charles, Petite-Bourgogne, Hochelaga-Maisonneuve, Parc Extension, Sainte-Marie and Côte des Neiges. The plan involves the development of projects such as road reconstruction, the installation of pedestrian pathways, the upgrading of parks and the conversion of several older buildings into recreation centres and libraries. The objective is to improve the infrastructure in these areas to attract new investment (Trottier 2000b, p. A6).

With respect to the issue of municipal reform, the Government of Québec, after considering a number of proposals, announced in 2000 that it intended to create the Montréal Metropolitan Community. This new body will be responsible for economic development, social housing, transportation and other services and activities in the metropolitan area. The Community will be administered by a 28-member council divided into four blocks of seven members representing the City of Montréal, the rest of the MUC, Longueuil and the southern region, and Laval and the northern region. The mayor of Montréal will preside over the council (Linteau 2000, p. 567).

The thesis has several limitations. The first is that the urban deprivation index contained a relatively small number of variables - 14. As stated in Chapter 3, Folwell (1993) recommends that a wide range of variables should be included in a deprivation index, particularly when statistical techniques such as factor analysis or principal components analysis are employed. As mentioned, however, the selection of indicators was narrowed by changes in definitions between censuses and the unavailability of some variables. Another

limitation is that the methodology followed primarily a quantitative approach, which at times proved to be complex and ran the risk of abstracting from the urban landscape through the use of statistics. Also, the three census years used in the analysis – 1986, 1991 and 1996 represented very different time points with respect to economic and social conditions in Montréal and in Canada. As a result, a precise accounting and interpretation of the elements of change over the study period proved difficult.

A further shortcoming of the research project was the small size of the survey sample in the three neighbourhoods of East Montréal. While the survey did reveal several important trends and issues, a larger sample, perhaps twice the size would have strengthened the conclusions emanating from the study, particularly when compared to the results of the census analysis. It would have also permitted a more detailed examination of the relationship between the demographic characteristics of the respondents and the elements relating to urban deprivation and quality of life. While approximately five percent of households were interviewed in each of the three areas, achieving a larger sample size was constrained by limited financial resources. Another possible weakness of the study was that the techniques employed did not permit the problem of the ecological fallacy to be fully explored. Specifically, that not all people living within a deprived neighbourhood are experiencing this condition and that the boundaries delimiting a neighbourhood (census tract) can be viewed as somewhat artificial.

Finally, there are a number of avenues that can be pursued for future research into urban deprivation. In Montréal, the study area could be broadened to include the entire census metropolitan area (CMA) thus permitting an investigation of the nature and extent of urban deprivation on the Island as well as in the north and south shore suburbs. A study of deprivation in the city could be conducted for a single census year – 1996. This would permit a larger number of variables to be added to the analysis, including recent immigrants, housing needing major and minor repairs, density, rent payments, as well as indicators on ethnicity and language. Also, research could be done on segments of the population, such as seniors or immigrants, who may face unique problems and issues. The model of urban deprivation change could be applied to other Canadian cities such as Toronto, Vancouver, Hamilton, and Winnipeg. The structure and dimensions of urban deprivation and their

geographical patterns could be compared among several cities to acquire a better understanding of the dynamics of urban social change in Canada.

Additional study could be conducted into the subjective or qualitative aspect of urban deprivation by using more extensively information from survey questionnaires. Larger numbers of neighbourhoods or districts could be targeted and greater sample sizes sought. Research could be pursued on how residents perceive urban deprivation. Do they view it largely as an economic issue or do they focus on social and inter-personal factors? Do they emphasize access to material goods? Is deprivation a structural or geographical problem? The issue of people deprivation versus place deprivation could be explored further as well as how the process of urban decline is perceived.

There is potential for further research into the association between urban deprivation and health. With the growth of urban areas in North America and as the population ages, more insight will be needed into the geography of vulnerable and disadvantaged people in the context of health related issues. These may include the spatial link between disease and the urban environment; the location of health facilities; and the delivery of home care services to groups with special needs such as the disabled or seniors. From an exploratory viewpoint, research could also be conducted into the relationship between urban socio-economic trends and health factors such as diet, illness, stress and other aspects of emotional and social well-being. From a technical perspective, the geography of urban deprivation could be further explored by conducting an explicit spatial analysis of the data from this project or a future study. For example, an auto-correlation test could be performed on the 14 indicators of deprivation for all of the census tracts in the MUC to examine the spatial relationship between areas and to establish any geographic patterns.

BIBLIOGRAPHY

- Allentuck, A. (1994): "Costs Turn City Cores Into Holes in Urban Doughnuts" The Globe and Mail. April 26, p. B25.
- Badcock, B. (1996): "Looking-Glass Views of the City" Progress in Human Geography. vol.20, no.1. pp. 91-99.
- Bagnall, J. (1996): "University-Industry Connection Draws Bright Lights to McGill Laboratory" The Montreal Gazette - Montreal 2000. April-May, p. 13.
- Bauch, H. (1996) "Quebec City vs. Montreal" The Montreal Gazette - Montreal 2000. May-April, p. 24.
- Beauregard, R.A. (1989): "Space, Time, and Economic Restructuring" Economic Restructuring and Political Response. ed. R.A. Beauregard. Newbury Park, California, Sage Publications, Inc.
- Beauregard, R.A. (1993): Voices of Decline: The Postwar Fate of US Cities. Oxford, Blackwell.
- Becker, D. (1998): "East-Enders Hoping for Comeback" The Montreal Gazette. November 13, p. A8.
- Black, J.T. (1980): "The Changing Economic Role of Central Cities and Suburbs" The Prospective City. ed. A.P. Solomon. Cambridge, The MIT Press.
- Bluestone, B and B. Harrison (1982): The Deindustrialization of America: Plant Closings, Community Abandonment and the Dismantling of Basic Industry. New York, Basic Books Inc.
- Bluestone, B and B. Harrison (1988): The Great U Turn: Corporate Restructuring and the Polarizing of America. New York, Basic Books Inc.
- Bourne, L.S. (1980): "Alternative Perspectives on Urban Decline and Population Deconcentration" Urban Geography. vol.1, no. 1. pp. 39-52.
- Bourne, L.S. (1989): On the Spatial Structure of Metropolitan Areas in Canada: A Discriminant Analysis. Research Paper no. 172. Centre for Urban and Community Studies, University of Toronto.
- Bradbury, K., A. Downs and K. Small (1982): Urban Decline and the Future of American Cities. Washington, The Brookings Institution.

- Bradbury, K. (1984): "Urban Decline and Distress: An Update" New England Economic Review. July/August. pp. 39-55.
- Bradford, M.G., B.T. Robson, and R. Tye (1995): "Constructing an Urban Deprivation Index: A Way of Meeting the Need for Flexibility" Environment and Planning A. vol. 27, pp. 519-533.
- Broadway, M.J. (1989a): "A Comparison of Patterns of Urban Deprivation Between Canadian and U.S. Cities" Social Indicators Research. vol. 21. pp. 531-551.
- Broadway, M.J. (1989b): "The Persistence of Urban Deprivation: The Example of Wichita, Kansas, in the 1970s" Growth and Change. 20. pp. 50-61.
- Broadway, M.J. (1992): "Differences in Inner-City Deprivation: An Analysis of Seven Canadian Cities" The Canadian Geographer. vol. 36, no. 2. pp. 189-196.
- Broadway, M.J. and G. Jesty. (1998): "Are Canadian Inner Cities Becoming More dissimilar? An Analysis of Urban Deprivation Indicators" Urban Studies. vol. 35, no. 9, pp. 1423-1438.
- Bryan, J. (1997): "Jobless Figure for Island Raises Questions" The Montreal Gazette. February 8, p. D3.
- Burchell, R.W. and D. Listoken (1981): Cities Under Stress: The Fiscal Crisis of Urban America. Rutgers, The State University of New Jersey.
- Cadwallader, M. (1996): Urban Geography: An Analytical Approach. New Jersey, Prentice Hall.
- Came, B. (1996): "Storm War: Political Uncertainty and Economic Decline Hit Montréal" MacLean's. March 4.
- Campbell, R.M. (1999): "The Fourth Fiscal Era: Can There be a 'Post-Neo-conservative' Fiscal Policy?" How Ottawa Spends 1999-2000. ed. L.A. Pal. Don Mills, Oxford University Press. pp. 113-145.
- Carter, H. (1995): The Study of Urban Geography. London, Arnold.
- Cardinal, F. (1999): "Investissement de 3,8 millions dans le Société de développement Angus" Le Devoir. 30 novembre, p. A7.
- Cater, J. and T. Jones (1989): Social Geography. London, Edward Arnold.

- Chorney, H. (1997): "Globalization, Monetarism, the Local Economy, and the Search For Full Employment" The Politics of the City – A Canadian Perspective. ed. T.L. Thomas. Scarborough, International Thomson Publisher.
- Clark, D. (1982): Urban Geography. Baltimore, The Johns Hopkins University Press.
- Clement, N.S. (1995): "Local Responses to Globalization and Regional Economic Integration" North American Cities and the Global Economy. eds. P.K. Kresl and G. Gappert. Thousand Oaks, California, Sage Publications.
- Coffee, W.J. and M. Polèse (1993): "Le déclin de l'empire montréalais: regard sur l'économie d'une métropole en mutation". Recherches sociographiques. vol. XXXIV, 3, pp. 417-437.
- Coffee, W.J., M. Polèse and R. Drolet (1996): "Examining the Thesis of Central Business Decline: Evidence from the Montreal Metropolitan Area" Environment and Planning A. vol. 28. pp.1759-1814.
- Comité interministériel des espaces verts et bleus du Grand Montréal (1992): "Les espaces verts et bleus du Grand Montréal. Les besoins. Les moyens". Montréal, Gouvernement du Québec, Secrétariat du Grand Montréal.
- Curran, P. (1996): "Where Winter Rules" The Montreal Gazette - Montreal 2000. May-April p. 22.
- Davidson, R.N. (1976): "Social Deprivation: An Analysis of Intercensal Change" Transactions Institute of British Geographers. vol. 1. pp. 108-117.
- Davies, W. and D. Donoghue (1993): "Economic Diversification and Group Stability in an Urban System: The Case of Canada, 1951-86" Urban Studies. vol. 30, no. 7, pp. 1165-1186.
- Davies, W. and R.A. Murdie (1991): "Consistency and Differential Impact in Urban Social Dimensionality: Intra-Urban Variations in the 24 Metropolitan Areas of Canada" Urban Geography. vol. 12, no. 1. pp. 55-79.
- Davies, W. and R.A. Murdie (1993): "Measuring the Social Ecology of Cities" The Changing Social Geography of Canadian Cities. eds. L.S. Bourne and D.F. Ley. Montreal and Kingston, McGill-Queen's University Press.
- De Vaus (1991): Surveys in Social Research. London, Allen and Unwin.
- Dean, P. (1998): "New Life for Old Plastic" The Montreal Gazette. August 17, p. C1.

- Driedger, L. (1991): The Urban Factor: Sociology of Canadian Cities. Toronto, Oxford University Press.
- Dufour, V. (2000) : "Plateau-Mont-Royal. Ces condos qui dérangent" Le Devoir. 9 août, p. A3.
- Drouilly, P. (1996): L'espace social de Montréal 1951-1991. Sillery, Québec, Septentrion.
- Fieldhouse, E.A. and R. Tye (1996): "Deprived People or Deprived Places? Exploring the Ecological Fallacy in Studies of Deprivation with the Sample of Anonymised Records" Environment and Planning A. vol. 28. pp. 237-259.
- Filion, P. and D. Mock (1991) "Manufacturing in Canadian Cities" Canadian Cities in Transition. eds. T. Bunting and P.Filion. Toronto, Oxford University Press.
- Frey, W.H. and A. Speare (1988): Regional and Metropolitan Growth and Decline in the United States. New York, Russell Sage Foundation.
- Friskien, F. (1994): "Metropolitan Change and the Challenge to Public Policy". The Changing Canadian Metropolis: A Public Policy Perspective. Institute of Governmental Studies Press, University of California, Berkeley, and the Canadian Urban Institute, Toronto.
- Fry, E.H. (1995): "North American Municipalities and their Involvement in the Global Economy" North American Cities and the Global Economy. eds. P.K. Kresl and G. Gappert. Thousand Oaks, California, Sage Publications.
- Folwell, K. (1993): "Seeking a Measure of Deprivation - Factor and Cluster Analysis" Census Indicators of Local Poverty and Deprivation: Methodological Issues. ed. S. Simpson. Local Authorities Research and Intelligence Association.
- Friedrichs, J. (1993): "A Theory of Urban Decline: Economy, Demography and Political Elites" Urban Studies. vol. 30, no.6. pp. 907-917.
- Germain, A., J. Archambault and J. Charbonneau (1995): Cohabitation interethnique et vie de quartier. Collection Études et recherches no. 12, INRS-Urbanisation, Université du Québec, Montréal.
- Gray, G. and N. Guppy (1994): Successful Surveys. Toronto, Harcourt Brace Canada.
- Glesne, C. and A. Peshkin (1992): Becoming Qualitative Researchers: An Introduction. White Plains, N.Y., Longman.
- Goldberg, M.A. and J. Mercer (1986): The Myth and the North American City. Vancouver, University of British Columbia Press.

- Golledge, R.G. and R.J. Stimson (1997): Spatial Behavior: A Geographic Perspective. New York, The Guilford Press.
- Gordon, I. (1995): "The Impact of Economic Change on Minorities and Migrants in Western Europe" Poverty, Inequality, and the Future of Social Policy. eds. K. McFate, R. Lawson and W.J. Wilson. New York, Russell Sage Foundation.
- Guay, L. (1978): "Les dimensions de l'espace social urbain: Montréal, 1951, 1961, 1971" Recherches sociographiques. vol. XIX, no. 3, pp. 307-348.
- Hachey, I. (2000): "Le quartier Saint-Henri suffoque. La transformation invoquée par le maire Bourque fait des sceptiques" La Presse. 2 mai, p. A9.
- Hadekel, P. (1996A): "Saving Graces, Old and New" The Montreal Gazette - Montreal 2000. April-May, p. 28.
- Hadekel, P. (1996B) "Forget the Past, the Future's Here" The Montreal Gazette - Montreal 2000. April-May, p. 27.
- Hadekel, P. (1996C) "One Route to Success: Go International" The Montreal Gazette - Montreal 2000. April-May, p. 29.
- Hamelin, P. (1987): Social Well-Being: An Analysis of the Canadian Urban System. M.A. Thesis, Department of Geography, Carleton University.
- Harris, L. (1989) "The East End Means Business" The Montreal Gazette. July 12, p. B1.
- Harvey, D.W. (1989a): The Condition of Postmodernity. Oxford, Blackwell.
- Harvey, D.W. (1989b): The Urban Experience. Oxford, Blackwell.
- Herbert, D.T. and C.J. Thomas (1997): Cities in Space City as Place. New York, John Wiley & Sons.
- Herbert, D.T. and R.J. Johnston (1978): "Geography and the Urban Environment". Geography and the Urban Environment: Progress in Research and Applications. Chichester, John Wiley & Sons. pp. 1-34.
- Jackson, P. (1985): "Urban Ethnography" Progress in Human Geography. vol. 9, pp. 157-176.
- Johnston, R.J. (1980): Multivariate Statistical Analysis in Geography. New York, John Wiley & Sons, Inc.

- Johnston, R.J. (1987): Geography and Geographers: Anglo-American Human Geography Since 1945. London, Edward Arnold.
- Johnston, R.J. (1997): Geography and Geographers: Anglo-American Human Geography Since 1945. London, Edward Arnold.
- Kalbfleisch, J. (1996): "Ivory Towers No More" The Montreal Gazette - Montreal 2000. April-May, p. 13.
- Kazemipur, A. and S.S. Halli (1997): "Plight of Immigrants: The Spatial Concentration of Poverty in Canada" Canadian Journal of Regional Science. vol. XX, 1,2. pp. 11-28.
- King, L. (1966): "Cross-Sectional Analysis of Canadian Urban Dimensions: 1951 and 1961" The Canadian Geographer. vol. 10, no. 4, pp. 205-224.
- King, M. (1999): "After 83 Years, Vickers Blows Its Stack" The Montreal Gazette. January 8, p. A5.
- Knox, P. (1989): "The Vulnerable, the Disadvantaged, and the Victimized: Who they Are and Where They Live" Social Problems and the City. eds. D.T. Herbert and D.M. Smith. Oxford University Press.
- Knox, P. (1995): Urban Social Geography. Harlow, England, Longman Scientific & Technical.
- Lalonde, M. (1996): "Solutions Known, But Political Will is Lacking" The Montreal Gazette Montreal 2000. April-May, p. 25.
- Langlois, A. (1985): "Évolution de la répartition spatiale des groupes ethniques dans l'espace résidentiel montréalais, 1931-1971" Cahiers de géographie du Québec. vol. 29, no. 76, pp. 49-65.
- Langlois, A and P. Kitchen (2001): "Identifying and Measuring Dimensions of Urban Deprivation in Montreal: An Analysis of the 1996 Census Data" Urban Studies. (forthcoming).
- Le Bourdais, C. and M. Beaudry (1988): "The Changing Residential Structure of Montréal 1971-81" The Canadian Geographer. vol. 32, no. 2, pp. 98-113.
- Leduc, L. (2000) "Une etude de l'économiste Pierre-Paul Proulx. Montréal doit monter à bord du train des biotechnologies" Le Devoir. 27 janvier, p.A2.
- Levine, M. (1989): "Urban Development in a Global Economy: The Cases of Montreal and Baltimore" Cities in a Global Society. eds. R.V. Knight and G. Gappert. Newbury Park, Sage Publications.

- Ley, D. (1983): A Social Geography of the City. New York, Harper & Row, Publishers.
- Ley, D. (1993): "Past Elites and Present Gentry: Neighbourhoods of Privilege in the Inner City" The Changing Social Geography of Canadian Cities. eds. L.S. Bourne and D. Ley. Montreal and Kingston, McGill-Queens University Press.
- Ley, D. (1996): "The New Middle Class in Canadian Central Cities" City Lives and City Forms. eds. J. Caulfield and L. Peake. Toronto, University of Toronto Press.
- Ley, D. and L.S. Bourne. (1993): "Introduction: The Social Context and Diversity of Urban Canada" The Changing Social Geography of Canadian Cities. eds. L.S. Bourne and D. Ley. Montreal and Kingston, McGill-Queens University Press.
- Ley, D. and H. Smith. (1997): "Immigration and Poverty in Canadian Cities, 1971-1991". Canadian Journal of Regional Science. vol. XX: 1,2. pp. 29-48.
- Ley, D. and H. Smith. (2000): "Relations Between Deprivation and Immigrant Groups in Large Canadian Cities" Urban Studies. vol. 37, no. 1, pp. 37-62.
- Lindsay, J.M. (1997): Techniques in Human Geography. London and New York, Routledge.
- Linteau, P.A. (2000): Histoire de Montréal depuis la Confédération. Montréal, Boréal.
- Lynch, K. (1960): The Image of the City. Cambridge, Mass., MIT Press.
- Macdonald, L.I. (2000): "Montreal's Economic Structure is on the Rise After Years of Disrespect" The Montreal Gazette. January 21, p.1.
- McKenna, M.K.L. (1996): Restructuring, Gender and Employment: A Geography of Regional Change and Community Adjustment in Cornwall, Ontario. Ph.D. Thesis. Department of Geography, University of Ottawa.
- Martin, D. (1996): Geographic Information Systems – Socioeconomic Applications. London, Routledge.
- Massey, D. (1984): Spatial Divisions of Labour: Social Structures and the Geography of Production. London, Methuen.
- Massey, D. (1994): Space, Place and Gender. Minneapolis, University of Minnesota Press.
- Mata, F. (1996): "Birthplace and Economic Similarities in the Labour Force: An Analysis of Toronto's Census Microdata" Immigration and Ethnicity in Canada. eds. A. Laperriere, V. Lindstrom and T. Palmer Seiler. Montreal, Association for Canadian Studies.

- Maxfield, M.G. and E. Babbie (1998): Research Methods for Criminal Justice and Criminology. Belmont, CA, West/Wadsworth.
- Mercer, J. (1991): "The Canadian City in Continental Context: Global and Continental Perspectives on Canadian Urban Development" Canadian Cities in Transition. eds. T. Bunting and P. Fillion. Toronto, Oxford University Press.
- Moghaddam, F.M. (1994): "Ethnic Segregation in a Multicultural Society: A Review of Recent Trends in Montreal and Toronto and the Reconceptualization of Causal Factors" The Changing Canadian Metropolis: A Public Policy Perspective. ed. F. Frisken. Institute of Governmental Studies Press, University of California, Berkeley, and the Canadian Urban Institute, Toronto.
- Montgomery, S. (1998) "Family Ties Strong in East Montreal" The Montreal Gazette. October 19, p. A5.
- Morris, R. and V. Carstairs (1991): "Which Deprivation? A Comparison of Selected Deprivation Indices" Journal of Public Health Medicine. vol. 13, no.4. pp. 318-326.
- Norusis, M.J. (1986): Advanced Statistics SPSS/PC+ For the IBM PC/XT/AT. SPSS Inc.
- Parfitt, J. (1997): "Questionnaire Design and Sampling" Methods in Human Geography: A Guide for Students Doing a Research Project. eds. R. Flowerdew and D. Martin. Essex, England, Longman.
- Pacione, M. (1989): "The Urban Crisis: Poverty and Deprivation in the Scottish City" Scottish Geographical Magazine. vol. 105, no. 2, pp. 101-115.
- Pacione, M. (1995): "The Geography of Multiple Deprivation in Scotland" Applied Geography. vol. 15, no. 2. pp. 115-133.
- Picard, A. (1991) "Montreal Treading Recessionary Waters" The Globe and Mail. March 11, p. A5.
- Picard, A. and A. Gibbon (1993) "In the Hole...and There's No Easy Way Out" The Globe and Mail. January 8, p. A4.
- Policy Studies Institute (1994): Urban Trends 2: A Decade of Britain's Deprived Areas. London.
- Prince, M.J. (1999): "From Health and Welfare to Stealth and Farewell: Federal Social Policy, 1980-2000" How Ottawa Spends 1999-2000. ed. L.A. Pal. Don Mills, Oxford University Press. pp. 151-194.

- Ravensbergen, J. (1998): "First Houses Sprout at Angus: Giant Project Blends Housing With Retail Space" The Montreal Gazette. June 11, p. C1.
- Renaud, J., M. Mayer and R. Lebeau (1996): Espace urbain, espace social: portrait de la population des villes du Québec. Montréal, Éditions Saint-Martin et Centres Jeunesse de Montréal.
- Robinson, G.M. (1998): Methods and Techniques in Human Geography. Chichester, John Wiley & Sons.
- Rose, D. (1996): "Economic Restructuring and the Diversification of Gentrification in the 1980s: A View from a Marginal Metropolis" City Lives and City Forms. eds. J. Caulfield and L. Peake. Toronto, University of Toronto Press.
- Rubenstein, J.M. (1989): "Baltimore, Maryland, USA: Would H.L. Mencken Recognize It?" Focus. vol. 39, no.1. pp. 30-32.
- Sancton, A. (1994): Governing Canada's City Regions. The Institute for Research on Public Policy.
- Schoenauer, N. (1998) "After the Angus Shops: Phase 2 of Housing Project Going Up On CPR Site" The Montreal Gazette. September 19, p. I5.
- Sénécal, G. (1995): "Le quartier Hochelaga-Maisonneuve à Montréal : Le réaménagement d'une zone industrielle ancienne face à la nouvelle urbanité post-moderne" The Canadian Geographer. vol. 39, no. 4, pp. 353-362.
- Sénécal, G. (1998): "Hochelaga-Maisonneuve – Que sont les quartiers ouvriers devenus?" Montréal 2001. eds. C. Manzagol and C.R. Bryant. Les Presses de L'Université de Montréal. pp. 255-257.
- Sénécal, G. and D. Saint-Laurent (1999): "Espaces libres et enjeux écologiques" Recherches sociographiques. vol. XL, no. 1, pp. 33-54.
- Shaw, G. and D. Wheeler (1994): Statistical Techniques in Geographical Analysis. New York, Halsted Press.
- Stegman, M.A. (1995): "Recent US Urban Change and Policy Initiatives" Urban Studies. vol. 32, no.10. pp. 1601-1607.
- Strick, J.C. (1999): The Public Sector In Canada. Toronto, Thompson Educational Publishing, Inc.
- Solomon, A.P. and K.D. Vandell (1982): "Alternative Perspectives on Neighbourhood Decline" The American Planning Association Journal. Winter. pp. 81-98.

- Sui, D. (1994): "GIS and Urban Studies: Positivism, Post-Positivism, and Beyond" Urban Geography. vol. 15, no. 3, pp. 258-278.
- Thanh Ha, T. (1996): "Angst in Montreal: To Go, Or To Stay?" The Globe and Mail. June 22, p. A6.
- Task Force on Greater Montréal (1993): Montréal a City Region.
- Thomas, T.L. (1997): A City With a Difference. Montréal, Véhicule Press.
- Tomalty, R. (1997): The Compact Metropolis: Growth Management and Intensification in Vancouver, Toronto, and Montreal. Intergovernmental Committee on Urban and Regional Research.
- The Canadian Press (1993): "Montreal Losing More Jobs as GE Closes Locomotive Plant" The Globe and Mail. November 20, p. B3.
- The Dictionary of Human Geography (1994). eds. R.J. Johnston, D. Gregory, and D.M. Smith. Oxford, Blackwell.
- The 1999 Canadian Global Almanac. ed. J.R. Colombo. Toronto, Macmillan Canada.
- The Toronto Star. (1996): "Asphalt Gardens" August 18. p. F1.
- Townsend, P. (1993): The International Analysis of Poverty. New York, Harvester Wheatsheaf.
- Trottier, E. (2000a): "Parc-Extension revit. Tout n'est pas réglé, mais le quartier est sur la bonne voie" La Presse. 10 mai, p. A6.
- Trottier, E. (2000b): "Une bougie d'allumage pour les quartiers démunis. La Ville de Montréal espère que 42 millions serviront à revitaliser et à donner un peu de bonheur" La Presse. 9 mai, p. A6.
- Veenam, J. (1995): "Ethnic Minorities in the Netherlands" Poverty, Inequality, and the Future of Social Policy. eds. K. McFate, R. Lawson and W.J. Wilson. New York, Russell Sage Foundation.
- Warkentin, J. (1997): Canada A Regional Geography. Scarborough, Prentice Hall Canada Inc.
- Warren, S. (1996): "Popular Cultural Practices in the Postmodern City" Urban Geography. vol. 17, no. 6, pp. 545-567.

- Wilson, J.W. (1987): The Truly Disadvantaged: The Inner City, The Underclass, and Public Policy. Chicago, University of Chicago Press.
- Wilson, J.W. (1993): The Ghetto Underclass: Social Science Perspectives. Newbury Park, California, Sage Publications.
- Wilson, J.W. (1996): When Work Disappears. New York, Alfred A. Knopf.

APPENDIX I

DEFINITION OF VARIABLES AND TERMS

Urban Deprivation Variables

Population Change (Pop.Chg)

Rate of population change – 1981 to 1986, 1986 to 1991, 1991 to 1996.

Male and Female Labour Force Participation Rates (MalePart, FemPart)

Refers to the total labour force in the week (Sunday to Saturday) prior to Census Day, expressed as a percentage of the total population 15 years and over, excluding institutional residents. The participation rate for a particular group (age, sex, marital status, geographic area, etc.) is the total labour force in that group, expressed as a percentage of the population in that group.

Male and Female Unemployment Rates (UnempMale, UnempFem)

Refers to the unemployed labour force expressed as a percentage of the total labour force in the week (Sunday to Saturday) prior to Census Day. Data are available for persons 15 years of age and over, excluding institutional residents. The unemployment rate for a particular group (age, sex, marital status, geographic area, etc.) is the unemployed labour force in that group, in the week prior to enumeration.

Youth Unemployment Rate (YouUnemp)

The total number of persons aged 15-24 (both male and female) who are unemployed expressed as a percentage of the total labour force in this group.

Low Educational Attainment (Grade 9, NoHS-Dip.)

Total population 15 years and over with less than grade 9 education and total population 15 years and over attaining grades 9 to 13 without secondary school graduation certificate. Both are expressed as a percentage of the total population 15 years and over.

Lone-female parent families (LoneFem)

The number of lone-female parent families (a mother with no spouse present, living in a dwelling with one or more never-married children) as a percentage of total families in private households in an area.

Old Housing (OldHouse)

The percentage of the total number of occupied private dwellings constructed before 1946.

Value of Dwelling (\$Dwelling)

The average value of occupied private dwelling (\$). Refers to the dollar amount expected by the owner if the dwelling were to be sold. In the cross-sectional analysis, the average value of dwellings was expressed in real dollars for the three census years: 1986, 1991, and 1996. However, for the vertical analysis, the consumer price index (CPI) for housing in Montréal was used to express the average value of dwelling in 1996 constant dollars for the three

APPENDIX I (CONT.)

DEFINITION OF VARIABLES AND TERMS

census years. The percent change in the value for the three periods was then calculated: 1986-1996, 1986-1991, 1991-1996.

Low-Income Families (LowIncFam)

The percentage of all economic families living below the low-income cut-off (LICO) in an area. The incidence of low-income is determined on the basis of the total income of a family unit adjusted for federal Child Tax Credit, size of the family unit and size of the area of residence. The cut-offs are updated yearly by changes in the consumer price index. For example, in 1996, the low-income cut-off for a family of four living in an urban area with a population of 500,000 or more was \$31,753.

Male and Female Poverty (MalePov, FemPov)

The percentage of all males and females 15 years and over with a total annual income in 1995 below \$10,000 (as reported in the 1996 census). The Consumer Price Index (CPI) was used to calculate that \$10,000 in 1995 is equivalent to \$8,981 in 1990 and \$7,245 in 1985 (as reported in the 1991 and 1986 censuses). The following calculations were used to establish these income thresholds:

CPI Montréal - all items:

1981 = 100
1985 = 128.1
1990 = 158.8
1995 = 176.8

$$1985 \text{ level: } \frac{128.1}{176.8} = \frac{X}{\$10,000}$$

$$X = \$7,245$$

$$1990 \text{ level: } \frac{158.8}{176.8} = \frac{X}{\$10,000}$$

$$X = \$8,981$$

Definition of Terms

Census Metropolitan Area (CMA)

Refers to the main labour market area of an urbanized core (or continuously built-up area) having 100,000 or more population. CMAs are created by Statistics Canada and are usually known by the name of the urban area forming their urbanized core. They contain whole municipalities (or census subdivisions). CMAs are comprised of (1) municipalities completely or partly inside the urbanized core; and (2) other municipalities if (a) at least 40 % of the employed labour force living in the municipality works in the urbanized core, or (b) at least 25% of the employed labour force working in the municipality lives in the urbanized core.

APPENDIX I (CONT.)
DEFINITION OF VARIABLES AND TERMS

Census Tract (CT)

A census tract is a permanent small census geo-statistical area established in large urban communities with the help of local specialists interested in urban and social science research. The boundaries of census tracts must follow permanent and easily recognized lines on the ground. The population must be between 2,500 and 8,000, except for census tracts in the central business district, major industrial zones, or in the peripheral rural or urban areas that may have either a lower or higher population. The area must be as homogeneous as possible in terms of economic status and social living conditions and the shape must be as compact as possible.

Central City

In each census metropolitan area (CMA) the central city is the largest place or municipality. It has the largest population and is usually the oldest place in a metropolitan area. For example, in the Montréal CMA (with a 1996 population of 3,326,510) the central city is the City of Montréal (with a 1996 population of 1,017,666).