

**CITY-REGION FORM AND MUNICIPAL PROPERTY TAX DEPENDENCY:
ENHANCING THE PROSPECTS FOR MORE SUSTAINABLE DEVELOPMENT OF
THE MANITOBA CAPITAL REGION**

BY

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**A Thesis Submitted to the Faculty of Graduate Studies in Partial Fulfilment of the
Requirements for the Degree of**

MASTER OF ARTS

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2001

UNIVERSITY OF MANITOBA

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DEDICATION

This work is dedicated to Hazuki.

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All errors in this work are, however, my sole responsibility.

P. Owiafe.
August 8, 2001

ABSTRACT

This study examines the likely impacts of the City of Winnipeg's dependency on property tax revenue and its consequences for the land use and development configurations of the Manitoba Capital Region. Urban form is a key strategic factor influencing sustainability in urban regions. It normally affects patterns of private transport, which in turn affects fuel consumption and emissions. The viability and patronage of public transport facilities are also affected by urban form. It may also affect rates of conversion of rural land to urban uses and the loss of natural habitats for flora and fauna.

Sprawl development is characteristic of many of the municipalities in the Manitoba Capital Region and the current population shift from the City of Winnipeg to its surrounding bedroom communities is likely to exacerbate this pattern of land use in the city-region, because rural residential lots are usually larger than those in the previously developed areas. Since tax policies have the capacity to influence development, it is likely that the current disparity in growth between the city of Winnipeg, where taxes are much higher, and its surrounding municipalities is partially due to the tax differentials between them.

Sustainable development depends, among other things, on the extent to which municipalities are able to retain businesses and residents, and attract others from elsewhere. In the area of taxation, tax-reduction, tax base sharing, the user-pay principle,

and high levels of efficiency in service provision are four options that can be means to ensuring that property taxpayers are not unduly burdened. Good governance that promotes region-wide cooperation is also important to ensure development coordination and overall sustainability of the city-region.

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CHAPTER ONE : PURPOSE AND RATIONALE FOR THE RESEARCH

1.0 Introduction

The aim of the study was to examine the likely impacts of the City of Winnipeg's dependency on property tax (PT) revenue and its consequences for regional land use and development configurations of the Manitoba Capital Region (MCR). The study considered the likely economic and political impacts of the reliance on PT as a source of revenue for urban/regional development. The study also examined the relationship between regional form and tax finance with the aim of understanding the implications of the relationship for the development of the city-region, and innovative approaches are prescribed that may better manage this relationship in order to attain sustainable development within the MCR.

This chapter introduces the study. It starts with a consideration of the definition of regions and the planning and financing of urbanization. It also deals with issues such as the purpose and rationale for the research, statement of the research problems, and provides a brief discussion of the relationship of urban form to municipal property tax dependency. Finally, the chapter considers the problems of urban growth in Canada and elsewhere, in general, and in the Winnipeg urban region, in particular, and the increasing need for planning at the regional level to help solve these problems.

1.1 Regions and City-Regions: Planning and Financing Urbanization

1.1.1 Definition of the Region and City-Region Development

A *region* is difficult to define. The two most important definitions of the term have centred on the ideas of homogeneity and functionality. A homogeneous or formal region is identified by “the presence or absence of particular distinguishing features” (Gregory 1994). A functional region is an area of interrelated activities, interests and common organization whose provenance rests in various communications media that help maintain a substantive structural and organizational character with a strong geographical focus. It may be defined (Capital Region Review Panel 1999) by common usage as much as by political borders.

Homogeneous regions have been defined variously using particular yardsticks such as political, cultural, economic, and other criteria. *Political regions* have been defined by using the administrative and jurisdictional boundaries of governments. *Cultural regions* have been defined on the basis of linguistic or ethnic groupings, lifestyle-related patterns of travel, and newspaper distribution patterns. *Economic regions*, for example, have been defined to mirror commuter patterns or patterns of trade. The options for defining *ecological regions* have been climate, vegetation, landscape units, landforms, watersheds and airsheds or combinations of these. These definitions can be described as ‘itemized’ definitions because they identify regions on the basis of particular distinguishing features.

A classic example of the 'itemized' definition of regions is that provided by Zelinsky (1973), who has identified different types of regions that include: (a) social or cultural regions, which are determined by traditional factors such as circumstance of birth and heredity; (b) voluntary regions, which result when sub-cultural (i.e., educational, tourist) groups come to dominate a locality; and (c) forbidden fruitlands, where activities such as "gambling, prostitution, nudism, unrestricted liquor consumption, open homosexual behaviour, and certain sports" occur (Zelinsky 1973: 134-139).

Based on Zelinsky's concept of "vernacular region," which sees the region as a shared, spontaneous image of territorial reality, it has been argued by Garreau that North America is in fact "nine nations," each with its own capital and distinctive web of power and influence (Garreau 1991). Based on this concept, Winnipeg, for example, has been identified in a region labeled 'The Breadbasket', with Kansas City as its node. The borders of these alternative national 'regions' are not consistent with current political borders. It has also been argued that current public policy is replete with failures because of the ignorance of the increasing power and independence of such regions (Wight 1998).

Though the definition of regions on the basis of selected characteristics such as economy, politics, culture, etc., may be useful for identifying and possibly finding solutions to selected or specific issues within certain defined boundaries, there are problems with such definitions. Such isolating, itemized definitions of regions seem to ignore the wide variety of issues that affect a population that has geographical proximity and enjoys a wide level of interaction. Since economic conditions may differ widely within a city-

region, for example, defining a region solely on the basis of economics would require 'numerous economic regions,' and not a single economic region, as an itemized definition on the basis of economy would seem to imply. Furthermore, since there is often interaction between politics, economy and culture, any attempt to explain any of these aspects of society must be done in consideration of all of these aspects. As a result, an 'itemized' definition of a region does not seem to do justice to all dimensions of a region. The definition of a region on the basis of isolating a dynamic influence on that region, therefore, only follows the principle of separating an object into its parts for the purpose of explanation without taking into account the influences of all the other parts. It appears that a more holistic approach to the definition of a region needs consideration at all times, especially when human populations are concerned.

One way in which regions have been defined, in a departure from the 'itemized' emphasis (and which draws on the idea of functionality), has been in terms of the area of influence of a city in relation to its adjacent settlements. This relation, it is stated, in current times, normally produces an area of influence or 'urban region' which is a collection of a central city together with its satellite settlements. Recently there have been attempts to extend political influence to a single authority over such 'urban regions.' In the U.S., Barnes and Ledebur note that the emergence of this definition has been recognized in proposals for restructuring a federal system that is out of conformity with the current demographic, economic and social realities of present day American life. Also, taking development in the Toronto region as an example of this emergent phenomenon, Barnes and Ledebur assert that the creation of the area-wide Municipality

of Metropolitan Toronto, a federation of then existing local governments, is an example of institutional changes reflecting the urban region. They also state that a more radical U.S. proposal in 1970 was to convert metropolitan areas with populations of 1 million or more into 'metropolitan states.' Barnes and Ledebur concluded that such a new regional formulation reflects recognition that "the functional area of social and economic organization greatly exceeds the span of political control of political jurisdictions" (Barnes and Ledebur 1998: 21).

The identification of urban regions on the basis of central cities and their areas of influence appears to be a realistic method of defining urban regions since it does recognize the importance and necessity of social, economic and even political interconnectedness that is relevant to the formation of regional consciousness. It also avoids the procedure of identifying regions on an "itemised" basis, a procedure that is more useful for the delineation of natural areas such as topography or vegetation. However, the more radical proposal that metropolitan areas of a population of 1 million or more should be turned into 'metropolitan states' is likely to sever urban areas from rural areas in terms of governance. Where 'citistates' and rural 'regions' pursue their development interests aggressively, tensions and conflicts could result that would produce negative consequences for the development of the entire region.

The nature and distribution of development within a city-region gives that urban region a peculiar form. Changes in the context of urbanization in Canada are most apparent in the changing form and character of urban development and in subtle changes in the nature of

everyday life at the local scale. The immense geographical scale of recent development, with its lower densities overall, and rising standards and expectations, has led to an increase in the cost of providing basic physical infrastructure. These new developments, especially in their sprawl form, are invariably associated with the loss of population, jobs, and tax revenue in the older inner cities (Bourne 2000: 34-39). These new developments call for a new definition of regions that takes into account current urban spatial realities.

North American cities are heavily dependent on autos and trucks for transportation purposes. While this provides individual mobility and flexibility for road users, there are high environmental and infrastructure costs, or 'externalities,' to be met collectively. The size, density and form of a city-region often dictate the modes of urban transportation that can be effectively provided, but once in place, transportation systems influence private, speculative development (Mercer and England 2000: 59). This pivotal role of transportation, especially its impact on urban expansion and the environment, should make the transportation linkages that are in place, especially their scale and intensity, one of the important factors in the delineation of regions.

Though service provision levels in Canadian cities are very high by any standard, recent complaints about the quality of urban public goods have fed pressures for change, and a debate on the merits of alternative models of service delivery. One other issue is how to reconcile the apparent need for continued urban expansion, and the negative consequences of such expansion on local/regional ecosystems (Bourne 2000: 41). Since taxation policies have a capacity to influence the nature of development, tax policies

within these cities must be shaped in a manner that ensures that urban expansion does not produce adverse consequences for local ecosystems.

Because of the physical expansion and functional complexity of current cities, the structures of local governance have been overwhelmed – due to limited geographical size and limited capacity to respond. One other main issue is that of political fragmentation – that is, the presence of numerous local governments in a city-region – and how this fragmentation relates to the uneven distribution of public goods and services, and tax rates, among the municipalities (Bourne 2000: 42). An inclusive regional definition that draws together politically, socially and economically interconnected areas will engender an enhanced capacity for political action which is more responsive to solving the overwhelming problems relating to urban expansion, especially those relating to service provision and governance. A reduced tendency towards (i) fragmentation, (ii) uneven distribution of public goods, and (iii) the use of lower taxes as means of attracting residents and businesses from other surrounding municipalities, will greatly enhance vibrant region-wide development.

1.1.2 Taxation and Planning in the Manitoba Capital Region (MCR)

Urban development, especially the provision of amenities that make living in cities worthwhile, occurs in part through public resources gained from taxation. Tax revenues help to fund garbage collection, sewage systems, hospitals, parks and several other amenities in cities. Efficient use of tax revenues through careful planning and wise

spending policies are necessary ingredients in the creation of a sound basis for social and economic life and development in cities.

In the MCR, the different tax policies of constituent municipalities have produced adverse development consequences for the region. The nature of taxation within a city-region can impact development trends within that region. Where the nature of taxation by specific municipalities produces difficulties for planning in other municipalities within a city-region, and where this is to the detriment of the entire city-region, then a new planning method that takes into account the nature of taxation, together with the nature of desired, sustainable regional development, is required.

As in most major city-regions with fragmented local government systems, residential development in the MCR has tended to occur at the edge of its built-up area. It is noted in the Capital Region Review Panel (Final Report 1999: 43-44) that many Winnipeg residents have migrated from older residential neighbourhoods in the city to the suburbs or to the surrounding municipalities. Examined on a case by case basis, the factors driving the outward 'push' of the city's residents are diverse:

They include the wish to return to rural or ethnic roots; the urge to find a more relaxed or semi-rural lifestyle on larger lots; and in some cases, the economic decision to take advantage of the urban or near-urban standards of service offered outside the urban boundaries at lower (perhaps subsidized) property tax rates (Capital Region Review Panel, Final Report: 44).

A tax system must be fair and competitive to help attract and retain residents and businesses. A fair tax system is free from bias. It puts a similar tax burden on those in similar circumstances (horizontal fairness). It puts a greater tax burden on those with a greater ability to pay (progressive tax), and it puts no burden at all on those just able to afford what society considers to be the minimum basic necessities of life. A simple tax system is one that is readily understood by tax-payers. A competitive tax system is one that ensures that people and businesses are receiving sufficient after-tax return on their labour and their investments. What they view as sufficient is influenced by what they see in other jurisdictions. Competitiveness is therefore a relative – not an absolute – concept that changes with time. Uncompetitive taxes are revealed by their effects: people somehow try to avoid the things and activities being taxed, whether by going underground, putting out less effort, or moving their activity outside the area to a more tax-friendly jurisdiction. Finally, a fair tax system may not be the most competitive, since skilled individuals with the ability to pay are often those who can easily migrate to jurisdictions with lower taxes. A simple tax system is also unlikely to be the fairest, since specific tax provisions that aim to promote a fairer tax system also make the entire tax system very complex (Final Report of the Manitoba Lower Tax Commission 2000). High property taxes in the City of Winnipeg make the city uncompetitive in terms of PT vis-à-vis the remaining municipalities of the MCR. This problem is further compounded by the regressive nature of PT in the city.

The lack of regional planning is being blamed for some of the problems facing city-regions with fragmented municipalities and competitive tax systems. Herbert (1991), for

example, argues that the cost of providing sewage systems, electricity, gas and telephone connections and garbage collection, together with parks and hospitals and fire stations, on a municipality by municipality basis, is uncomfortably high. Where there is no planning at the regional level and where speculators have been free to experiment, development tends to spread out and services become more difficult to provide. Built-up land exerts an unsettling effect over a wider area, promoting speculative trading and land-holding, which in turn cause the running down of agricultural activity in expectation of land sale (Herbert 1991: 205).

A regional growth management institution seems to be necessary for the MCR because the constituent municipalities often have multiple objectives and generally adopt several types of controls to achieve growth management objectives within their jurisdictions. These fragmented growth management objectives tend to be disadvantageous to the overall development of the entire city-region. Under such conditions, conflict results along several lines. Smith (1993: 50), for example, notes that as a community's growth management methods evolve, strategies to attain specific objectives may contradict well-established objectives and strategies with a continuing influence. Efforts of individual municipalities also tend to inhibit the achievement of stated objectives of regional and senior government growth management agencies. Furthermore, the growth management methods of one municipality may be at variance with those of surrounding municipalities. Similarly, growth management techniques employed in one municipality to address fiscal difficulties may contradict other techniques. Finally, implementation problems may arise when inadequate and inappropriate techniques for achieving objectives are chosen.

Because the City of Winnipeg and its neighbouring municipal jurisdictions have adopted contradictory, limited, and/or inappropriate growth management policies, that involve greater costs, unnecessary duplication, and haphazard regional development conditions, there appears to be a need for a single growth management institution that can ensure consistent development, avoid waste and enhance sustainable development for the MCR.

The current MCR consists of the City of Winnipeg and the fifteen surrounding municipalities (Map 1, p. xiii). About 60% of the province's population resides and works in the MCR and about 87% of the population of the MCR falls within the jurisdiction of the City of Winnipeg. The MCR is endowed with resources that include: arable agricultural land of very high quality; an aquifer underlying the greater part of the region that yields very good potable water; an environmental heritage of green space and wetland; and two major rivers that help in water supply, waste water disposal and recreation. Given the regional span of these resources, a regional structure seems indispensable in ensuring their efficient and sustainable use (Capital Region Review Panel 1999). Such a regional structure cannot come about without determined efforts to enhance city-region-wide cooperation and integration of administration functions.

1.2 Statement of the problem

Local government, organizationally, is highly dependent on property tax revenue (PTR) for its fiscal solvency. As such, municipalities must maintain their revenues by enhancing

current property investments and attracting even more such investments. Simultaneously, low income earners are a drain on local revenues (Lauria 1999: 126). Because the local jurisdiction obtains most of its revenue from a territorially-defined tax base, in character it is locally dependent fiscally. A booming economy is essential to enable it to finance its projects. Among the most notable policy measures that a local government may adopt are: tax abatements to firms; altering of planning regulations; increasing general taxes to finance infrastructure projects; and special financing of some infrastructure projects, such as highways and airports, as well as cultural facilities and other amenities (Boyle 1999: 58).

Canadian municipal authorities are in a period of functional and structural flux. Fiscal difficulties and socio-political problems have risen to the top of the agenda. On the financial side, the rate of growth of municipally/locally-generated revenues, such as property taxes and user fees, has been faster than the growth rate of provincial (intergovernmental) transfers. In addition, municipal expenditures have been rising faster than provincial expenditures, and as such are accounting for a growing proportion of total public expenditures in the combined municipal and provincial sector. Consequently, municipal governments are being forced to rely more and more on their own revenue sources (which is dominated by property taxation) and/or drop some services or reduce service levels (Marshall and Douglass 1997).

One major element influencing land use decision-making by local government is the structure of revenue at local and provincial levels. Where local government is largely

financed through local property tax (PT), the property tax base tends to grow with an increase in real estate values, ideally allowing municipalities to increase tax revenues without increasing tax rates – an attractive situation for any municipality. Where local governments have thus gained from real estate development according to ‘private’ plans, public planning for other undertakings, such as low-cost housing, open space, or preservation of endangered species, becomes increasingly problematic. The deployment of land use planning tools such as zoning, redevelopment, annexation, and bond financing for an individual municipality’s financial gain – i.e., the ‘fiscalization of land use’ – has led to conflicts among local jurisdictions. These in turn have led to pressure to create new regional structures to counter the fragmentation of local government (Pincetl 1999: 196).

Though the property tax is the mainstay of local revenue-raising, it is widely criticized by experts. First, property tax (PT) suffers from serious problems in administration. Local assessment practices/standards lead to wide discrepancies in property valuation. Second, compared generally with other taxes, PT is costly and inefficient to administer. Third, PT inhibits property maintenance. Why should buildings be improved if this will mean increased taxes? Fourth, some consider PT to be mildly regressive and not progressive. They argue that the poor pay proportionately more than the well-to-do because a greater share of the poor’s income is spent on housing (Morgan and England 1999: 310). Tax progressivity refers to a tax structure that makes people with higher incomes and a greater ability to pay taxes sacrifice a higher percentage of their income than lower-income

earners. Income tax is progressive if the mean tax rate rises as income increases (Long 1997: 44).

For most of the twentieth century, Canadian political culture has demanded and accepted an expansive role of government and these expectations have affected local government. However, as a result of traditional public antipathy towards property taxes and because property taxation has long been the major source of local government revenue, the public's expectations of expansive government have influenced local government to the extent that it is much more limited in comparison with the provincial and federal levels. Introduction of local government in Canada has been commonly resisted because of the PT prominence. Property taxes were introduced by several provinces, mainly for the purposes of shifting the financial burden of local service provision away from the provincial treasuries to the local property tax base. The directness, immediacy, inequity, and visibility of property taxation render it unpopular as a revenue-raising mechanism. From the perspective of local governments, property taxation has serious problems: it is inelastic, unpopular, and unsuitable for supporting services unrelated to property such as welfare payments. There is the historically high level of dependence by local governments on PT, and the "externalities" problem (i.e., some people who do not live in particular municipalities enjoy those municipalities' services without paying property taxes to support them). Also, property taxation is poorly understood by the public - in particular, the distinction between *property assessment* and *property tax rates*, and the relationship between the two is not well understood. In fact, no other tax in Canada has been more vilified than the PT (Higgins 1986: 93).

Almost all municipal jurisdictions in the western world rely on PT as a source of revenue. Canada's collection of property taxes as a percentage of gross domestic product is the highest of these countries. According to a 1993 study by the Organization for Economic Development, property (and wealth) taxes account for 4.1% of Canada's gross domestic product, with the next closest being the U.S. at 3.3%. The United Kingdom's share comes in at 2.6%. Sweden's at 1.6%, Germany's at 1.1%, and Italy's at 1.0% (City of Winnipeg 1998: 12-13).

The City of Winnipeg has the highest residential property tax rates of all the major cities in Western Canada - 20% higher than Edmonton and almost 60% higher than Saskatoon, for example. To be competitive with other regions, the city needs to reduce its residential property taxes by around 10 to 17% (City of Winnipeg 1990: 46). A 1997 study by the City of Edmonton Planning Department noted that Winnipeg's net property tax levy is second highest among the large Canadian municipalities surveyed. Several analyses since the implementation of Unicity in 1971 have noted that property taxes in Winnipeg are too high, both as they relate to residential properties in general and as they relate to residential versus commercial properties. These studies have also noted an inordinate reliance on PT as the main revenue generation medium for the city. Furthermore, taxes already viewed as too high and therefore unfair, are further complicated by the addition of school tax levies on the PT base, in the form of a provincial education tax and a local school division tax (City of Winnipeg 1998: 5).

A recent study by the Canada West Foundation did not indicate any change for the better in the city's property tax situation. The study noted that property taxes in Winnipeg remain high. The city is also the most heavily reliant on property taxes of all cities in Canada studied. A recent public opinion poll showed that tax-cuts should be the city's number one priority. High property tax rates are being blamed for the flight from Winnipeg to bedroom communities on the city's fringe, as well as the continuing deterioration of the downtown business core. High property taxes have also discouraged entrepreneurial activities (Canada West Foundation, 2000a).

High taxes may well be their own worst enemy. When higher taxes cause residents to move out of the city to the suburbs, the tax base shrinks, calling for an even higher tax load on remaining residents. Educational funding from the provincial government then falls because of low enrolment, and schools must increase the education levy. Property tax hikes, in turn, lead to increased urban sprawl (Canada West Foundation, 2000a: 17).

With the alleged increasing "brain drain" to the U.S., and from Manitoba to other regions of Canada, the MCR has perhaps never been more in need of ways to help retain its population, increase population growth and ensure economic development. One way of doing this would be to identify, and ensure, a more balanced municipal revenue regime, with less dependence on property taxation, across the MCR, but especially for the City of Winnipeg.

The City of Winnipeg relies overwhelmingly on property taxes for revenue purposes. Despite this heavy reliance on PT for revenue generation, there has been surprisingly little academic investigation of the role of the PT in the development of the city's form, and of the wider city-region form. Most existing studies on PT are related to PT assessment issues, e.g., those of Kuz and McGregor (1998), and Kuz and Cariou (1990). In their 1998 study, for example, Kuz and McGregor noted that the uniformity of PT assessments is a vital issue for the homeowner (taxpayer), the assessors and all those who are affected by the assessment process. The study noted that one key factor in determining the quality of assessment is how to test for uniformity. Applying the existing equity models to residential data for Winnipeg in 1990, the study concluded that there was regressive inequity in the PT assessment processes for the city. The study supported an earlier one by Kuz and Cariou in 1990, which noted that PT assessment in Winnipeg generally favoured higher valued properties, and consequently the wealthier segments of the city's population.

Quality of property assessment studies for the City of Winnipeg have also been undertaken by Dean *et al* (1989, 1991) and Kuz and Saprowich (1994). Dean *et al* evaluated assessments for identical residential properties over three time periods (1984, 1987 and 1990), testing for horizontal equity in the assessment process. They concluded that modest improvements were achieved with each successive reassessment, noting that the relative coefficient of dispersion declined from 19.3 in 1984 to 16.9 in 1987 and then

to 15.2 in 1990 (Dean *et al* 1991: 1308; Kuz and McGregor 1998). Kuz and Saprowich (1994), using a larger sample than Dean *et al*, discovered a similar coefficient of dispersion values for Winnipeg. Though these studies generally agreed that property taxes are an unresponsive, unfair, arbitrary, an inadequate generator of municipal revenue, as well as regressive because they are not related to owner's ability to pay, one of their weaknesses is that they concentrated only on the PT assessment process in the City of Winnipeg, at a time when the city and the surrounding municipalities were becoming increasingly interdependent, and when the idea of a regional government for the city and its surrounding rural municipalities was already under discussion. In addition, though these studies were conducted at a time when residents and businesses were already leaving the city for the surrounding municipalities and other out-of-province locations, no attempt was made to relate their findings to developments at the city-region scale. This study aims to partially remedy these deficiencies.

The City of Winnipeg, as already noted, relies heavily on PT for operational spending and to pay service charges on debt-financed capital projects. These high property taxes are likely to be one of the major factors spurring inter-municipal flight within the MCR. Because Winnipeg is the main municipality of the MCR, the city's dependency on PT for revenue generation is likely to influence the form/structure of the region. It is therefore not surprising that one recommendation put forward by the Capital Region Review Panel in its final report of December 1999, was that the Province of Manitoba "evaluate the effect of municipal dependence on property tax revenue in shaping regional land use development trends" (see Capital Region Review Panel 1999: 76). Such a study was

required to help determine alternative revenue sources for the MCR and to aid in the allocation of proportionately greater provincial funding and assistance to regional initiatives. This study aims to further these objectives.

Urban and regional development issues have occupied the attention of geographers for a long time. As a study which examines the likely impacts of municipal dependence on PTR for development within the MCR, this study is consistent with urban and regional development themes in geographical research.

1.4 Main Research Questions

The purpose of this study is to examine the likely impacts of central city (i.e. the City of Winnipeg) dependency on property tax (PT) revenue, and its consequences for the regional land use and development configurations of the Manitoba Capital Region (MCR). The study specifically examines the likely impacts of the reliance on PT as a source of revenue for urban/regional development and its consequences for sustainable development within the MCR.

The study examines the relationship between city-region form/structure and property tax finance with the aim of better understanding the implications of the relationship for the development of the city-region. The study also seeks to prescribe innovative approaches that may contribute to better managing this relationship.

Based on these objectives, this study aims to answer the following research questions:

Research Question 1

What are the reasons for the migration of Winnipeg residents to the outlying bedroom communities?

Research Question 2

What are the likely impacts on the MCR's land use as a result of the migration of Winnipeg residents to the outlying bedroom communities?

Research Question 3

How might the central city's high dependence on PT revenue be better managed to enhance the prospects for the sustainable development of the MCR?

1.5 City-Region Form and Municipal Property Tax Dependency

1.5.1 City-Region Form

The form of an object can be understood as a product of forces at work. The form of a city is an expression of the forces exerted on it during its lifespan. The form of a city gives cues as to how our social relations have changed from generation to generation (Olsen 2000: 226). Urban form consists of three essential elements: the development pattern, or the amount and location of land designated for urban development; the urban structure, or how development is distributed within a municipality; and, the

form/intensity, that is, the density and scale of development. Urban form influences the distribution of services within a municipality and thus the accessibility of these services to residents. It affects the live-work relationship in terms of the length of time it takes to commute to and from work, and the level of efficiency of public transit (Province of Ontario 1992: 5-17).

Bunting, Filion and Gertler (2000) have identified four fundamental properties inherent in urban phenomena. The first is *proximity* or the accessibility to work, educational institutions, shopping centres, entertainment facilities, labour force, family and friends, and medical facilities; the second is *production* – the hosting of production activities to meet local and external demand; the third is *capitalization*, which involves the heavy engineering of urban land, e.g., buildings, roads, sewers, and electrical and communication systems; and the final one is *management* – the specialized administration that makes cities work (Figure 1).

Bourne (2000: 48) has presented contrasting trajectories of change in urban development using a number of conventional attributes as indicators. These attributes incorporate contradictory directions of change, or ‘polarities’, for example, in terms of densities, land-use mix, production spaces, labour markets, public goods, transportation, governance, and the sense of community and collective responsibility (Figure 2). The illustration suggests, for example, in scenario one – in relation to land use – that urban land use areas will remain highly segmented into homogeneous zones. However, the

alternative, scenario two, suggests that mixed use and heterogeneous zones will be the dominant trend in the future.

Figure 1 Evolution of Canadian Urban Form			
Urban Properties	Pre-1945	1945-75	1975-21 st Century
Proximity	Proximity determined by walking and public transportation, which results in strong CBD, steep accessibility and land value gradients, and tight urban texture	The accessibility range is vastly expanded by the car and new road networks. This causes flatter accessibility and land value gradients and a decentralization of activities.	The suburban land-use pattern becomes dominant. Ongoing flattening of accessibility and land value gradients. Reduced constraints on location. Congestion is compensated by a dispersion of activities.
Production	Manufacturing is a major source of employment in many cities. Reliance on waterways and railways for freight transportation. Large agglomerations. Export control functions from downtown.	Manufacturing relocates in suburban industrial parks. Heavy dependence on trucks. Increasing importance of the service sector translates into service centres in suburbs and office developments in both the CBD and suburbs.	More flexible forms of production, intense truck-based linkage patterns. Added importance of service sector leads to more and larger suburban concentrations than over the previous period. The advanced service sector favours core area sites in large metropolitan areas.
Capitalization	Blends earlier forms because of sufficient compatibility.	Generalization of a new, costly form of urban development and adaptation of some older areas to production and consumption standards. This urban form is consistent with economic climate of the time.	The high cost of suburban form of urbanization causes tensions for households and governments in a more difficult economic context.
Management	Provision of basic infrastructure but little land-use control. The central city controls most of the built-up area.	Intense infrastructure development and land-use control. Urban renewal co-ordination problems at the metropolitan scale.	Same approach as over previous period, but less urban renewal and difficult to maintain required levels of expenditure on urban infrastructure and services. Increased co-ordination problems at the metropolitan scale.
Source: Bunting, T., Filion, P., and L. Gertler (2000), in T. Bunting and P. Filion (eds) <i>Canadian Cities in Transition</i> , p. 17			

King and Dybvig (1995), have noted that population concentrations in settlements could range from the rural town with a density of about 1,000 persons per 2.59 square

kilometres to an upper end urban density of 100,000 persons per 2.59 square kilometres. At the “rural town” scale, which is the lowest point on the scale (with a population concentration equal to a community of single-family homes on lots of .4047 hectares or more) there are inevitable problems of transportation and social cohesion as a result of the distances to be overcome and the existence of extensive areas of open space.

Figure 2 Contrasting Directions for Future Urban Forms		
Attributes	Scenario 1	Scenario 2
Spatial organization	Decentralized, dispersed	Decentralized, multi-nodal
Population density	Low and declining, sprawl	stable (increasing in selected locations – reurbanization)
Land-use segmentation	Highly segmented, homogeneous zones	Mixed uses, heterogeneous zones
Social structure	Increasingly polarized	Increasingly diverse, mixed communities
Production spaces	Dispersed throughout urban area	Decentralized, but reconcentrating in new suburban nodes
Local labour markets	Disintegrating, dispersed	Reintegrating, balanced and dispersed
Public goods and services	Increasingly unequal, largely privatized	Uniform, equitable, largely state-provided
Transportation mix	Exclusively auto-oriented and expressway biased	Auto-transit balanced
Governance	Fragmented, numerous local governments, highly competitive	Regionally co-operative with local empowerment
Sense of Community	Strong, but locally focused and exclusionary	Strong, but with a broader region-wide commitment
Source: Bourne, L. 2000. In T. Bunting and P. Filion (eds) <i>Canadian Cities in Transition</i> , p. 48.		

The second rung identified on the scale is a population concentration of 3,500 persons per 2.59 square kilometres, the density of a typical suburb. The next scale is that of 10,000

persons per 2.59 square kilometres, with an urban form in which the dominant residential type is row housing, two-family housing and the like. This is followed by a rung with a density of 35,000 persons per 2.59 square kilometres, the level at which congestion begins. At the top of the density ladder is the population concentration of 100,000 persons per 2.59 square kilometres. This is the most congested level, with acute loss of privacy, light, air, circulation and recreational space.

King and Dybvig (1995: 34) have noted that gross densities of over 12 residential units per 0.4047 hectares (one acre) make public transit viable and ease the commute burden. However, municipal zoning policies may not favour higher densities in suburban settings, especially where development cost charges are in place. For example, development cost charges (DCCs) are levied on a per lot basis, (e.g., \$10,000 to \$12,000 per lot in Greater Vancouver, Victoria, Kelowna, Nanaimo) and as a result the developer pays lower fees with low-density development.

King and Dybvig also note that levying higher DCCs is based on the notion that, with more land development, there are higher infrastructure costs to be met by local government. The real cost is in the engineering and planning standards that new development must follow. Older neighbourhoods often have narrower streets, intersections with a tighter turning radius, unpaved lanes and other features that enhance community focus. On the other hand, new suburban municipalities are expected to follow more elaborate, land-extensive and costly standards. This leads to cost inequity on new development.

Table 1 City-Region Population Concentration Types.

Settlement Type.	Level of population concentration.	Residential type.	Problems and advantages related to the level of population concentration.
Rural Town. Level of lowest population concentration.	1,000 persons per 2.59 km ² .	Lot size of single family home is about .4047 hectares or more.	Problems of transportation and social cohesion due to extensive areas of open space.
Typical Suburb.	3,500 persons per km ² .		Mushrooming of cities. Long travel time to work. Inefficient transit due to population dispersal. Isolation and inadequacy of social stimuli.
	10,000 persons per km ² .	Row housing, two family housing and the like.	This density still means a significant distance/journey-to-work from periphery to centre.
	35,000 persons per 2.59 km ² .		Congestion begins. However, there is better social intercourse, short journeys to work or to open country, and efficient transit.
Level of highest density.	100,000 persons per 2.59 km ² .		Most congested level. There is acute loss of privacy, light, air circulation and recreational space.

Source: Constructed by author using figures provided by King C., and L. Dybvig (1995). Density value: development realities. In *The Canadian Appraiser, Spring*.

One main strategic factor determining sustainability is urban form i.e., the geographical nature of settlement patterns in cities, towns and villages. Urban form normally affects patterns of private transport, which in turn affect fuel consumption and emissions. Similarly, the viability and patronage of public transport facilities, as well as emissions, will be affected by urban form. Such form may also affect rates of conversion of rural land to urban uses and further the loss of natural habitats. Certain forms and types of change might also affect green spaces and habitat availability within urban areas. It is undeniable, therefore, that urban form, at all scales, significantly influences prospects for sustainability of urban areas (Breheny and Rookwood 1993: 151).

1.5.2 Property Tax Dependency and Municipal Development

The PT levels of a municipality are normally directly related to the level of services provided by the municipality. Slack (1994) has noted that to the extent that property taxes mirror the gains received from local public services, they will remain neutral with respect to development. That is, if property taxes are paying only for services (e.g., water and sewers) then the decision about where to develop within a city-region will be independent of property taxes because the taxes will be matched by the benefits received. When property taxes are unrelated to such benefits, however, there will be an impact on the development decision. Slack notes, however, that the use of PT to guide development is often disputed and rejects its use for development guidance purposes (Slack 1994: 7-9). However, especially because of the disadvantages to society that skewed development can bring to the overall development of a particular place or municipality, property taxes are increasingly being used for development guidance purposes and in many cases also to support welfare policies.

Arguing for the use of PT as a guide to development, Gilbert and Pepperel (1994) have noted that the purpose of taxation is, first, to raise enough funds for government expenditure. Second, often, but not always, taxation is allied with redistribution of resources. Third, the purpose of taxation is to economically influence behaviour; e.g., cigarette taxes and import duties. Finally, the purpose of general taxation is to cover some or all of the costs of particular government services, not covered by user charges and

certain dedicated/special taxes. They concluded that: “the overriding consideration in reforming property taxes should be the first and third purposes: raising enough money and guiding land use” (Gilbert and Pepperel 1994: 10).

Inter-jurisdictional tax competition occurs when one jurisdiction responds to the tax policies of another to address positive and negative consequences that arise from the tax policies of that jurisdiction. Inter-jurisdictional tax competition can affect the flow of labor, capital, goods and services (Manitoba Lower Tax Commission 2000: 24). The use of property taxes to guide land use and development in a multiple-jurisdictional context, in which each jurisdiction decides its own level of property taxes, as currently exists in the MCR, has produced inter-jurisdictional tax competition. Now, it is also likely that these inter-municipal tax differences will create an impediment to successful urban regional cooperation and to the development of a sustainable urban form.

1.6 Organization of the Study

The purpose of this study, as stated earlier, is to examine the likely effects of central city (in this case Winnipeg) dependency on property tax as a main source of revenue generation, and its consequences for the regional land use and development configurations (in this case, the Manitoba Capital Region). The study is organized into six chapters. Each chapter deals with specific issues relating to the research. The first chapter has been introductory, touching on issues such as the purpose and rationale for

the research, statement of the problems necessitating the research, and a brief discussion of urban form and its relationship to municipal property tax dependency.

The second chapter deals with the background to the study. It considers the natural characteristics and resources of the MCR. It also touches on taxation and development issues relating to the region. Chapter three dwells on the literature of taxation and urban development issues and reviews the concept and practice of sustainable development. Chapters four and five consider the research methodology and analysis of data respectively, and the final chapter, chapter six, deals with the interpretation of results. The study concludes with suggestions for taxation policies that can relieve the consequences for development as a result of the high dependence on PTs for municipal revenue generation, and prescribes innovative approaches to better manage the environmental problems of the MCR.

1.7 Summary

The overflowing of municipal boundaries as a result of urban growth in Canada and elsewhere, in general, and in the Winnipeg urban region, in particular, has fueled the need for regional planning to help solve area-wide problems of urban growth. Winnipeg has the highest residential property tax rates of all the major cities in Western Canada and these high property taxes are being blamed for the flight of people from Winnipeg to the bedroom communities on the city's fringe. The continued deterioration of the downtown

core, and the discouraged entrepreneurial activity in the city has also been attributed to the prevailing high taxes in the city-region.

One main strategic factor determining sustainability is urban form, that is, the geographical nature of settlement patterns in cities, towns and villages. Growth management influences the timing of development, limits growth, channels it, and manages its impacts. Managing urban growth can lighten the collision between urban and rural populations and how they use the land. Where inter-jurisdictional/inter-municipal competition exists within a city region, the resulting 'tax wars' can be an impediment to successful urban-regional cooperation and development of a sustainable urban form.

CHAPTER TWO: BACKGROUND TO THE STUDY

2.0 Introduction

In chapter one, we looked at the problems necessitating this research. We also stated the justification for the study and the main research questions. It was noted that a sustainable urban form is the result of effective growth management and that inter-municipal property tax differentiation can impede regional cooperation, and lead to an unsustainable urban form.

This chapter considers the natural and resource characteristics of the city-region. The relation of realty tax to development trends in the MCR is also explored.

2.1 The Capital Region

2.1.1 Population

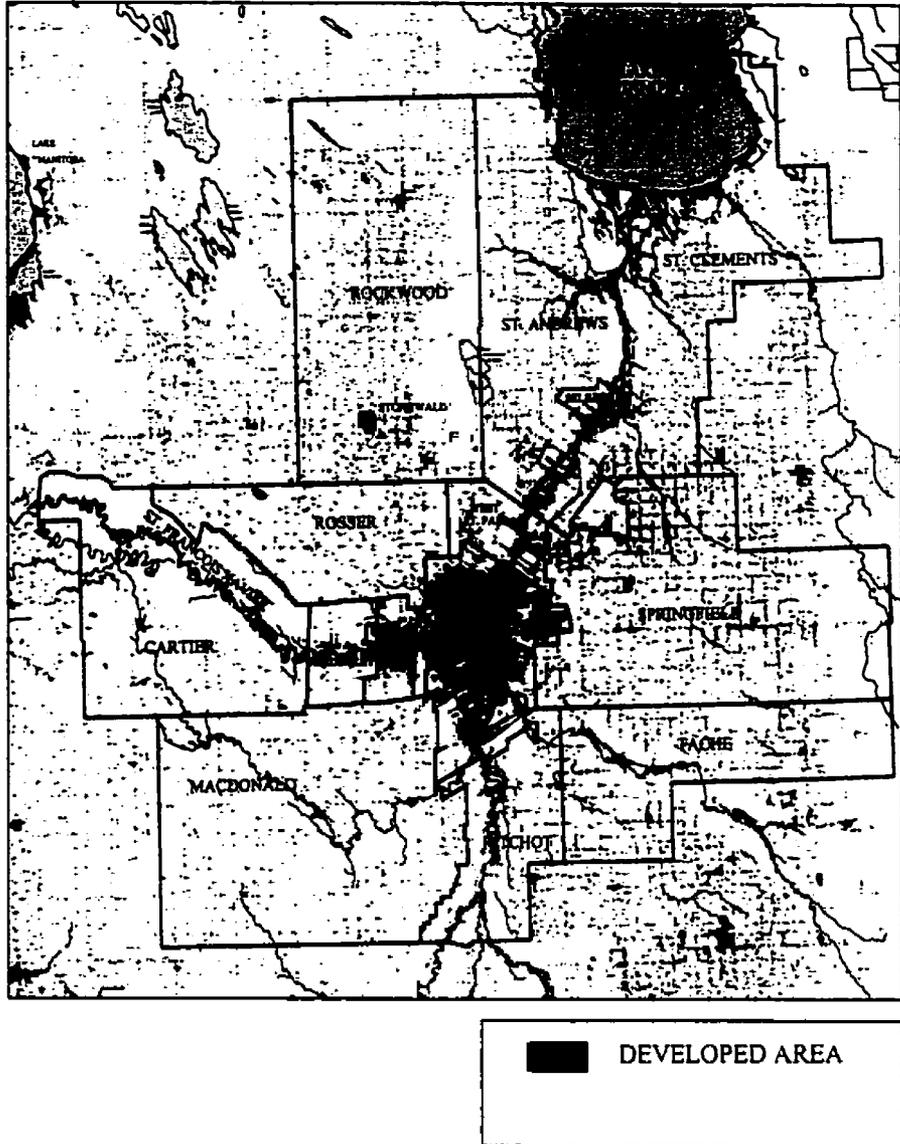
Manitoba's Capital Region (MCR) is located in the southeastern part of the province. It includes the city of Winnipeg (the province's capital), the towns of Selkirk and Stonewall, and thirteen rural municipalities: Cartier, East St. Paul, Headingly, Macdonald, Ritchot, Rockwood, Rosser, St. Andrews, St. Clements, St. Francis Xavier, Springfield, Tache and West St. Paul. It is called a region because of the shared interests of the various municipalities in the sustainable future of the area's communities, economy, environment, and natural and human resources (MRTEE Workbook on the Capital Region 1995). Map 2 shows the regional distribution of growth within the MCR.

In 1996, approximately 706,000 people lived in the Capital Region, an increase of roughly 9,400 people since 1991. In 1996, the region accounted for 63 percent of total provincial population. Population growth in the capital region has slowed considerably since 1991. Annual population growth during the 1991-1996 period averaged 0.27 percent, well below growth rates of the 1981-86 and 1986-91 periods, which were 1.10 and 0.88 respectively.

The Capital Region has people from nearly every country in the world. Seventy eight percent of the population in the MCR identifies English as their mother tongue, 4.5% identifies French, 4% German, 3% Ukrainian, 1.5% Polish and 1.5% Tagalog. An additional 7.5% identify other languages as their mother tongue. In the area of education, out of a total population of 547,665 who were 15 years and over in the MCR in 1991, 10.9% (59,790) had less than Grade 9 education and 39% (213,795) had not completed high school (MRTEE Workbook on the Capital Region Strategy 1995: 8-9).

2.1.2 Physical Characteristics and Natural Resources

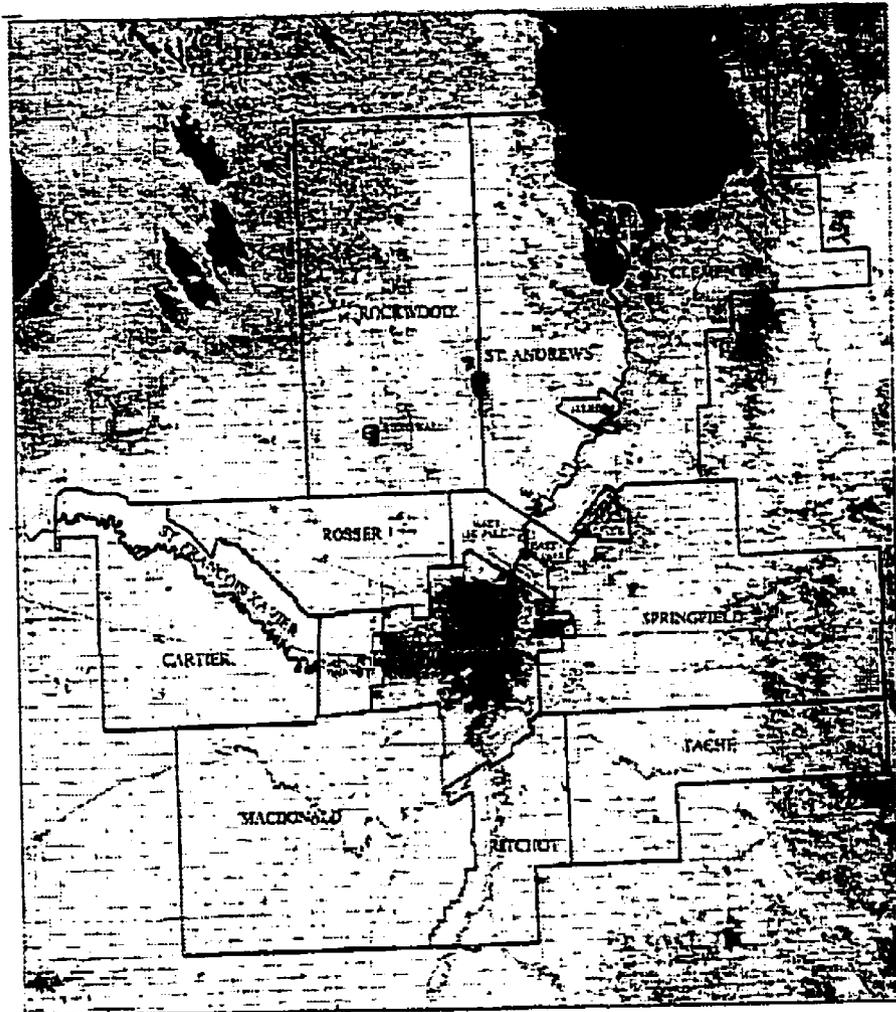
Topographically, the Capital Region is a flat plain intersected with four rivers, and a number of tributaries. The Red River, the largest of these rivers, flows from south to north, dividing the region in half and draining into Lake Winnipeg in the northern part of the region. The Assiniboine River, which joins the Red River at the Forks in Winnipeg, runs west to east through the centre of the region. The MCR's two other, smaller, rivers



Capital Region Review. 1999. Final Report of the Capital Region Review Panel, Dec., p. 26.

Map 3

Land-Use Capital Region Municipalities



- AGRICULTURE
- FORESTED LAND
- WATER
- GRASSLAND PASTURE/PORAGR
- MARSH/PENS/BOG
- CULTURAL FEATURES
- FOREST CUTBLOCKS
- SAND/GRAVEL
- ROADS/CUTLINES
- RURAL MUNICIPALITY BOUNDARIES
- INDIAN RESERVES

Source: Capital Region Review. 1999. Final Report of the Capital Region Review Panel, Dec., p. 8.

are the Seine and LaSalle rivers; most of their watersheds lie within the MCR. The region's water resources also include streams, lakes and groundwater. Because of extensive flood experiences, a system of dykes and channels has been constructed to protect the region from floods. The largest channel is the 48 km, 305 m wide, Red River Floodway, which diverts flood level overflow from the Red River around Winnipeg during flood seasons. (MRTEE Workbook on the Capital Region Strategy 1995: 7-11). Geomorphologically, much of the MCR is in the form of glacial lake deposits (Lake Agassiz). Most of the urbanization has occurred here.

In the area of climate and environment, the MCR is noted for its clean air, and consistently ranks highest among the larger Canadian metropolitan regions for good air quality. The MCR has a continental climate, with temperatures ranging from average normals of +18 celsius for the June to August period to average normals of -16 celsius for the December to February period (MRTEE Workbook on the Capital Region Strategy 1995: 7).

The Canada Land Inventory has rated about 80% of the region's soils as prime for agricultural purposes. Agriculture uses about 720,000 ha or 76% of the MCR's land. The region's geological formations are also very important – outcropping towards the edges of the MCR, and serving as a source of valuable mineral resources which are quarried for use in industrial construction (MRTEE Workbook on the Capital Region Strategy 1996: 7).

2.1.3 The Economy

Agriculture is one of the most important industries in the MCR. The region has about 12% of Manitoba's farms, 10% of its livestock operations and 15% of the province's total value of agricultural production.

The headquarters of nine major Canadian trucking firms are found in the MCR. The air and railway industries also have several offices with national, regional and global functions. There are two national rail lines with three connections to the U.S., and five major highways with linkages to the rest of Canada and the US.

Manufacturing in the MCR is more diversified than any other centre in Western Canada and is geared to both foreign and domestic markets, with over 60% of output exported to over 100 countries worldwide. Major industrial products are agricultural and transportation equipment, aircraft engineering services and parts, and clothing. The MCR produces about 75% of the province's manufacturing shipments (Workbook on the Capital Region Strategy 1996: 10).

Commercial services in the region are extensive. The MCR has several headquarters as well as regional offices of all Canadian banks and major North American investment dealers. Non-commercial services such as health, welfare, education and public administration are also among the largest employers within the region. Tourism is also a very important economic activity (Workbook on the Capital Region Strategy 1996: 10).

In the late 1940s, when Canada began to experience rapid industrialization and urbanization, Winnipeg gained rapidly in population and extent of its developed area. In 1946, the population of the city was 230,000 while that of the combined suburbs was only 70,000. In a little over ten years the suburbs grew to approximately the same population size as the city. In 1955, when the Provincial Government established the Greater Winnipeg Investigating Committee to look into the matter of sprawl, there were seven cities, two towns and 14 rural municipalities within the Winnipeg area. In 1959, the Investigating Committee's report concluded that long-term planning was impossible under the existing structure and that an area-wide governing authority was necessary. It recommended that major urban services be amalgamated (City of Winnipeg Review Committee 1986:4). As a result of these developments, in the 1960s the Winnipeg Area was served by a metropolitan form of government with a two-tier structure system of government. One tier was responsible for matters of a local nature and the other was responsible for matters such as regional planning and servicing. This metropolitan government also had control over a zone averaging about eight kilometers in depth (the Additional Zone) adjacent to, and outside, the corporate limits of Greater Winnipeg, and controlled land-use planning and zoning decisions of the elected councils governing the area (Capital Region Review Panel 1998: 11).

Gerecke and Reid have noted that administrative control over exurban development started breaking down in 1965 after the province loosened the control that the

Metropolitan Corporation of Winnipeg (established in 1960) had over the Additional Zone. When Unicity took effect on January 1, 1973, replacing the metropolitan government, the bargaining powers of the inner city vis-à-vis its suburbs were seriously weakened because the previous parity in seats (5 for the inner city to 5 for the suburbs) was dramatically altered to favour the suburbs (16 for the inner city and 34 for the suburbs) in the 50 wards created (these 50 wards were later reduced to 29 in 1977, and 15 in 1992). Since then, suburban interests have systematically overwhelmed inner city interests. This is somewhat ironic because one of the major objectives of Unicity was to address the disparity between the inner city and its suburbs. In 1976, rural municipalities were allowed relief from the Additional Zone constraints if they formed their own planning districts. This permitted 60% of this new spatial designation to escape land-use controls by the city. And in 1992, due to complaints about high taxes and poor services, the province permitted Headingley, an exurban community on the western edge of the city and a choice location for the construction of expensive homes, to break away. This, in turn, led other fringe communities on the edge of the city, such as St. Norbert and St. Germain, to consider seceding as well (Grecke and Reid 1992: 126-27).

Gleeson has observed that ever since the 1991 census showed bedroom community enclaves like East St. Paul and Stonewall gaining assessment at the city's expense, there has been a fairly steady stream of resentment directed toward the urban tax evaders of the commuter belt. He points out that the City of Winnipeg has covetous designs on its immediate rural neighbours because of schemes mooted by the city which included: opening toll booths on the highways leading into the city; a residency requirement idea

for city workers; a proposal to reinstate the Additional Zone; and, finally, the Capital Region Strategy, “a collection of platitudes about cooperation and sustainable development” (Gleeson 1996). It appears that some of these “schemes” or “designs” aimed at the rural municipalities are a result of the lens from which the impact of the expansion of the rural municipalities was viewed. Some viewpoints showed that the rural municipalities preyed on the City.

The nature of the impact of the growth of Winnipeg’s surrounding municipalities on Winnipeg’s development is, however, not entirely clear. While some see a positive impact, others disagree. Gleeson (1996), for example, maintains that the preying of ex-urban dwellers on urban services is real. He notes that too often, residents of the so-called fringe municipalities are guilty as charged: they work, shop and play in the city, returning home at night to their tax shelters in the country only to recuperate from the fumes. They have few links with the rural centres and their lifestyles are not genuinely rural. Similarly, Peter Diamant (1995; 12) argues that most people living close to Winnipeg use the city not only for work but also for shopping and entertainment, thus adding stress on the city’s infrastructure. However, there is no guarantee that these out-of-city residents share in the costs of the services that they enjoy.

Gary Filmon, former Premier of Manitoba, disagrees that the population shift to the rural municipalities of the MCR has negative consequences for the City of Winnipeg. He argues that rural residents do not entirely prey on the City of Winnipeg infrastructure without any contribution. He maintains that they do contribute: they support the arts,

directly and through provincial taxes, they do much of their shopping in Winnipeg, though they do not live there. He also asserts that the taxes of these out-of-city residents are low because they enjoy fewer services - they lack bus services and libraries for the most part, and in some cases they don't have paved roads, sewer and water (Gleeson 1995: 2-3).

Others have also argued that the population shift to the rural municipalities does not stem from a desire for financial gain but from purely lifestyle choices. Hillard (1995), for example, argues that the movement to the suburbs of the city-region is more the result of a lifestyle choice than the money to be gained. She points to the fact that people still move despite the fact that the level of service in rural municipalities is considerably less than in Winnipeg, while "movers" still have a significantly higher transportation cost to bear. She also points to the higher auto insurance rate for commuters, and the costs of transporting children to various activities, as reasons that show movement to the suburbs is not based on a desire to make use of 'tax shelters' but the desire to enjoy a specific (rural) lifestyle.

But some claim that the decision to move to rural municipalities is motivated by either the need to take advantage of financial benefits or specific lifestyles or both. Daniels (1999), maintains that cost advantages are likely the main motivating factor for the decision to move, though there might be other factors as well. He states that the cost advantages of living in the fringe are often cited as lower property taxes and less expensive housing, compared to the suburbs and the central city. Lower car insurance

rates may be another bonus. Commuting costs for gasoline and wear and tear of cars are generally off-set by the savings on property taxes and housing costs. There may also be little difference in utility rates but there are opportunities to save on heating costs by burning wood as opposed to oil, natural gas or electric heat (Daniels 1999: 40). Other factors that might inspire the decision to move, Daniels notes, include the desire not just to own a house but land as well. He asserts that people feel more secure and more in control under this type of ownership than when they own an apartment or a house in a suburban residential neighbourhood. He also maintains that, for some, a healthy and enjoyable lifestyle is more important than any cost savings, noting that people are attracted to amenities that the suburbs and central cities do not have, or only have in short supply, "such as open space, the chance to keep a horse, clean air, and clean water" (Daniels 1999: 40). Though there has been no in-depth study to identify the causes of the population shift from the city to its surrounding rural municipalities, it is likely that some of these advantages are among the main elements driving the population shift in the Winnipeg city-region.

2.3 Realty Tax in the Winnipeg/Capital Region: A Comparative Property Tax Analysis

The city of Winnipeg has been experiencing a high level of PTs for a long time. In 1973, when Unicity began, property tax accounted for nearly 60 percent of Winnipeg's revenue. In 1984 it accounted for approximately 54 percent (City of Winnipeg Review Committee 1986:13). More recently, the 1998 revenue estimates and their various sources, i.e., as adopted by Council on March 12 1998 (see Appendix 1) show extensive reliance on

realty tax and payments in lieu of realty tax as a source of revenue generation – 58.24 per cent of budgeted revenues.

The continued reality of high property taxes in the city is also shown by the lead that the City of Winnipeg has, when it is compared to other major Western Canadian urban centres (Table 2), a high of \$611 to a low of \$398 for Winnipeg and Saskatoon respectively.

Table 2 The Realty Tax for Four Major Western Cities, 1995 (in thousands of dollars).

City	Population (1995)	Assessment Values of Properties (\$'000)	Property taxes and grants in lieu of taxes (\$'000)	All other Revenues (\$'000)	% of property taxes and grants in lieu of total revenues	Per capita property taxes and grants in lieu (\$)
Calgary	749,073	38,786,296	337,296	378,464	47.12	450
Edmonton	627,604	29,102,430	309,600	311,447	49.85	493
Saskatoon	189,745	1,539,347	75,529	54,688	58.00	398
Winnipeg	637,700	21,420,178	389,671	246,467	61.26	611

* "All other revenues" - includes sales and user charges, utility operations and government grants as its main components for all four cities.

Source: *Rethinking Taxation*, Committee on Tax Reform, June 1998: 17.

The amount of realty tax revenue is also very high for Winnipeg as compared with three other Western Canadian cities (Table 3). Winnipeg has led these cities for each of the 10 years shown and continues to do so despite the growing assessment base during the period for Calgary and Edmonton. To compete effectively with these cities for business

opportunities and for residents, the city's reliance on realty taxes as a revenue source needs to diminish significantly.

Table 3. Realty Tax Revenues – Grand Totals 1988 to 1997

Year	Winnipeg (\$)	Calgary (\$)	Edmonton (\$)	Saskatoon (\$)
1997	381,522,368	357,286,000	302,796,766	79,041,262
1996	374,370,605	346,075,000	320,368,322	68,069,303
1995	380,025,690	339,657,000	310,343,056	69,550,910
1994	373,430,203	344,466,000	312,284,462	68,746,452
1993	362,293,584	336,541,000	312,284,462	67,804,093
1992	353,313,165	325,502,000	308,766,911	66,440,813
1991	346,550,119	310,402,000	291,750,896	64,819,114
1990	326,557,903	286,989,000	271,279,389	61,917,762
1989	295,684,529	271,375,000	239,251,609	57,962,966
1988	279,890,280	257,846,000	226,337,600	54,269,724

Source: *Rethinking Taxation*, Committee on Tax Reform, June 1998: 19

A comparison of PT increases (see Table 4) between 1991 and 1994 indicates Winnipeg's property tax increased by 7.3%; the increases in Calgary, Edmonton, Regina and Saskatoon were only 4.9%, 4.5%, 5.3% and 4.0% respectively. The relatively low PT increases in Calgary, Edmonton and Regina can partly be explained by high municipal non-tax revenues and the control of expenditures. Low revenues, high debt charges and unexpected expenditures have given Winnipeg few alternatives but to have modest property tax increases (Diamant and Cory 1995: 19).

Table 4. Percentage Increase in Property Tax – Three year Comparison				
City	1994	1993	1992	AGGREGATE
Winnipeg	3.3	2.8	1.1	7.3
Regina	1.45	1.9	1.9	5.3
Saskatoon	1.12	1.6	1.4	4.0
Calgary	0.0	2.0	2.9	4.9
Edmonton	0.0	0.0	4.5	4.5
Vancouver	3.0	3.7	4.5	11.2
Toronto	0.0	0.0	2.5	2.5
Hamilton	0.0	1.6	3.9	5.5
Montreal	1.6	3.5	8.0	13.1
Halifax	0.0	3.0	3.9	6.5

Source: Diamant P. and S. Cory (1995), *Budgeting and the Prairie City*, p.36.

One area where the city of Winnipeg lacks revenue is from utility services. Diamant and Cory (1995: 17-18) have noted that although provincial transfers to cities in Alberta and Saskatchewan have declined, these cities have access to revenues from utilities to compensate for these decreases. The province of Manitoba has generally maintained its transfer payments to its municipalities but it has not yielded access to utility revenues comparable to the other Prairie provinces

Through its control of the formula for financing education expenditure, combined with the provincial system of residential tax rebates, plus its influence by means of conditional and unconditional grants, the Government of Manitoba has a heavy impact on the level of residential property tax in the province generally and in the city in particular. Though the

city can adjust the scope and rate of its current levies to obtain some revenue increases, it requires provincial approval to gain access to the substantial revenues which might flow from the use of the so-called growth taxes, consisting of income and sales taxes, which are more sensitive to fluctuations in economic activity (City of Winnipeg Review Committee 1986:13).

A report produced by the Committee on Tax Reform (1998), that examined revenues and taxation in the City of Winnipeg, came up with a number of issues relating to realty tax in the city. The committee was formed by the Winnipeg City Council and tasked with identifying problems relating to taxation and to help find solutions to them. The problems of the city's tax system identified by the committee were as follows: first, the committee noted that the terminology, principles and process of the city's tax system (residential and commercial) is not easy to understand. The committee noted that the tax system's terms, such as assessment, assessed value, portioned assessment, assessment appeal, mill rates, assessment years and base years – all in relation to “service taxes” – are very confusing and frustrating. The committee also noted that the city's already high taxes are further complicated by the addition of school taxes in the form of a provincial education tax and a local school division tax. In addition, the knowledge that an increase in a property's market value may result in an increase in property taxes is a deterrent to property maintenance. The committee concluded that these disadvantages damage the overall well-being of the city (Committee on Tax Reform 1998: 13).

Secondly, the Committee on Tax Reform noted that there are several complicating factors inherent in charging the city's realty tax on the portioned assessment value of each property at an annually established mill rate. These factors include: first, the assessment lag issue, i.e., 1995 market values for properties were used in assessing realty taxes for 1998, which means that the 1998 assessed market value of a residence was four years older than its assessed value. This perpetuates inequities to taxpayers because there are increases or decreases in market value of property during intervening lag periods. Second, since 1990, portioned assessments have been applied to different classes of property, which means that only a portion of the fair market value of each respective class of property is taken as the assessed value. A portioned percentage (i.e., 30% or 45% of market value of a property) is taken and a uniform municipal mill rate applied to it to determine the tax liability for the specific property or class of property. Third, the inclusion of a school tax on the same annual billing with the municipal tax further complicates the property owner's understanding of what actually transpires from year to year with the owner's property taxes. The committee concluded that these factors make a property tax bill hard to read and understand (Committee on Tax Reform 1998: 13-15).

Finally, the committee maintained that there seems to be a lack of confidence in the market value system of assessment because of problems surrounding conversion from one method to the other. This lack of confidence generates large numbers of appeals. There were 13,828 appeals relating to the 1998 property tax bills – and this number represents a decrease from the appeals in preceding years during the 1990s. The appeals have led to property tax refunds of more than \$200 million, significantly reducing the

property tax assessment base of the city. The committee noted, especially, that condominium owners as a group, generally believe that they are being treated inequitably because they are assessed similar to, but use less services than, single-family dwellings.

These enormous problems are an indication of the difficulties associated with the reliance on PT as the main revenue generator for a large city such as Winnipeg. Should these problems worsen in the years ahead, it is likely that the city will face even more difficulties meeting its revenue targets. A failure to obtain enough revenues would either lead the city into debt, as it would have to borrow to pay for its services, or cause a cut in the level of services provided to the city's residents and businesses. The city may even decide to drop certain services. It appears that it is relevant for the city to begin to examine ways of gaining revenue from utilities and growth taxes, sources that are currently denied it by the senior levels of government.

2.4 SUMMARY

Manitoba's Capital Region is located in the south-eastern part of the province. It consists of the City of Winnipeg and 15 surrounding municipalities. The region has a rich population mix with people from nearly every country in the world. Low incomes affect a large segment of the Capital Region. Topographically, the region is a flat plain intersected with four rivers and a number of tributaries. The region is noted for its clean air and consistently ranks highest among the larger Canadian metropolitan regions for good air quality. Winnipeg, like most Canadian cities, is experiencing urban sprawl. The

ex-urban sprawl problem is particularly critical for Winnipeg because it has no access to the ex-urban tax base. The varying property tax levels in the constituent municipalities of the city-region add to factors that are promoting the 'doughnut effect', a process of urban regional development that leaves the core of the central city in danger of total deterioration as a result of the flight of businesses and residents to suburban and ex-urban areas.

CHAPTER THREE: LITERATURE REVIEW

3.0 City-Region Form and Municipal Tax Finance: Introduction

The previous chapter considered the physical and natural resources, the demographics and the economy, and other development characteristics of the MCR.

This chapter reviews the pertinent literature. Material that deals comprehensively with the relationship between property taxation and Canadian city-region form is relatively rare compared to separate literatures on PT and urban form issues. This forces a separate consideration of PT and city-region form issues in the literature review. Based on information gained from the literature review, a model is presented, at the end of the chapter, to attempt to show the intricate relationship between PT and urban form.

3.1 Urban Form: Theories of the City.

The most far-reaching work concerning the theorization of urban land use can be traced to human ecologists in Chicago during the 1920s. Amongst them, Hurd (1924) stated that as a city grows, locations are brought into use so that rents at the most accessible points rise. Haig (1926) also saw rent as the charge for accessibility or the saving in transport costs, and invoked a bidding process to determine the occupancy and use of land. He maintained that the theoretically perfect site for a specific activity is one that provides the desired level of accessibility at the lowest cost of friction (that is, time and monetary

costs). In addition, he asserted that the layout of a city tends to be influenced by a principle which may be termed 'minimizing the costs of friction.'

Other members of the human ecology school that made an impact on the theorization of land use are those closely associated with Park and Burgess. This school used biological concepts of community, dominance, segregation, invasion and succession (processes taking place in the biological world) to describe processes taking place within a city's land use development. They maintained that the dominance of one particular group within a community could be ascribed to its superior competitive power, and every area of segregation is the result of the operation of a combination of the forces of selection. Burgess (1925: 49) argued that: "The typical process of the expansion of the city can best be illustrated, perhaps by a series of concentric circles, which may be numbered to designate both the successive zones of urban extension and the types of areas differentiated in the process of expansion."

The concentric zonal arrangement of Burgess's model, from centre to periphery, was suggested to be: (1) the central business district; (2) the zone of transition; (3) the zone of working men's homes; (4) the zone of better residences; and (5) the commuters' zone.

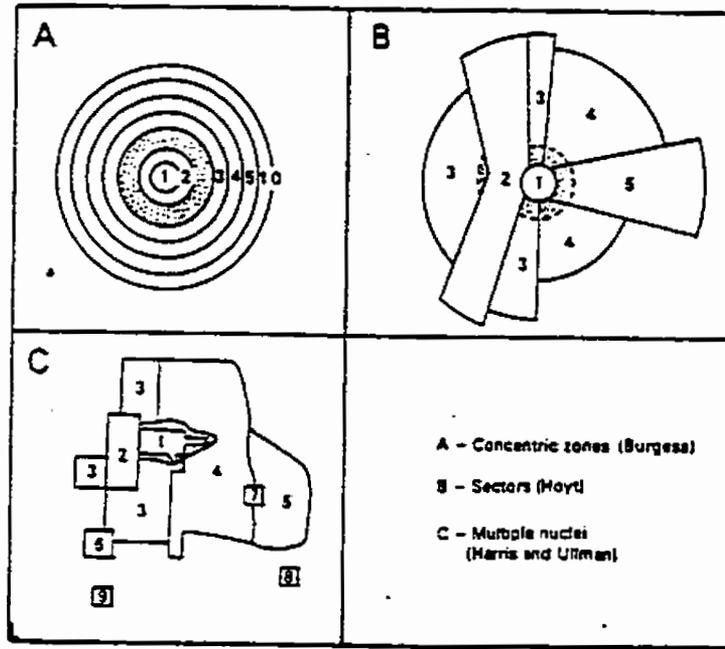


Fig. 3. Spatial models of the city. These models, largely intended to provide descriptive generalizations of residential structure, are described as the classical models. 1.CBD; 2. wholesale, light industry; 3. low status residential; 4. medium-status residential; 5. high status residential; 6. heavy industry; 7. outlying business; 8. residential, suburb; 9. industrial suburb; 10. commuters' zone. Dot-shading marks zone-in-transition.

Source: Herbert and Thomas (1990), p. 134.

The assumptions in the model included an isotropic surface, a heterogeneous population, a mixed industrial commercial base, cheap transit and a capitalist system. The model was constructed to describe urban spatial structure but also served as a mechanistic framework for urban growth and change. Change was most pronounced in the zone of transition: "As inhabitants abandoned the inner city, migrants replaced them giving high rates of population turnover. This mobility was seen as the main cause of social disorganization in the transition zone and the social problems which typified this area" (Burgess 1925: 135).

The Burgess model has, however, faced criticism. The concentric circles have been attacked as being transition gradients rather than sharp breaks and it is argued that each zone has less homogeneity than generally implied. It has also been criticized for its anachronism and lack of universality. In addition, critics have stated that the model viewed the urban form as a two dimensional feature, neglecting the height of buildings and variation of use with height. Furthermore, the model's critics have argued that accessibility not only diminishes outward from the centre but also upward from the ground (Murphy 1966).

In a review of Burgess' model, Homer Hoyt (1939) conducted a factual examination of residential rent patterns in twenty-five cities in the USA. He found that rent areas tend to conform to a pattern of sectors, rather than of concentric circles as presented by Burgess. He therefore developed the *Sector Model* to describe land use patterns in cities. In 1945, Harris and Ullman observed that land uses in cities tended to exist as a series of nuclei

rather than the single central core used in the concentric and sector models, and they developed the *Multiple Nuclei Model* to reflect this.

The *Sector* and the *Multiple Nuclei models* have, however, also been criticised. Firey (1947), for example, maintains that physical relief features and other natural barriers greatly distort any sector pattern. He also maintains that Hoyt failed to consider the roles of cultural and social systems in conditioning land use. It has also been noted by Fisher and Fisher (1954) that these models represent predominant land use at the street level without taking high-rise buildings into account.

One other problem with these models is that, because of the isotropic assumption underlying their construction, specific economic factors such as taxes, in general, and property taxes, in particular, were not isolated to determine their degrees of influence on the processes that shape urban form. The models were also basically descriptive, and as such they did not contain elements that predicted future urban patterns, such as current city-region forms. As a result, though they remain useful as generalizations describing past, and some current, city forms, they are of little value in explaining current urban sprawl patterns specific to city-regions.

3.2. Harvey's Theorization of the Process of Evolution of Cities

An important attempt at the theorization of the process of evolution of cities under capitalism is David Harvey's (1973) analysis of 'uneven development.' He emphasizes

that investments in land are very significant for the functioning of capitalist societies because a great deal of capital is normally tied up in the built environment. He notes that some peculiarities of land in a capitalist society are: its fixity, because it cannot be transported; its necessity to human life, as everyone needs a place to live; its role of allowing assets and investments to be stored; and its relative permanence, since developments and improvements in land often survive considerable periods. He also asserts that the built environment can help capital accumulation if it is a profitable avenue for investment, but can also be a barrier to it, when its inherent qualities render it outdated within a relatively short period of time.

In his examination of the three 'circuits of capital' (Harvey 1977, 1982), he maintained that contradictions result from the accumulation of profit by the exploitation of labour, especially when there is an overproduction of goods without adequate money in the economy to purchase them. When this occurs profits may fall and capital lie idle. This crisis of 'over-accumulation' causes a switching of capital into the 'second circuit,' where capital is fixed in the built environment. He notes that money is moved from the primary circuit to the secondary circuit so long as a supportive framework for this transition exists, such as when a state encourages such investment. He also asserts that the tertiary circuit consists of scientific knowledge and expenditures to reproduce labour power, and the expenditures involved are a result of social struggle rather than a direct opportunity for capital to find new avenues for accumulation. Harvey concludes that the built environment not only resolves crisis in the process of capital accumulation but can, itself, be the subject of crisis, because, as capital is invested in the built environment, the

primary circuit is deprived of it. However, as new opportunities for investment in the primary circuit spring up, capital moves back again into this circuit, devaluing capital of the secondary circuit and making it a less attractive venue for investment.

Savage and Ward (1993: 50) have noted that Harvey's theory has both positive and negative sides. On the positive side, they maintain that the theory portrays the cyclical way in which cities, or spatial units within them may grow or decline in relation to specific rounds of investment. They also note that the theory is sensitive to political and social struggles that often play a role in the retention of particular roles for cities. For example, strikes, 'growth coalitions,' etc., may act to modify, or even thwart, the desire of capital to disinvest. On the negative side, they assert that one underlying weakness of the theory is the circularity of his argument. They ask: if decisions to invest in the built environment can be seen as resulting from a crisis in the primary circuit which causes a shift of capital to the secondary circuit, how do we know that there is a crisis in the primary circuit? They note that the obvious answer, then, is: "because capital is being switched to the secondary circuit" (Savage and Ward: 1993: 49). They argue that, as such, it becomes difficult to distinguish the evidence for the causes of urban change from the evidence about urban changes themselves. Second, they maintain that Harvey limited the basis of urban struggles to class and, as such, ignored the importance of groups and actors organized around such issues as gender, ethnicity, and neighbourhood. Finally, they assert that his position was "economically determinist" (Savage and Ward: 1993: 50).

Harvey's theory, also, does not provide any information about how the swings in investment will 'put investments in place' within the spatial context of a city-region, especially one with differentiated municipal tax regimes. In addition, by limiting investment shifts to periods of boom and decline in capitalist economies, Harvey ignored possible shifts in investment and, consequently the nature of growth in cities, that were likely to result from investment being attracted to areas with lower tax regimes in periods of continuous economic boom.

Tax cuts, tax relief, tax breaks and other tax incentives are increasingly being used by local, and even regional and national administrations, to attract investment. Current free trade zones are development areas that enjoy significant tax concessions. As a result, any theory that seeks to adequately explain investment behaviour, and, as such, the growth or decline of cities, municipalities, etc., needs to take into account the nature and impact of taxes on the decision to invest.

3.3 Urban Sprawl

Urban sprawl has been defined in numerous ways, but most definitions note that it is low-density urban housing development (Geddes 1997). Altshuler and Gomez-Ibanez (1993: 7) define sprawl as: "continuous low density development on the metropolitan fringe, ribbon low density development along major suburban highways, and development that leapfrogs past undeveloped land to a patchwork of developed and undeveloped tracts." Galster et al (2000: 5) maintain that for urban sprawl to be measurable, it must be

possible to differentiate it from other conditions of land use. They therefore suggest that sprawl is a pattern of land use in an urban area that exhibits low levels of some combination of eight distinct measurable dimensions: density, continuity, concentration, compactness, centrality, nuclearity, diversity and proximity. They maintain that if each of these dimensions were placed on a continuum, the lower the level of its presence, the greater the extent of sprawl on that dimension.

From the foregoing, urban sprawl can simply be defined as the horizontal spread of mainly single-family housing development (with a consequent lack of emphasis on multi-family, or apartment block, construction). This horizontal spread is a consequence of both demands of the marketplace and non-restrictive planning practice.

Sprawl development encounters much criticism. Isin (1996) notes that opponents of sprawl often mention that this urban form is socially alienating, economically unsustainable, environmentally destructive and aesthetically displeasing. Sprawl opponents also argue that segregation, based on gender, class, and ethnicity are inherent features of this urban form, leading to increased intolerance and racism. In addition, they assert that low densities increase the per capita costs of providing urban services, thus inflating municipal expenditures. Also, they maintain that sprawl development expands into agricultural land and natural areas, causing a depletion of areas available for agriculture, and leisure and recreation. Finally, they assert also that increased automobile use leads to air pollution and global warming, while the low density, bland, repetitive,

homogenous, mass manufactured homes are considered tasteless and, in effect, aesthetically displeasing.

On the other hand, Isin notes that those who support sprawl development often argue that these new areas on the edge of cities are vital and vibrant developments that are now the next frontier of urbanism. They maintain that suburbs are not exclusive areas but vary in ethnic, economic and social composition. They also argue that service provision costs in sprawl areas and core city areas are not as wide as they are portrayed to be. Finally, they note that the loss of agricultural land is the result of market forces, not uncontrolled expansion of urban areas, and that automobile use is generated by deeper influences than sprawl development.

Isin (1996) concludes that there are weaknesses in these arguments. He argues that if the opponents of sprawl ascribe causal attributes to unplanned urban form, such as 'alienation' or 'incarceration,' the question arises as to whether urban form causes social, political, and economic effects. For example, if increased commuter times cause social ills such as family breakdown, social isolation and alienation, then causal powers are given to urban form. He asserts, then, that "by so doing they stray away from discussing the complex interplay between urban form and contemporary economy and society" (Isin 1996: 118). Isin also notes that supporters of sprawl often reverse the cause-effect relationship. They tend to argue that urban form is either an effect of forces that are beyond the control of individual decisions (structuralism) or an effect of individual decisions (voluntarism) (see Isin 1996: 98-127).

Because of the close interweaving of economic, political, social and cultural conditions that eventually affect individual decision-making, it would appear that a wide variety of factors are responsible for sprawl development. But since individual decisions inevitably have economic consequences and/or are, for the most part, produced through rational economic decision-making, economic effects must be seen as likely to play a leading role in individuals' decisions to locate in specific areas, if everything else remains equal.

3.4 The Appropriateness of Property Tax as the Primary Source of Municipal Revenue.

A recurrent theme as regards PT is the question of appropriateness of the property levy as a primary source of revenue for municipal authorities. Arguments relating to the appropriateness of PT as a source of revenue have centred on how PT is both generated and distributed. One view which challenges the way PT revenue is currently distributed, especially its use for the maintenance of social welfare, is the traditionalist view of PT. According to this view, PT was originally intended, and should still be used, to finance improvements to property. Its use for such purposes as social services is therefore unjustified because such services have distributional effects which are more appropriately calculated and dealt with by the senior levels of government that control the personal income tax field. It is argued that the greater spending power, and the greater scope for equalizing opportunities, attributable to national and provincial governments, put them in a better position to ensure equity. In the City of Winnipeg, for example, it has been asserted that the city already has responsibilities which go beyond its traditional function

of service to property (City of Winnipeg Review Committee 1986:13). The City of Winnipeg is now involved in such critical areas as the provision of social assistance, public health, hospitals, support to industrial development, grants to cultural agencies, libraries, recreational facilities and related programmes. The traditionalists maintain, therefore, that the city is now so deeply involved in promoting the general welfare of its citizens that it needs a broader revenue base to support this expanded role.

Writing on the consequences for economic growth of the redistributive effects of PT, Miller and Russek (1997) have noted that although most empirical studies present inconsistent results about the effects of state and local taxing and spending policies, some recent empirical studies have drawn conclusions that show economic growth may relate negatively to tax increases if the revenue finances income redistribution, but not if the tax finances public services (Miller and Russek 1997: 214). It appears likely, then, that the decline in economic fortunes of the City of Winnipeg may be partially linked to the City's use of some of its PT revenue to fund welfare programmes.

One other issue relating to the appropriateness of property tax is the general view that the PT is regressive, because poor people spend a greater proportion of their income on housing than the wealthy. But others argue against this widely held assumption that the PT is regressive. Kitchen (1984), e.g., notes that:

The emphasis on personal income as the best index by which to judge the fairness of a tax does not present a complete picture. An individual's ability to command goods and services is not only a function of one's income but also of one's wealth, part of which is frequently held in the form of real property. Since high-

income earners are more likely (through one device or another) to escape income taxes and since a large percentage of this income frequently is converted into property, a more extensive use of property tax would capture some of the untaxed income, a large portion of which consists of net imputed rent and is, therefore, nontaxable. Furthermore... a review of the recent literature challenges the claim that property taxes are as regressive as traditionally stated. In fact, the more recent interpretation and evidence suggests that the impact on taxpayers may be more proportional and even somewhat progressive in the higher-income groups. The magnitude and strength of the traditional criticism of regressivity that has been leveled against the property tax can no longer be upheld (quoted in City of Winnipeg Review Committee 1986:14).

Levying higher taxes on high-value property therefore ignores the indirect advantages to a municipality of the existence of such property within its boundaries. It has been noted by the City of Winnipeg Review Committee (1986), for example, that though the distinction between services to property versus services to people may be sound in theoretical terms, it is not so in practice. Services such as sewer, water, fire and police protection, and roads, are said to confer direct benefits on persons as owners or occupants of property - in the sense that such services are intimately connected with the value of the property. Services that have a clear connection to property can, however, also have significant impacts on people; e.g., sewerage and water supply can affect public health. Furthermore, some so-called soft services confer direct benefits to owners and occupants of property. A good school system, fine recreational programmes and beautiful parks obviously enhance the attractiveness of a city as a location for industrial and residential development: "In short, the benefit-to-property criterion, as the basis for identifying local government functions to be financed from property tax revenues, is neither as precise nor as useful as might appear at first blush" (City of Winnipeg Review Committee 1986:14).

Despite questions raised about the appropriateness of the PT for the funding of municipal expenditure, it continues to be the mainstay of municipal authorities, especially in Canada, and it appears this picture is unlikely to change soon. What is left then is to find ways of making the PT more progressive, and ensuring that PT revenue is expended on activities that promote the overall economic well-being of local government jurisdictions, without resulting in a decline of business and entrepreneurial activity.

3.5 City-Region Form

Fiscal zoning¹ takes place when governments zone land to encourage developments that generate more in property taxes than they demand in expenditure for service provision. Competition among communities and counties for stores, offices, gas stations, restaurants, factories, and high value residential property tax “ratables,” fuels much of the struggle over land in the fringe. Property taxes are generally lower on country or township land outside of incorporated cities and towns, because there are fewer public services to pay for. This is more so if new commercial and residential development can use private on-site septic and water systems, which holds down the need to develop expensive public sewer and water systems and helps maintain low PT levels. Finally, the

¹ Daniels has noted that fiscal zoning can have negative impacts on the community among which include the following: (1) Single-family residential zones do not allow building construction that could house a greater number of people in a smaller area; (2) Highway frontage is zoned for commercial strips and developed. In these “combat zones,” approvals are readily granted, usually with little traffic planning, site design, or landscaping; (3) Industrial development may not prove a net gain in local finances. Often property tax breaks are needed to encourage factories to locate in the community; (4) An increase in commercial, residential, and industrial development means more jobs and attracts greater populations to reside in the community, driving up land prices and property taxes; and, (5), The favoured 25% of the suburbs, identified by Myron Orfield (1997) as the new and growing suburbs, capture not only most of the new PT revenues but also a greater share of state and federal infrastructure grants. In short, the wealthier suburbs are being subsidized. (Daniels 1999: 142).

cost of land and the appreciation potential of real estate are often greater in core cities than in older suburbs. As a result, businesses and households have a strong incentive to locate or relocate in the metro-fringe countryside. Commercial and residential developments outside of existing settlement limits add to sprawl, drain economic and social vitality from cities and towns, and undermine efforts to create compact communities (Daniels 1999: 141-42)

Knox (1995), writing on the role of local governments in the evolution of urban form, notes that much socio-spatial sorting is deliberately engineered by local governments. This unfortunate aspect of metropolitan fragmentation results from the stiff competition between neighbouring governments seeking to raise revenue by attracting lucrative taxable land users. The phenomenon of socio-spatial sorting specifically designed to boost revenue sources (fiscal mercantilism) has significant implications for residential segregation as well as the geography of public service provision in a city. Knox maintains that in a fiscal context, desirable households include those possessing large amounts of taxable capital (in the form of housing) relative to the size of the household and the extent of its need for public services. Low-income households are viewed as imposing a fiscal burden, since they not only own relatively little taxable capital but also tend to be in very high need of public services. Moreover, their presence in an area automatically lowers the social status of the community, thus making it less attractive to high-income, high tax-paying households. In competing for affluent residents, therefore, jurisdictions must offer low tax rates while providing good schools, high levels of public safety and environmental quality and pursuing policies that somehow bar the socially and fiscally

undesirable. Land-use zoning powers are often used to keep out the undesirables, and attract affluent households or fiscally lucrative commercial activities such as offices and shopping centres (Knox 1995: 83-84). As a result, some municipalities, by their imposition of lower taxes, may attract the more affluent and relatively more mobile residents of one municipality into another, in an unintentional (though sometimes not unintentional) process of 'social selection' that leads to the concentration of the affluent into some municipal suburbs within an urban region. Because such affluent segments tend, generally, to have bigger homes with larger lots, urban sprawl is further aggravated.

Daniels (1999), writing on the role of local governments in the evolution of urban form, has also noted that local governments have a strong financial incentive² to zone land for low-density urban sprawl to minimize costs of public services provision. One of the ironies is that farmland and open space tend to generate more in PT than they demand in services. So as the local government allows single-family homes to take up more farmland and open space, a capacity for public financial gain is wasted (Daniels 1999: 141).

² Take, for example, a forty-acre tract of open land at the fringe of a town. If the local government zones the land for two-acre lots and \$250,000 houses are put up on them, those twenty homes are likely to generate sufficient PT to pay for public services needed. But if the local government zones those forty acres for quarter-acre lots, 160 homes could be built and the average value of those homes might be around \$125,000. If we assume an average of two children per house, that's over three hundred children to educate, not to mention new streets and public sewer and water facilities that local government must provide to this newly developed area. It must be noted that education is often the largest single item in the cost of local government, despite the fact that local government normally has no control over the budget of the school district (Daniels 1999: 141)

One prominent theme that has often arisen with respect to studies of urban form has been the density debate. Several studies have suggested that compact urban form will be more efficient than sprawl: In a study of Toronto, for example, Blais (1995) notes that the city of Toronto accommodates 126 residents and jobs per hectare of its urbanized area. The comparable figure in the new suburb of Vaughan is 22 residents and jobs per hectare; in the older suburb of East York, the number is 62. Updating an analysis of local development alternatives first made in the 1980s, Blais found that continued sprawl will demand a capital investment of \$82.5 Billion by 2012, a figure dominated by the costs of roads, sewer pipes, parks and schools. However, a more compact development capable of accommodating the same population levels will cost \$69 Billion by the same date. She also noted that operation and maintenance costs of sprawl-based hard services will amount to \$25 Billion by 2012. More compact development will result in equivalent costs of just \$18 Billion. Converted to an annual basis, cost differentials of the two development patterns are staggering. A conservative estimate suggests about \$0.8-billion to \$1.0-billion of annual savings in capital, operating and maintenance costs with a more compact development pattern for the GTA.

In a review of the literature relating to the relative advantages of two opposing urban forms, the compact city and the sub-urbanized one, Alexander and Tomalty (1994) have noted that there is no consensus over the environmental costs and benefits of the compact city. Studies that have come out in support of the compact urban form, that they noted,

include those of Patterson (1992), Holtzclaw (1991), Ontario Ministry of Urban Affairs (1982), and Downing and Gustley (1977). Patterson, in 1992, looked at eight Canadian cities comparing place of residence, place of work, and mode of transport to work, and concluded that higher densities and greater proximity of home and work are required if the choice of mode of travel is to become healthier and more environmentally-friendly. Holtzclaw compared vehicle-miles traveled per capita and per household for San Francisco, Chicago, New York, London, Toronto and elsewhere, and noted a consistent pattern: doubling residential or population density reduces the annual auto mileage on a per capita or per household basis by 20-30 percent. A study by the Ontario Ministry of Urban Affairs (1982), involving energy and materials used in the provision of infrastructure and utilities, found that higher density designs made it possible to save more than 40 percent of the energy used in creating hard services. Downing and Gustley (1977) have found that in high density areas energy consumption from auto transport, space heating and cooling requirements was more than 40 percent lower than in low-density developments.

In a study on urban form and energy in the built environment, Olsen (2000: 224-243) notes that Canadian cities were laid out in their topographical settings, and developed as successions of 'built forms' that changed shape with every surge of new investment. Every new design provided protection and enjoyment for those who could afford it, but generated unexpected costs and spillovers. During the nineteenth century, cities were built to ever higher densities, bringing risk of fire and contagion. In response to these problems, cities were re-engineered into new patterns at much lower densities. She

concludes that today's sprawling metropolis, is wasteful of energy, and is vulnerable to the accumulation of its own waste products, so that once again, in response to rising costs and risks, we are beginning to conceive of a revolution of metropolitan form. She concludes that the future Canadian metropolis will have to be more compact, more self-contained, more aware of its metabolism, and more conscious of the costs.

However, some do not agree with Olsen's view. Troy (1992), for example, notes that proponents of intensification often exaggerate the quantity of land used for residential development, and the potential land savings to be gained from the intensification process. He notes that in Australia, for instance, the actual average lot size for new development is about 700 square metres, only two-fifths of the size normally claimed by intensification proponents. He concluded that because less than half of urban land is typically used for residential development, implausible increases in residential density would be necessary to attain even modest savings in land and infrastructure demands.

Richardson (1991) has also denied the claim that compact cities will help preserve the farm economy. He pointed out that physical urban expansion eliminates only a small proportion of the stock of good agricultural land, and as a result the difference made by intensification in this respect would be negligible. Moreover, high-density compact cities may, ironically, serve to undermine the rural farm economy by depriving farmers of the economic activity that could have sustained them – i.e., the right to sever and sell parcels of land. Breheny (1992) and Newby (1989) have also argued this case as it applies to urban containment in Britain.

In a case against compact cities, Naroff and Ostro (1982) have also produced evidence to show that compact cities would themselves produce serious environmental problems. They have argued that high-density, core-oriented cities have greater levels of mobile and stationary-source pollutants than low-density dispersed cities. Using results from a model devised to determine the degree to which the concentration and dispersion of jobs and population would change the level of pollution in the central city, they showed that the population dispersal from 1960 to 1970 was associated with a 2.0 percent reduction in nitrous oxides and a 0.5 percent reduction in pollution concentration. Similarly, the U.S. Department of Housing and Urban Development (1980) found that low-density, dispersed development patterns, that separate residential areas from sources of pollution, achieve better urban quality than do mixed-use patterns.

In order to overcome the current problems relating to urban form, some are calling for a change in the traditional approaches to urban design. In a study on the environment and Canadian urban form, Tyler (2000) has stated that the two most persistent myths in post-World War II Canadian urbanism are that environmental damage is a price of economic progress, and that urban growth is a 'free' economic good. Once considered simply as the inevitable effect of economic progress, urbanization is a primary generator of environmental degradation. She notes that Calgary's *Sustainable Suburbs Study* shows that conventional forms of urban development may be more expensive than ecological alternatives. Current Canadian urban form is a direct response to infrastructure engineering for roads and sewers and storm-water run-off. This massive infrastructure

dependency and the urban form it creates calls for restructuring. Ecological design offers the skills to address the questions of what the 'new' sustainable urban form should be and setting out the possibilities for a new technology-society nexus that could enable new manifestations of adaptive form, function, and community to emerge in the current wave of industrialism and modernism. She concluded that the emergence of ecological design as the focus of Canadian urbanism is a shift in thinking that has only just begun, but it has the potential to positively alter both the form and the function of Canadian cities.

Another approach to urban design that has been called for is a change to the nodal urban form. Evidence showing that higher density urban areas are more fuel-efficient generally assumes a mono-centric model of development, whereby trip lengths increase as urban growth extends from the centre. However, this monocentric viewpoint is contradicted by Gordon and Wong (1985), who have presented a polycentric model that states that trip-ends (especially for work trips) become more dispersed as cities grow and that this is in many ways economical. To test for this, they used a national sample from the U.S. 1977 Nationwide Personal Transportation Study and came to the conclusion that dispersed work trip-ends allowed for shorter work-trip distances for suburban residents in the largest cities. Gordon and Richardson (1989) have also argued that as urban growth takes place, the monocentric city becomes inefficient as a result of increasing congestion costs in the core, and that as a consequence, a polycentric urban structure emerges. They concluded that dispersed and polycentric metropolitan areas enabled shorter commuting times.

It appears, however, that problems are likely to result from uncontrolled 'polycentric metropolitanism.' First, although it could allow shorter work-trips for workers if they live close to their places of work, the dispersed centres are likely to create additional costs in the area of service provision, because wider areas will have to be covered to make services available. Second, there is likely to be lack of cohesion among the centres if there is an absence of a central business core or 'downtown'. Finally, should the centres embark on competition for business attraction, especially if they are in different jurisdictions, individual-centre interests might cloud region-wide interests, to the economic, political and environmental disadvantage of the poly-centric region.

Since local economic activities have environmental effects that extend beyond local administrative districts, regional planning of one form or another is necessary to treat regional ecological problems. Also, a regional pooling of resources, in which costs of service provision are excessive and unbearable for individual jurisdictions, could be an effective way of providing more services at less cost for residents within a city region. It is likely that efficiency in regional government can also result when, in some specific planning areas, the multiplicity of municipal authorities is reduced to a single regional body, yielding reductions in personnel and administrative expense in the region-wide government context. Large bureaucracies could be circumvented through sub-contracting the provision of some services, which will also ensure greater efficiency. Also, a regional development pattern based on the nodal pattern of dispersed and polycentric metropolitan development appears to be a promising alternative for urban regions.

However, an impediment to increasing density may occur when community input is sought during the planning process, for development plan proposals that need zoning amendments. The 'Not In My Backyard' (NIMBY) syndrome is one sentiment often expressed during this process that can have a significant effect on development. One concern often raised at public meetings, particularly for development proposals involving higher densities, is that increased densities will also increase the probability of crime (Naismith 1994: 18).

Urban sprawl increases the cost of providing amenities to urban residents, and therefore increases the level of tax burdens they have to shoulder. Urban sprawl, as a result, must not be prioritized over other, denser forms of land use development in city-regions. Perhaps a positive way to ensure that property taxation is reduced is by zoning for development in urban areas to reduce sprawl. Planning to reduce service costs is also likely to lead to cuts in PT.

3.7 Local Government Organization and Urban Governance

Urban governance in Canada has three basic approaches. The first is a limited interventionist approach by provinces focusing on the sharing of specific services. The second approach is the two-tier system of local government in which regional services are delivered by an upper-tier and local services by the local municipality. The third approach is amalgamation. Since local municipalities in a metropolitan area often do not have an equalized tax base, new tax revenues accrue to the individual municipality alone and not to the metropolitan area as a whole. This has been one of the arguments in

support of amalgamation, since it enables tax benefits to be distributed over a larger area (Diamant and Carter 1997: 46-47).

It has been noted by Marshall and Douglass that debate over how best to organize and analyze local government in Western Democracies has been raging for more than thirty years. They also noted that the civic reform tradition that emerged in the early part of the 20th century, in relation to this debate, maintained that there were too many governments in the urban areas and the solution to this was simple: reduce the total number of governments, and this would, in turn, lead to economies and efficiencies in the provision of local services. It would also streamline and focus political responsibility and ensure more integrated governmental response to area-wide problems (Marshall and Douglass 1997: 19)

Marshall and Douglass (1997: 47) also note that “governance” has several definitions, stating that one’s perception of governance is largely reliant upon the public roles, responsibilities and priorities that one assigns to local government and municipal government. What makes governance “good” is the ability both to satisfy clearly-stated service standards and to carry out the representative role properly. They note, however, that the perception of governance has, for the most part, focused on its service or “business” role, i.e., “on outputs, the promotion of competition, the transparency of decision-making, the linking of costs and benefits, the provision of incentives, the encouragement of commitment and loyalty, the establishment of constraints, the

maintenance of trust through fairness” (Purchase and Hirschorn 1994; see Marshall and Douglass 1997: 47).³

Generally, it is useful to isolate five principal phases in the evolution of urban governance (Knox 1995: 78). The earliest phase, which dates back to the nineteenth century, was one of *virtual non-government*. It was based on the doctrine of utilitarianism, with a laissez-faire philosophy underpinned by the idea that maximum public benefit will result from unfettered market forces. The second phase, dating between 1850 and 1910, was one of *‘municipal socialism’* by social leaders concerned about the urban disorder and congestion of the Victorian city. Urban governance during this phase was based on a strong ethos of public service and paternalism. The third phase occurred between 1910 and 1940, when the depression swung public opinion in favour of *a permanent and more fundamental municipal role* in shaping many aspects of social life and well-being. Cities expanded their activities in health, welfare, housing, education, security and leisure. The fourth phase occurred between 1940 and 1975, when the numerous roles of urban government *generated large, vertically segregated bureaucracies of professional administrators* to manage the urban environment. The fifth and recent phase began in the mid-1970s. During this period metropolitan restructuring led to *widened privatization of previous functions and responsibilities* of local

³ There are some such as Tindal and Tindal (1990), who support an augmented role of local government as a voice of the local citizenry. They are of the view that Canadian local governments have too often been preoccupied with “taking politics out of local government” to the extent that they virtually disavowed the political role (Tindal and Tindal 1990: 332). Politics is being de-politicized and given into the technically adept hands of technocrats (Friedmann 1987). With these opinions in mind, any measurement of governance should include measurements of representation and responsiveness, including such indicators as the “openness” of the decision-making process and the vitality of the local political landscape, often expressed by participation at election time. “They can also include the degree of internal managerial

governments. In the wake of the vacuum created by retreat of the local state, *voluntarism* sprung up as the principal means of providing for the needy, while in wealthier communities various forms of 'stealthy', 'private' governments, such as homeowners associations, have proliferated. Meanwhile, local governments looked increasingly to the private sector for capital for economic and social investment through *public-private partnerships*, and gave more priority to economic development than to its traditional service-providing and regulating functions. This '*civic entrepreneurialism*' fostered a speculative and piecemeal approach to city management, emphasizing set-piece projects such as downtown shopping centres, festival market places, conference and exhibition centres and the like, that have the greatest capacity to enhance property values (and to revivify the local tax base), generate retail turnover and ensure employment growth. Meanwhile, economic restructuring and the decentralization of manufacturing altered the complexion of urban politics, undermining the previous strength of working-class constituencies. At the same time, the growth and recentralization of producer-service jobs created (in some cities, at least) a new bourgeoisie with a distinctive materialistic sort of liberal ideology that has come to dominate urban policymaking (Knox 1995: 78-79).

In *City Limits*, Peterson (1981) has suggested a market-centered view of the process of urban development that compared cities to private corporations, each responding to the dynamic of economic competition to maximize revenue. In this view, cities have great political limitations, are disadvantaged in dealing with private capital, and ought to be careful about their ability to follow policies of their own desire. Peterson made two

capacity that enables the council and administration to carry out their respective roles effectively in both a service delivery and a local representative context" (Marshall and Douglass 1997: 47-48).

interrelated assumptions: first, that policies influencing urban development can be categorized into three types – developmental, allocational, and redistributive; and second, that decision makers tend to prefer policies that enhance economic growth as a result of selection pressures. The validity (see Longoria 1994: 102-105) of Peterson's argument is underpinned by the assumptions that local government decision makers can categorize public policies and that these categorizations are influenced by selection procedures and pressures that impel policy makers to prefer developmental policies to redistributive ones. However, critics of Peterson have pointed out that although a large part of *City Limits* is ostensibly concerned with decision making in cities, little attention is given to decision makers and the decision-making process. His rational-actor assumption has been challenged on the grounds that because circumstances change over time, there may be multiple interests, such as those around order and just government, that might influence urban developmental decision-making. For example, political conflict, rival coalitions, and the nature of governing regimes may influence policies, and not solely elite economic interests. And because elected officials often follow a political rather than an economic logic, their decisions sometimes defy economic rationality.

Following Peterson, urban growth theorists such as Logan and Molotch (1987) argue that the activism of entrepreneurs is a critical force in the growth and shaping of the urban system. Urban growth theory, like regime theory, recognizes that the economic, institutional, and political milieu within which decision makers operate are vital determinants of how they behave. Starting from a neo-Marxist distinction between use values and exchange values with regard to property, they suggest that growth machines –

coalitions of local interests acting out of partisan motivations but embracing an ideology of “value-free development” – are the main instrument in urban development. The major machine players are said to be the most place-bound elements of capital: rentiers (property owners), who wish to enhance the exchange values of their holdings by increasing and intensifying the uses to which rental income is put. Rentiers are joined by other interests, place-bound or not, who profit directly from the intensification process – developers, financiers, construction interests, and development-dependent professional practices – and by those who gain from the increased demand for products induced by economic growth. These mainly include the local media, which rely on local sales and advertising that make them particularly prone to competitive civic boosterism of a general nature, and local utility companies whose sales are boosted by growth. Auxiliary growth machine activists include universities, cultural institutions, the self-employed, labour unions, professional sports clubs, and small retailers. Challenges of groups espousing the politics of use values, such as neighbourhood organizations, are possible. Antigrowth movements or others prepared to accept only selective growth can be strong, particularly where residents consider the benefits of growth to be outweighed by costs. Local governments normally support growth machines because their primary objective is increasing growth (see Harding 1994: 357-359).

However, critics of the market-centered view of urban development have proposed a state-centered perspective that maintains that local development decisions are not driven by business and markets. They assert that political judgements and pressures are part of the urban development dynamic and that governing regimes are formed to enable the

“social production” of development decisions to take place. Some analysts even argue that the state has enough autonomy from economy and society to ensure developmental goals that reflect essential interests internal to the state (see Kantor and Savitch 1993: 231-232).

Regime theory suggests politics matters, but it provides little guidance about how much and when it matters. The regime concept does not account for the ways in which local policy is influenced by different economic conditions. Similarly, theories of state autonomy do not specify the circumstances under which interests peculiar to the state are likely to impact and drive the development dynamic. Further, the notion of state-driven policy is complicated by little agreement among theorists about the meaning of autonomy and what constitutes its real world referents, as opposed to its theoretical referents (Kantor and Savitch 1993: 232).

Planning journals have recently been full of references to the new urbanism, now emerging to inform a potentially new regional planning paradigm (Wight 1996). Wight notes three characteristics of this new trend: first, there is a growing consensus being built around a focus on the institutional processes of governance instead of the previous obsession with formal, legislated structures of government. Second, in terms of the constituting reference of regions, he notes that there is a new plurality and equality that is close to confederalism, which steps away from the previous centre-periphery dichotomy and hierarchy. He also notes that this new formulation has been characterized in recent American literature as the “citistate”, whose Canadian equivalent appears to be the “city-

region.” Third, he maintains that there is now an emphasis on city-region/governance involving new thrusts into the “how” and “who” of planning and strategizing on a regional scale. This new thrust places greater emphasis on higher degrees of interaction involving collaboration, partnership and engagement with less emphasis on former lower relationship levels such as communication, co-ordination and co-operation.

Furthermore, Wight asserts that the context for this new regionalism is provided by a concern for civic infrastructure and social capital, which differs from earlier regional planning’s obsession with hard infrastructure and land development. He notes that the latter has been characterized as “things regionalism” and the former as “people regionalism,” a concept rooted in concerns for civic life and civility. He concludes that for this new regionalism to be achieved in the face of current ecological problems, a new eco-regionalism (that is, the application of applied bioregionalism in the urban regional context) is needed (Wight 1996: 22).

It has been noted by Sommers and Daubenmire (1999: 61) that to ensure regional sustainable development, a vital component of such an undertaking is raising the consciousness of residents of a region for the promotion of environmentally sensitive growth. This process involves developing, organizing and communicating to regional stakeholders, e.g., residents, government officials, the business community, etc., a common body of knowledge regarding sustainability. Understanding, (i) the negative impacts of continuing existing development patterns, (ii) the possibility of other options

that encourage sustainability, and (iii) the benefits of regional cooperation, are all essential ingredients in engendering new attitudes about local development.

Successful growth management has produced community consensus, political strength, creative development, manageable public finances, and effective land protection. Managing growth can lighten the collision between urban and rural populations and how they use the land. Moreover, conserving the environment while undertaking new development is emerging as a wise and sustainable economic development strategy (Daniels 1999: 4).

Effective planning can also help a region maintain its competitive edge in the national and international economy. Good transportation, good management and sound public finances, and a quality environment in which to live and work, will enhance a region's ability to attract investment and gain jobs. Regional planning can contribute greater effectiveness in creating greenbelts for open space, recreation trails and parks, and the conserving of natural areas. Regional governments are more likely to have greater spending power than individual cities and counties, and be able to buy more land for public works, and undertake more conservation easements to save invaluable farmland. (Daniels 1999: 186).

Fragmented governments and a lack of predictability in development projects are wasteful and hamper economic development. Local politicians are perhaps the greatest impediments to regional planning because they would have to give up some of their

power. However, it is in their long-term interest for local populations to follow the more economically competitive strategy that a regional approach provides. Tax savings will probably result from consolidating government units, special districts, and authorities. This will help achieve economies of scale in public services and avoid the duplication of services from one municipality to the other. With regional tax base sharing, developers will lose their capacity to play off one community against the other to extract property tax breaks (Daniels 1999: 186). Where areas that are tax-rich and those that are tax-poor occur side by side within a common regional jurisdictional area, some system for sharing the residential, commercial and industrial tax bases can be created. A quota of tax revenue above an optimal level can be divided between localities as a region-wide pool. The assessed values in the pool could be distributed on a population-based formula somewhat favouring localities with a high proportion of low-income residents (Downs 1994: 132). On such a basis, communities lacking major tax revenue gaining facilities would not feel excluded and would find regional participation politically acceptable.

3.8 The Rationale and Capacity for Inter-Municipal Property Tax Differentiation

When making tax decisions, local officials may be influenced by tax rates in adjacent jurisdictions because of concern about the loss of business activity. With respect to burdens on taxpayers, local officials' concern with tax burdens in neighbouring jurisdictions can be explained in terms of the Tiebout model and its emphasis on voting with one's feet. According to this model, fiscally-related movement among jurisdictions is influenced not only by tax burdens, but by the entire fiscal package, that is, by the level

of public services relative to tax burdens. Potential residents are likely to pay higher taxes in one local area than another if the higher taxes are offset by higher services. As such, some jurisdictions are likely to purposely keep tax and spending burdens low relative to adjacent jurisdictions in order to maintain fiscal differentiation. Tiebout movement results in clustering of tax burdens where there is clustering of bundles of expenditure (Ladd 1992: 451).

Alternatively, however, the political “voice” mechanism may steer specific local governments to keep their taxes in line with those of neighbouring jurisdictions. This mechanism allows resident voters to use tax burdens in other jurisdictions as a yardstick in measuring the fiscal performance of their own government. By threatening political implications for those officials who propose higher tax burdens in excess of those in neighbouring jurisdictions, the stage is set for local tax burdens to be influenced by those in adjacent jurisdictions. This may also apply with respect to public services, where voters may demand that their local jurisdictions upgrade services commensurably with service expansion levels in nearby jurisdictions (Ladd 1992: 451).

It has been noted that where low-income people are themselves a majority and can elect officials sympathetic to their needs, these officials will have a vested interest in increasing the number of low-income constituents. However, they also have an incentive to strengthen their local economies, so they will want to restrain the community’s low-income population from expanding. This leads to conflict of policy goals. Mayors in some very poor cities have extended tax breaks to wealthy developers, high income

residents, or rich corporations to attract them, while denying these benefits to constituents who elected them. This situation helps explain why some local jurisdictions do not tax the non-poor heavily. Competition to attract new development resources inhibits municipalities from raising taxes very far above those of others nearby, unless it has some unique attractions. Local tax rates can raise sufficient public funds only if the community's tax base is high. As such, only wealthy communities can meet major redistributive goals. And residents of those localities have strong social and political motives to reject additional low-income residents and policies that favour the poor (Downs 1994: 24).

3.9 Sustainable Regional Development

The concept of sustainable development and the interdependence of the economy and the environment grew out of the debate in Western countries in the early 1970s which discussed whether continuing economic growth would eventually lead to very damaging environmental consequences. By the late 1970s numerous writers were of the view that development could be sustained indefinitely if it were modified to take into account its overarching dependence on the natural environment. Sustainable development was first widely publicized in the 1980s by the International Union for the Conservation of Nature. It is a concept that everyone supports but which is hardly defined consistently (Karan 1999: 26). In a publication by Bowers, in 1995, more than 70 definitions of the concept were presented. This definitional proliferation reflects the interest of scholars,

international organizations and governments in the concept of sustainable development (Costa and Noble 1999: 4).

The term “sustainable development” (Henderson 1997: 94) gained wider recognition and acceptance after it was advocated in *Our Common Future* (1987) by the World Commission on Environment and Development. The recommendations in the Commission’s Report included the need to stimulate economic growth. Under the chairpersonship of Dr. Gro Harlem Brundtland of Norway the Commission defined sustainable development as:

Development which meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development 1987: 8).

This definition has, however, been criticized as boding ill for sustainable development in the moral sense. Henderson (1997: 94) notes, for example, that traditional indicators of growth such as Gross National Product (GNP) and Gross Domestic Product (GDP) were developed for military mobilization purposes in Great Britain and the U.S. Their materialistic view of progress, therefore, cannot guide human development beyond material growth and consumerism to the high ground of moral growth and sustainable development. There is also the failure of national accounts to distinguish between “goods” and “bads” (that is, “wealth” and “illth”), because, liquor, tobacco, auto accidents, cleaning up the mess of pollution, and the multibillion dollar “stress industry” are all included in the items that sum up progress. Henderson notes that, in the U.S., it is probable that these growing social and environmental costs as well as the ever-increasing

monetization of cooking, child-care, and other previously unpaid work are the main growth sectors of GNP.

Sustainable development involves enabling long-term economic growth and social harmony without sacrificing local or global environmental quality. In this context, some have therefore called for a no-growth policy, while rejecting economic growth. Daniels (1999: 272), for example, states that sustainable development can more positively be achieved only if communities work together within a regional framework to encourage and ensure strategic planning of land use, infrastructure, and economic development resources. For some places to remain sustainable, others might have to absorb an extra amount of growth. Ironically, no- and slow-growth communities probably have a greater chance of achieving sustainable development if they carefully manage their resources.

Also, in support of the no-growth policy, Kozłowski (1993: 5) has asserted that development need not necessarily be equated with growth, because, although the two terms are used interchangeably they are not synonymous. He notes that development is the realization of social and economic goals that may call for a stabilization, increase, reduction, and change of quality in or even removal of existing uses such as infrastructure, while simultaneously (but not inevitably) calling for the creation of new uses. In each case development should lead to progress, expressed primarily by welfare improvements in communities. Such improvements do not necessarily result from growth itself. As such, a no-growth situation does not mean that there is no development. Cost is not only economic but also ecological and social. An increase in real income per capita

must be seen as only one of many development objectives, such as crime reduction, employment, security, or clean air and unspoilt scenic views. He maintained that it was to address this pitfall in the definition of development that an 'Index for Sustainable Economic Welfare' (ISEW) was constructed. The ISEW takes into account the issue of resource exhaustion in the measurement of sustainable welfare as an accounting device for depreciation of 'natural capital' similar to the depreciation of capital subtracted from GNP to obtain Net National Product (NNP). Its revolutionary character became clear when it was used to measure economic well-being in Western countries from the mid 1970s. In the United States, for example, annual per capita growth of GNP in 1970-80 and 1980-86 was 2 per cent and 1.84 per cent while, in the same periods, there was a fall of per capita ISEW, -0.14 per cent and -1.26 per cent respectively. Kozlowski concluded that this illustrates economic growth indicators alone can easily misrepresent development growth trends.

A no-growth sustainable development policy is, however, likely to face certain difficulties. First, there will be the issue of how to define a "no-growth" concept that transcends cultural, ethnic, regional and national boundaries. Since different cultures are at different stages of growth, putting a cap on growth is likely to be opposed by certain groups, cultures or nations that feel they are far below others on the ladder of development, as represented by the attainments of current industrialized countries. Second, a no-growth development policy will be cumbersome to operate because not all growth is harmful to the environment, as when fish populations in a lake are managed to enable even higher levels of catches to be made without depleting the fish resource base.

This means, then, that specific economic activities will have to be isolated and targeted for “growth capping.” Determining what must be included, and what must not, in the isolation process is likely to face broad difficulties, and more so because several products that may not be harmful to the environment may be brought together at a later point to produce “new” products that might endanger the environment. Third, a no-growth policy will face enormous pressure from other sectors of society and the economy that might be experiencing growth, e.g., growth in population. Fourth, a no-growth policy is unlikely to yield desired ecological benefits where existing environmentally damaging industry does not expand yet continues to operate. And where a particular environmentally damaging industry produces items such as medicines for healthcare, any environmental gains from a no-growth policy might not outweigh the losses to the healthcare system. Fifth, a no-growth policy cannot prevent industrial accidents that might cause environmental damage. Finally, where a no-growth policy does not prevent or place a limit on the production and use of chemical, biological, and nuclear weapons, any ecological benefits from a no-growth policy could be eroded in periods of conflict.

The term - sustainable development - has introduced a new form of equity: the concept of intergenerational equity. It has been noted by Barry (1999: 106) that our efforts to ensure sustainable development are not a guarantee that future generations will continue to have comfortable levels of development. The next generation may go on a spending spree and leave its successors relatively impoverished. As such, the potential for sustaining acceptable levels of development in the future rests on each successive generation

playing its part. What can be done is to leave open the possibility, and that is what we are obliged to do.

The relationship between nature and society, or of environmental resource management in development, can be conceptualized in the following terms: (1) frontier economics, (2) environmental protection, (3) resource management, (4) eco-development, and (5) deep ecology (Karan 1999: 23-26). The *frontier economics model* of environmental management treats the environment as an unlimited supplier of physical resources (raw materials, energy, water, soil, and air) for use by humankind. It views the environment as an unlimited sink for the by-products of development such as pollution and ecological degradation. This model does not present a major problem, as long as the rate of demand for natural resources is not beyond the environment's capacity to provide them.

The *environmental protection model* dwells on cleanup and repair of ecological damage from development. Planning and coordination of pollution-related activities, and the establishment of environmental quality and emission standards are entrusted to a government agency; but the government agency is not responsible for coordinating development in ways that prevent ecological damage.

The *resource management model* places more emphasis on long-term resource use, based on an attitudinal shift toward appreciation of the interdependence of human activity and the maintenance of ecological stability. In this model, environmental and ecological processes are considered as major parts of the economy. The interdependence and

multiple values of various resources are taken into consideration and the exhaustion of natural resources are viewed with major concern. The model attempts to internalize environmental costs of production, which were previously viewed as externalities. The polluter-pays principle, which is difficult to implement because of the political strength of the industrial and energy sectors, is one of the fundamental management concepts of the model.

In the *eco-development model* of environmental management, development activities are reorganized in a way that is synergetic with ecosystem processes. This model incorporates ecology in economic modeling and planning as a paradigm of environmental management. And there is a shift from the polluter-pays principle to the pollution-prevention-pays ideology, by restructuring the economy in accordance with ecological principles.

The *deep ecology paradigm* calls for a back-to-nature symbiosis. It promotes a different value system, one based on ethics, and spiritual and aesthetic aspects, rather than the money and material orientations of market-based economies. This paradigm views economics as grossly underestimating the real costs of environmental degradation and rejects the idea of using economic cost accounting measures to assess environmental consequences of development.

The resource management, eco-development, and deep ecology models are environmental management standards that are geared towards preventing environmental

damage resulting from development, rather than curing the effects of such damage. Because prevention is cheaper and better than the cure, these models represent acceptable paradigms that need to be considered in the context of development orientations within the MCR.

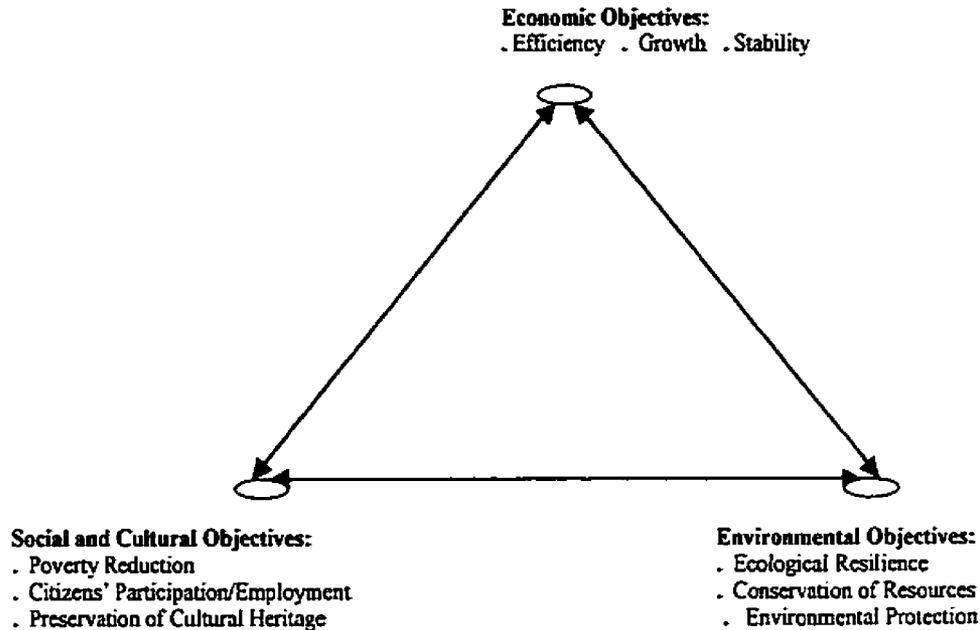
Policies that can redress social and environmental issues are desirable but may not have the immediate effects that circumstances, and electorates, need. Most social issues are immediate to people's lives and require quick action. Many issues of the environment, however, whilst having a bearing on individuals' circumstances, are problems of the future and therefore appear to be remote and of lower priority. This results in bad policy decisions. It cannot be doubted that some policies that are desirable for environmental reasons will produce or exacerbate inequalities and social injustices. Similarly, some measures to improve short-term social conditions can increase environmental risks in the future (Tindale and Hewett 1999: 233-34).

Calling for an integrated approach to sustainable development, Karan (1999: 27) notes three main dimensions relevant to achieving sustainable development practices: economic, environmental and socio-cultural. The economic dimension involves attaining a maximum flow of income generation, while maintaining the existing stock of assets (or capital) which yields these gains. The environmental dimension involves the maintenance of the stability of biological and physical ecosystems. The socio-cultural dimension concerns the maintenance of the stability of social and cultural systems, particularly reduction of social conflicts. Equity, elimination of poverty, preservation of cultural

diversity, as well as greater use of sustainable practices embedded in indigenous cultures, are important aspects of this approach (Figure 4).

The aspect of Karan's integrated approach to sustainable development that involves ensuring maximum flow of income generation, while maintaining the existing stock of assets, seems to call for development methods that make use of recycling capabilities. In terms of both renewable and non-renewable resource exploitation, increased recycling can help maintain the existing stock of assets for future generations, while also ensuring the stability of biological and physical ecosystems (in effect killing two birds with stone). Furthermore, the socio-cultural dimension that Karan calls for, that is, maintaining the stability of socio-cultural systems, particularly reducing social conflicts, eliminating poverty, preserving cultural diversity, as well as using sustainable practices inherent in indigenous cultures, seems to imply that sustainable development cannot be achieved without good governance.

Figure 4 Main Objectives of Sustainable Development.



Source: P.P. Karan (1999) Environmental Management in Development Planning, In G. Noble and F.J. Costa (eds) *Preserving the Legacy*, p 28.

3.10 Green Taxes

There are increasingly concerted international efforts to stem the harm that is being caused to the natural environment. For example, the December 1997 Kyoto Protocol from the United Nations Framework Convention on Climate Change is the beginning of a long term process for over 162 participating countries, including Canada, to implement substantial cuts in greenhouse gas (GHG) emissions. The GHGs covered by the convention are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF₆). The last three gases are present in only trace amounts but have greater potential global warming effects on a pound-for-pound basis (Edwards *et al* 1998).

With the widening interest in conservation of the natural environment has come the increasing interest in the use of taxes as a tool of environmental protection. In many industrialized countries, environmentally motivated taxation either has been introduced recently or is being seriously contemplated. The actual and potential forms of such taxes include taxes on fossil fuels (such as carbon taxes and fossil-fuel-based BTU taxes) and taxes on gasoline. The most important rationale for these taxes is their potential to provide environmental gains by raising the costs of environmentally harmful activities and as such reducing the levels of such activities. Also, several analysts have pointed out that environmental taxes might confer additional benefits, particularly if they are introduced in a revenue-neutral fashion. Several authors have, in addition, emphasized that revenue-gains from environmental taxes can be used to finance reductions in the marginal rates of other, distortionary taxes. As such, environmental taxes could help reduce the distorted costs associated with existing tax structures. In this connection, not only will environmental taxes improve the environment, they will yield a “double dividend” of also helping to reduce certain costs of the overall tax system. However, some policy analysts contend that a revenue-neutral swap of environmental taxes for ordinary income taxes involves negative gross costs (see Bovenberg and Goulder 1997: 59-60). Furthermore, where revenues gained from gas and other environmental taxes are used to fund road and bridge construction, the fundamental purpose of such taxes may be lost, as such improved transportation could encourage more automobile use. Revenue gained from such taxes should instead be used for funding alternative transportation modes.

The concept of environmental taxes, as opposed to pollution permits or standards, has been proposed as an effective mechanism for pollution-prevention-pays. The World Resources Institute (1989) has proposed taxes on sources of greenhouse gases, chiefly fossil fuels and chloro-fluoro-carbons, indexed according to their proportional contributions to pay for a global trust fund. The Netherlands has already adopted a general fuel charge to pay for environmental conservation programmes, with rebates for pollution abatement activities.

However, the concept of environmental taxes as a means to addressing environmental management issues has been criticized as likely to present many complicated economic, ecological, social and political problems at national and global scales (Karan 1999: 25). One often heard argument against environmental taxes is that they hurt the poor. Environmental taxes have also been criticized by some on the left as “rationing by price.” Tindale and Hewett (1999: 237) consider this last argument to be strange because, in a market economy, that is how most goods and services are apportioned.

It is true that environmental taxes can hurt the poor because current environmental patterns are highly inequitable, with poor households suffering more from pollution, and other adverse local environmental consequences of development. However, cuts in government expenditure or a failure to act to conserve the environment may prove to be even more regressive. Tindale and Hewett (1999: 237-38) note that some environmental taxes will fall on business – e.g., taxes on toxic emissions – thus limiting the regressive

impact. A rise in business costs is also likely to be mildly regressive if it feeds through into increased prices for the consumer, but a tax reform which redistributes rather than increases business taxes is likely to have a broader neutral impact on prices. They also note that other environmental tax burdens will fall indirectly on individuals, but such taxes can be collected through a progressive mechanism. An example is a landfill tax, which will increase waste disposal cost to local authorities (although the greater share of the impact will be on the industrial sector). The local authority will be able to recoup its costs through local income- or property-based taxation

Tindale and Hewett (1999: 240-41), have argued, again, that one alternative of ensuring progressivity of environmental taxation is to give each household a tax-free fuel allowance by taxing only excessive use of energy. But they also note that this form of taxation is not free from regressivity because poor people with inefficient fuel-using appliances, as well as groups such as the elderly and the sick who stay at home, are likely to use higher amounts of energy. To counteract this, they put forth the alternative of spending money to insulate homes of the poor. They maintain that if this is done, it will pay dividends in terms of public health, social justice, and environmental conservation.

Furthermore, to make environmental taxation more progressive, Tindale and Hewett (1999: 243-44) note that increasing motoring costs will be less problematic than raising domestic energy costs and will, also, be a broadly progressive measure over the population, since most poor people cannot afford to own cars. But they also note that the measure will be regressive within the car-owning community because a study by the

London Institute of Fiscal Studies (IFS) found out that raising the price of petrol by 55 pence per gallon (the highest level it has attained in recent decades) would mean the lowest income decile in the UK would pay an extra 0.22 per cent in tax (measured as a percentage of total spending) while the highest income decile would pay an extra 1.04 per cent. But this changes altogether if one considers not every household but only those that own cars, in which the lowest decile pay 1.19 per cent more in tax while the highest decile pay 1.07 per cent more. Tindale and Hewett also assert that the argument that higher petrol taxation is only progressive because poor people cannot afford to drive – not because they do not want to, must not be ignored. They note that a rise in petrol tax may not damage the weekly income of those who do not own cars because they are poor, but it may well damage their aspirations. This is because it makes something to which they aspire even more difficult to attain, which is hardly good social policy.

Despite the perceived disadvantages of environmental taxes to the poor, instituting additional environmental taxes in the MCR is an attractive option that can help reduce commuting distance, encourage higher density housing, enhance the use of smarter environmentally-friendly technologies, and reduce sprawl development.

3.11 Innovative Approaches To Sustainable Development

There are several innovative approaches to the notion of sustainable development in planning. Among these are: Sustainable urban and regional development, Green cities, Ecosystem planning, Ecosystem planning in the private sector, Eco-Cities, Eco-Towns,

Eco-Villages, Conservation strategies, Round tables, Environmental assessment, Healthy communities, Bioregionalism, Growth management, and State of the Environment reporting (Tomalty et al 1994). These approaches are described below (Tomalty et al 1994: 81-125):

The *Sustainable Urban and Regional Development approach* is closely associated with the workings of local government as a corporation. Sustainable urban development is distinguished from the ecosystem approach by its greater emphasis on the human dimension – including issues of social equity, personal empowerment and meeting basic needs. In contrast, the ecosystem approach tends to place more emphasis on the biophysical dimension. Though this approach helps to guide the decision-making process and encourage people to think in a broader way, it is plagued with limited public awareness and involvement.

The *Green Cities approach* is concerned with how people live in their region, and how their cities relate to nature. While it does not deny the importance of urban planning and public policy, it relies mainly on citizen-based activism, incorporating such popular initiatives and movements in, for example, alternative technologies, urban ecological restoration, urban wilderness, and urban agriculture (community gardens). In the green city, municipal infrastructure relies less on conventional engineering systems and more on natural process (such as storm water ponds, or natural soil and topographic drainage features). The built form uses orientation to the sun and wind as well as landscaping to minimize heating and cooling needs. The strength of this approach lies in it being

bottom-up. It works with “single-issue groups” such as urban forest, recycling, habitat, energy, and smart-transportation groups – that lack a fully-worked out philosophy of sustainability – and includes them in a Green City Network.

The *Healthy Cities (or Communities) movement* was launched in 1986 by the World Health Organization (WHO). In 1988, the so-called Ottawa Charter was adopted in Canada, which outlined a framework for a national Healthy Communities Project. It encourages efforts to attain: a clean, healthy ecosystem; a supportive and non-exploitative community; broad opportunities and resources; a diverse, vital urban economy; a sense of connectedness with the past, and with a city’s biological and historical heritage; and a high health status. The movement lays emphasis on inter-sectoral action – partnerships among politicians, service providers, and the grass-roots. The main strength of this approach is that it offers a holistic and integrated perspective on health. It is also anticipatory and far-sighted, seeking to foster health over the long term. However, it is unfamiliar and uncomfortable for people accustomed to the existing fragmented and largely reactive health care system.

Ecosystem Planning in the Private Sector: While ecosystem planning is usually viewed as a public sector responsibility – if only because the ecosystems involved are so large – private sector interests are almost always inevitably involved. Often, private sector participants in ecosystem planning initiatives have become strong advocates of the concept, and have considered how to reform their internal operations on ecosystem planning principles. However, the fragmented and hierarchical organizational structures,

the technical demands of existing systems, and the deep roots of a prevailing non-ecosystemic culture have been barriers to this approach.

Bioregionalism has been called the politics of place. Its principles include: a belief in natural (as opposed to administrative) regions as organizing units for human activity; an emphasis on a practical land ethic to be applied at a local and regional scale; and the favouring of locally and regionally diverse cultures as guarantors of environmental adaptation, in opposition to the trends towards global monoculture. As a theoretical and practical focus for individuals and groups with similar interests and concerns, bioregionalism has paid attention to links between culture, place and sustainability. Its most serious hurdle, however, lies in the fact that local economic operations are largely tied to provincial, national and global marketplaces.

Conservation Strategies: In its 1980 report proposing a World Conservation Strategy (WCS), the International Union for the Conservation of Nature and Natural Resources (IUCN) identified three broad goals for sustainable development. These strategies included: maintenance of essential ecological processes and life support systems; preservation of genetic diversity; and sustainable utilization of species and ecosystems. In Canada, the National Task Force on Environment and Economy proposed adding a fourth objective: maintaining and improving the quality of life in the urban environment. To attain these goals, the WCS suggested that conservation strategies be developed at the national, sub-national and local levels. In Canada, most conservation work has been

carried out at the provincial or national level, accepting existing jurisdictional boundaries rather than using ecosystem planning units.

The Ecosystem Planning approach: This approach recasts relations between humans and the rest of nature. Conventional planning tends to treat human society, economy and built form as separable from nature, ignoring the dependence of human systems on ecological support systems. The ecosystem approach reverses this trend. Crombie (quoted in Tomalty 1994: 7) notes that this approach can be distilled down to four basic observations: everything is connected to everything else; human beings are part of nature and not separate from it; humans are responsible for the impact of their actions, as they affect other creatures, other people, and other generations; and economic health and environmental health are not mutually exclusive, but mutually dependent.

Eco-Cities, Eco-Towns, and Eco-Villages: Ecosystem planning shares key features with the planning of ecological communities. Exercises in site planning and urban design are carried out to reduce the use of resources, and minimize on-site and global impacts. Cooperative ownership and housing arrangements are common. Natural processes are fostered by allowing the growth of indigenous plants in open places to provide habitat for insects, birds and animals. Conservation of energy is also paramount: buildings are insulated and have passive and other solar heat; land-use development patterns allow home workplaces and support reduced travel; alternative transportation modes are an inherent design component. The advantages of this approach are that: its land-use mix

reduces traffic congestion and vehicle distance traveled by half. It also brings significant reductions in pollution, energy consumption, transport costs and general aggravation.

The main barriers to this approach are that officials responsible for traditional planning and growth ordinances habitually take a proprietary attitude to their areas of authority and ways of doing things. Meanwhile, developers prefer past methods and styles of development that have shown profitability and are understandably conservative about risking investors' money on ventures that may be rejected by planning departments or the real estate market.

Growth management: This approach emerged in the United States in response to the deterioration in the quality of urban life that came with uncontrolled growth: i.e., congestion, air pollution, water quality and quantity issues, land conversion, garbage and toxic wastes. Originally, growth management methods did not include ecosystem principles. More recently, however, ecosystem frameworks have been added into the design of urban development strategies. The disadvantages of this approach include the paradox that effective growth management attracts more growth pressure; and with a downturn in an economy there is pressure to improve the business atmosphere by fostering growth of the kind considered undesirable either in the short or long term.

Round Tables: The development of the round table concept is closely linked to that of conservation strategies of the World Conservation Strategy (WCS) of 1980. In order to relate the WCS strategies to environmental and economic policies recommended by the

Brundtland Commission of 1986, the Canadian Council of Resource and Environment Ministers (CCREM) established the National Task Force on Environment and Economy, a body composed of federal, provincial, and territorial government representatives together with representatives of industry, academia and non-governmental organizations. This body came to be known as the federal round table. Its mandate was to investigate the report of the Brundtland Commission and the results of the conference on World Conservation Strategy, and to report to the CCREM and to Canadians on how Canada could best adopt a conservation strategy. The national round table, in turn, encouraged the formation of provincial round tables. Several local round tables have been established at sub-provincial levels as well. In Manitoba, the Manitoba Round-Table sponsored the early work on the Capital Region Strategy.

There is, however, a common but mistaken apprehension that multi-stakeholder processes generally, and round tables particularly, are inefficient luxuries that create new costs. In fact, the reverse is true. By bringing people together, round tables create a platform for fruitful communication and consensus building. Non-consensus processes, which produce community conflicts or result in unacceptable developments, after considerable time and resource expenditure, are more costly and less successful.

State of the environment (SOE) reporting rose out of the demand for information on environmental conditions and trends, especially from environmentalists and other concerned segments of the public, and later from government policy makers. SOE reporting in Canada at the federal level is a result of the collaboration of Environment

Canada and Statistics Canada. SOE reporting was strengthened by the 1988 passage of the Canadian Environmental Protection Act that made such reporting mandatory.

SOE reporting produces a snapshot of existing environmental conditions. It portrays trends and gives comprehensive assessment of all aspects of the environment. However, a major hurdle is the lack of sufficient historical data and effective current monitoring to enable the “state of the environment” to be adequately described, evaluated and presented.

Environmental assessment: These processes were evolved in response to public concerns about the adverse impacts of public and private sector undertakings. The regulatory approaches often focused on activities of particular sectors (e.g., projects of the nuclear industry) or particular receptors (e.g., damage to fish habitat or pollution of air) and involved seeking compliance with specified environmental standards.

3.12 The Impacts on Urban Form as a Result of the Over-Dependence on PT as a Source of Municipal Revenue: A Theoretical Model

Explanation of the model

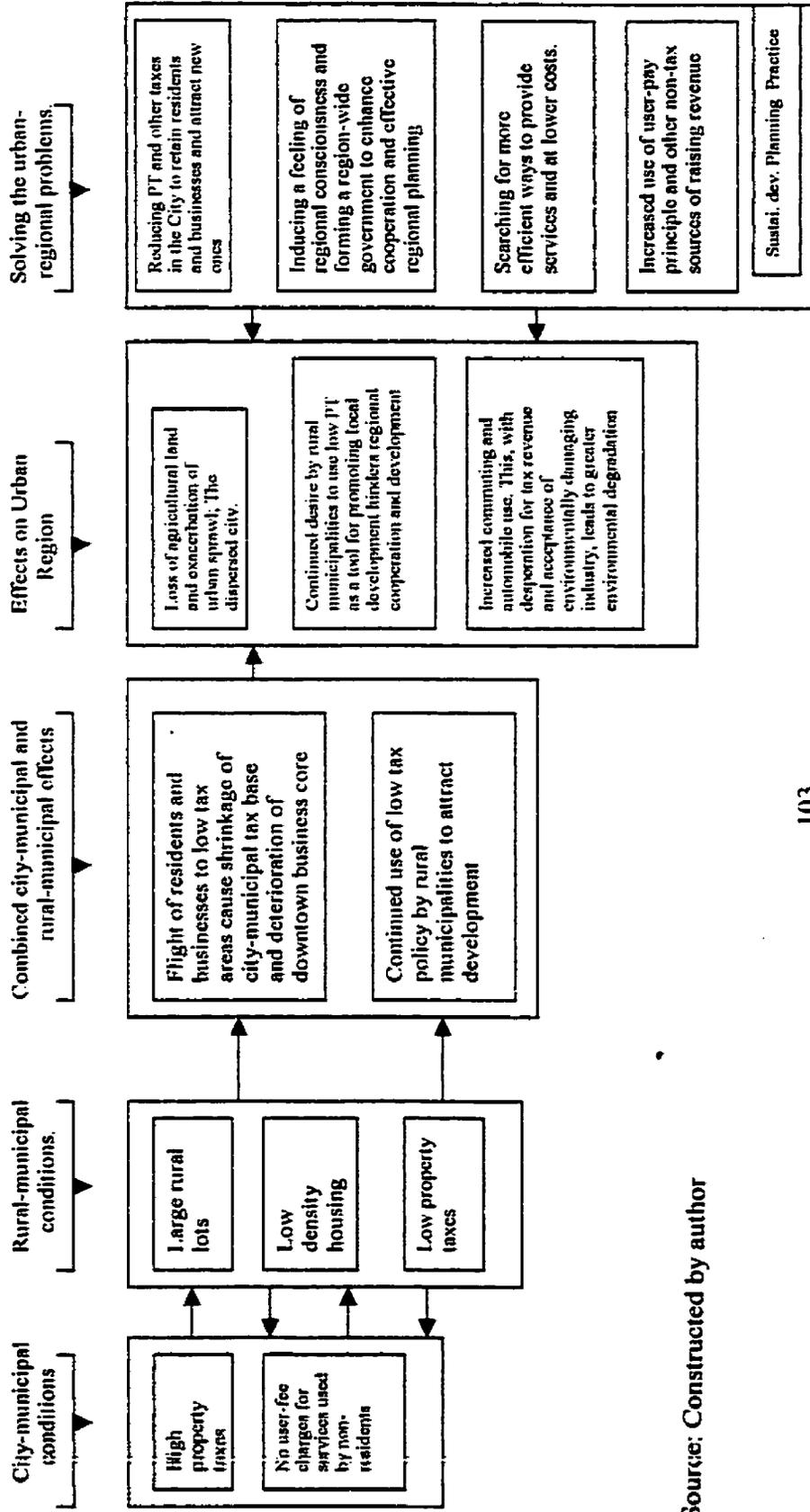
The model identifies the major issues associated with the high dependency on PT as a revenue source for funding municipal expenditures (Fig. 5). The purpose of this model is to help find answers to the three research questions outlined at the beginning of this

study. The model considers PT influences at the city-municipal and rural-municipal scales of an urban region and their likely combined consequences for the city-region.

Combined city-municipal and rural-municipal effects resulting from PT differences in these areas: High property taxes in a given city-municipality together with no user-charges for services used by non-residents from surrounding rural municipalities of a given city-region, encourage some residents and businesses in the city-municipality to move to low tax areas of the city-region. Because of the large rural lot sizes and low-density housing that normally occur in rural municipalities, continued flight to the rural municipalities worsens urban sprawl conditions in the city-region. The enhancement of development in the rural areas resulting from the flight to those areas as a result of their relatively lower tax levels, encourages rural municipalities to continue to use low-tax policies as a vehicle in attracting development.

The effects on the entire city region, as a consequence of the different tax regimes between the city-municipality and its surrounding rural municipalities, and the resulting flight to more tax-friendly areas, are the loss of agricultural land and other natural habitats, and the exacerbation of urban sprawl. Increased commuting and automobile use pollute the environment. This is worsened by the shrinking of the city-municipal tax base, forcing the city-municipality to accept any type of industry wishing to locate within its boundaries since this will help increase its tax base. This desperation for tax revenue, and the potential acceptance of environmentally-damaging industry, aggravates environmental degradation. The continued desire by rural municipalities to use low PT as

Figure 5. A theoretical model of the effects on the city-region as a result of high PT in a city-municipality.



Source: Constructed by author

a tool for promoting local development also leads to a hindering of regional cooperation and development.

Solving the city-regional problems: In order to solve the problems relating to the consequences of tax differences between city-municipal and rural-municipal areas, the following key points are noted in the model.

- Tax levels must be reduced in the city-municipality. This should help retain residents and businesses and help attract new ones.
- There should be attempts to induce a feeling of regional consciousness and the promotion of regional governance mechanisms (as possible precursor of the formation of a region-wide government). This will enhance cooperation and effective regional planning.
- There should be increased use of the user-pay principle in the provision of services in the city-region. Other non-tax sources of revenue-raising must also be pursued.
- There should be a search for more efficient ways to provide services more efficiently at reduced costs, and, finally,
- Sustainable development principles must be applied in city-regional development.

3.13 SUMMARY

It was noted in the literature review that research on the incidence of PT has focused mainly on two areas: the impact on property values and on assessment problems. Since the 1960s, there have been sweeping changes in the demographic make-up, culture and politics of industrialized cities as a result of the dynamics and the globalization of the capitalist economy. One consequence of this change is that a growing proportion of working- and middle-class families find it increasingly difficult to attain an acceptable level of living on one income. There is also a new regionalism emerging, whose context is provided by a concern for civic infrastructure and social capital, which deviates significantly from earlier regional planning's obsession with hard infrastructure and land development. When making tax decisions, local officials may be influenced by tax rates in adjacent jurisdictions because of concern about the loss of business activity.

The term "sustainable development" has gained wide recognition and acceptance since it was advocated in *Our Common Future* (1987) by the World Commission on Environment and Development. The concept has introduced a new form of equity: the concept of intergenerational equity. There is increasing interest in the use of taxes as a tool of environmental protection in the quest for sustainable development. Several innovative approaches to the notion of sustainable development, including Green Cities, Ecosystem Planning, Bioregionalism, Conservation Strategies, and State of the Environment reporting, have emerged and seem relevant for the solution of development

problems relating to the MCR. Based on information gained from the literature review, a model showing the intricate relationship between PT and urban form was presented.

CHAPTER FOUR: RESEARCH STRATEGY

4.0 INTRODUCTION

In the previous chapter results of the literature review were presented. The economic and demographic changes in the MCR, and their consequences for urban form, were discussed. In addition, a theoretical model that reveals the intricate relationship between central city PT dependency and urban region form was constructed.

This chapter deals with the research strategy. It presents and provides a justification for the main research variables considered and the type of data used in the research. The chapter also discusses the interviewing process and the problems of data collection.

Researchers typically depend on primary or secondary survey data, or both, to address social and economic issues and to gain information related to the views of individuals. Both primary and secondary data collection methods were employed for this research. Primary data were collected through simple questionnaire administration. In all, two sets of questionnaires were used. One set targeted real estate agents and dealt with the buying and selling of housing in the rural municipalities. The second set targeted people knowledgeable about current development issues in the MCR.

4.1 The Main Research Variables

In seeking to answer the main research questions some key variables relating to the effects of a high dependence on PT by the city were considered. These key variables were identified in the theoretical model presented in chapter three. The issues considered related to housing density, population shift to the municipalities, commuting, taxation and governance. Potential environmentally-harmful industry being accepted into the MCR was also considered in the analysis.

To answer research question one – what are the reasons for the migration of Winnipeg residents to the outlying bedroom communities? - a questionnaire was administered.

In attempting to respond to research question two – what are the likely impacts on the MCR's land use as a result of the migration of Winnipeg residents to the outlying bedroom communities? - residential housing density between the City of Winnipeg and that of the municipalities was compared. The reason for this is that low density residential development was a characteristic identified in our model as likely to result from the city-to-countryside flight.

In answering research question three – How might the central city's high dependence on PT revenue be better managed to enhance the prospects for the sustainable development of the MCR? - the issue of inter-municipal or regional governance, especially, issues relating to efficient administration and good governance, was considered.

4.1.1 Measuring Housing Density and Development Continuity

To determine housing density in sample areas of the city, colour aerial images printed at an approximate scale of 1:10,000 from aerial survey photography flown in June 2000 were used to calculate housing density for the city. These June 2000 photos were, however, unavailable for the municipalities so calculation of housing density of the municipalities was done using the Province of Manitoba Digital Orthophoto coverage based on aerial photography flown in August 1994. These photos were constructed at a scale of 1:60,000. Each tile of the digital orthophotos covered an area of 10 km.²

In considering the nature of emerging land use, especially the nature of residential land use, in the MCR, with particular concern for the city vis-à-vis the municipalities, two conditions of land use development relating to sprawl were considered for the survey. These are housing density in the city vis-à-vis the municipalities, and the continuity of development within the MCR. These two conditions were considered because, first, density (either population or housing) is the most used measure for the determination of sprawl development (Orfield 1997), while continuity is the second most mentioned dimension of development relating to sprawl (Ewing 1997).

The continuity dimension of development is concerned with density as a means of determining whether a tract of land contains enough housing units or any dimension of development to consider it part of unbroken development. Continuity of development

was considered as a second measure because, since the municipalities existed at a distance from developed city areas, it was likely that 'leap frog' development (or discontinuous development) would be characteristic of a situation in which city residents were migrating to live in outlying municipalities within the city-region.

Density is often expressed as the ratio of total population to its total land area. Housing density can be similarly defined as the ratio of the total number of houses to the total land area that they occupy. Galster et al (2000: 7) have noted that residential units are "a better unit for measuring housing sprawl as a physical condition of land use." In calculating housing density of sample areas in the MCR, suburban single-family housing in the city was used. Single family housing units were similarly used in calculating the housing density for the municipalities. Using single-family housing units in both the City and the municipalities ensured that only developed areas were considered for measurement. This avoided the distortions that would have arisen from the inclusion of large tracts of rural agricultural land (that had no housing development) in the measurements. This also helped to eliminate physical features and other constraints such as open spaces, public uses, regulatory barriers, and industrial areas in the City.

To calculate the housing density, grid cells consisting of one set each of a quarter kilometre square and another set of one kilometer square were created on the photos used for measurement. The number of housing units was assigned based on the proportionate sum of that portion of a house that partially or wholly fell within the individual grid cells.

The vital spatial scales used in the analysis are the one kilometre square grid cell and the quarter kilometre square grid cell.

The main intent of the density calculation was to find out the relative difference in average housing density over a kilometre square area of the City as compared to a similar area in the municipalities. This was to help determine the extent to which settlement in bedroom communities in the MCR promoted sprawl.

To obtain the total number of housing units within a square kilometre of a specific municipality, housing units were counted using a set of a quarter kilometer square grid cells. The quarter kilometer square grid cells that contained developments different from single-family residential housing were rejected and replaced with other quarter square kilometer grids that had single-family residential housing. The use of a single land-use type was done to promote uniformity in the measurement and to help ensure effective comparison of land-use type. In the case of the City of Winnipeg, the average of the single-family residential housing units in three separate square kilometre grid cells was used to represent the residential housing density per square kilometre for the suburbs of the city. In the remaining sample municipalities, however, the total number of single-family residential housing units within a single kilometer square grid was used.

The calculation of the housing density and development continuity was based on Galster *et al's* (2000: 32) operationalization of these dimensions, which is as follows:

Density

$$\text{Dens}(i)_u = D(i)_u = T(i)_u / A_u = \sum_{m=1}^M [T(i)_m] / A_u$$

Continuity

$$\text{CONT}(i)_u = \sum_{s=1}^S [D(i)_s > 9 \text{Residences and } 49 \text{Employees} = 1; \text{ zero otherwise}] / S$$

Where,

i: a particular type of land use or spatially based observation

u: the largest spatial scale used in the analysis

m: the medium spatial scale used in the analysis

s: the smallest spatial scale used in the analysis

T(i)_u: total number of observations of land use in area *u*

T(i)_m: total number of observations of land use *i* in land area *m* (within *u*)

T(i)_s: total number of observations of land use *i* in land area *s* (within *u*)

P_m: proportion of land area of spatial scale *m* within *u*

P_s: proportion of land area of spatial scale *s* within *u*

$$A_u: \text{total developable area within } u; = \sum_{m=1}^M P_m(A_m)$$

A_m: total developable area within grid of spatial scale *m* = *P_m*

A_s: total developable area within grid of spatial scale *s*

D(i)_u: density of land use *i* over the developable area *u* = *T(i)_u* / *A_u*

D(i)_m: density of land use *i* over the developable area in *m* = *T(i)_m* / *A_m*

$D(i)s$: density of land use over the developable area $s = T(i)s/As$

Based on the above operationalization of the concepts of density and continuity, the following formulae were used for calculating housing density and development continuity in the MCR:

Density:

$$\text{Dens}(i)m = \sum_{s=1}^S T(i)s/m$$

Continuity:

$$\text{CONT}(i)u = \sum_{s=1}^S [D(i)s > 9 \text{Residences} = 1; \text{ zero otherwise}] / S$$

[min = 0; max = 1]

Where,

N : total number of one square kilometer grid cells. So that the average density of

$$N \text{ kilometre grid cells} = (\sum_{s=1}^S P_s/m) / N$$

m : one kilometre square grid cell containing single family residential housing

s : a quarter kilometre square grid cell containing single family residential housing,

and $S = m$

i : single family residential housing units (observations)

4.2 SECONDARY DATA

Publicly available data provided by various provincial statistical bureaus and services, and the City of Winnipeg, were accessed for this study. In all cases the most recently available and comparable data were used. For some data sources, figures are very recent while for others, they are less so but still useful in revealing existing trends.

It has been noted by O'Brien (1992) that the delays and expense of primary data collection may be avoided if a suitable existing data set can be adapted to meet the needs of a research project. The advantage of using secondary data is that the researcher can generally produce results more quickly than if primary data had to be used. Though using secondary data may make things easier, there are risks involved, as data are second-hand, and may therefore be inferior or of unknown quality. The researcher using second-hand data might for example be unaware of the corrupting influences or errors in the data. Another problem is that the information may be organized in unsatisfactory ways or refer to geographical areas that are not entirely appropriate for the research in hand. "The suitability of the data to provide answers to the research questions being posed depends, in large part, on the seriousness of these inadequacies" (O'Brien 1992: 11). The Canada West Foundation has also noted that using data published by external sources (CWF 2000a: 5) has both merits and demerits. On the one hand, such an approach is relatively cost-effective, but on the other hand, it does present the problem of differing assumptions and methodologies that impact data usefulness and reliability of the final conclusions.

Several published data sources relating to PT in the City of Winnipeg were used for this study. Another major source of information was derived from articles in newspapers available in the MCR, such as the Winnipeg Sun, the Winnipeg Free Press and the Globe and Mail. The reviewing process, done by using microfilmed versions of these newspapers, proved to be time-consuming and difficult. Great relief came from some newspaper clippings made available to me by my thesis supervisor. Newspapers from 1996, around the time that the idea of a Capital Region Strategy was being discussed, were selected for the review process.

4.3 THE INTERVIEWING PROCESS

The questionnaire is an instrument used for the data collection segment of survey analysis. Questionnaires can be devised to obtain a wide array of data. The simplest are the factual, ascertaining information such as age, place of birth, employment etc. The second type are the attitudinal, for which questions are designed (and carefully pre-tested for validity) to probe respondents' values, attitudes and opinions (Johnston 1994: 494). The questionnaire that sought information from real estate agents aimed at gaining factual information and can therefore be rightly described as the first type: factual. The questionnaire that sought information from contributors to the Capital Region Review Panel aimed to gain the opinions of respondents and is therefore of the second type: attitudinal. For both sets of questionnaires, open-ended questions were asked and the responses were written down. Both sets of questionnaires were administered through telephone interviewing by the researcher.

The first set of interviewing targeted Real Estate Agents dealing with properties in the MCR. The aim of this interviewing was to obtain information about the most-mentioned reasons by clients wanting to leave Winnipeg for the surrounding bedroom communities of the city. Twenty four respondents were involved in this survey process. Real estate agents were used instead of the residents who have moved for several reasons: first, real estate agents are more readily accessible than the people who have moved from the city to the bedroom communities; second, because real estate agents are in daily and continuous touch with people deciding to move to the bedroom communities, they gain a lot of information from them; and finally, as dealers in properties in the bedroom communities, sales-targeting requires real estate agents to know who would wish to move to the bedroom communities and what these potential buyers want in those communities, so that they can effectively deliver their services to specific target groups and ready customers. All these factors placed them in a position to be able to give information about the reasons why people move from Winnipeg to the bedroom communities.

One real estate agent who was using a cell phone complained that it would be too costly for him to have the interview by phone because he had a lot to say about the questions he was being asked. He therefore asked if he could meet personally with the interviewer to discuss the questions. His request was happily granted. This real estate agent was of the utter conviction that residents of the city migrate to the bedroom communities mainly because of the low property taxes. I took down notes as he spoke, and he spoke very

slowly and repeated his points because he realized I had a lot of interest in what he was saying. The full discussion with this real estate agent is presented in the next chapter.

The real estate agents interviewed were from the following agencies: Re/max Real Estate Inc., Re/max Performance Realty, Coldwell Banker (National Preferred), Coldwell Banker Premiere Realty, Royal LePage Real Estate Services, Sutton Group Kilkenny Real Estate, Century 21 CARRE.com, Homelife/Properties Inc., Heritage Realty, L.J. Barron Realty, and Cannon Realty.

The second set of interviewing consisted of qualitative interviews conducted with specific individuals who made contributions to the Capital Region Review process. These individuals were selected because of their involvement in, and knowledge of, local issues. The individuals had deep knowledge of development and governance issues related to the MCR and had made contributions in the form of written articles and opinions to the Capital Region Review Panel in its consultations leading up to its interim report. The interviews were informal. A total of 10 interviews were conducted. Respondents were asked whether they agreed with the view of the Capital Region Review panel in its final report of December 1999, that the province of Manitoba evaluate the effect of municipal dependence on PT revenue in shaping regional land use trends. They were also asked about what they considered necessary by way of response to the heavy municipal dependence (of the City of Winnipeg) on PT for generating revenue, and what they considered the appropriate roles of both the city and the province in this response. The purpose of this questionnaire was to investigate the extent to which the opinions of

selected individuals differed with respect to how the problems of the MCR must be tackled. It was also to help in drawing conclusions as to what steps to take in solving the regional land use and municipal PT problems of the MCR.

4.4 PROBLEMS OF DATA COLLECTION

The problems faced by the researcher were numerous. Apart from time and money constraints, there were many difficulties in having respondents agree to be interviewed. Some respondents would say they would call back, but would never call again. A follow-up call often received the same “I will call back” response. Some respondents asked to be called around midnight saying it was the only time they would be available. Others wanted to know what the results would be used for, suspecting that I was working for the province, and though I informed them my work was only for my masters thesis. Some respondents also found it difficult understanding what they called my ‘heavy accent,’ since I spoke a Ghanaian-accented English.

Because of the difficulties I encountered, my original sample of 30 real estate agents only yielded 18 respondents while the sample of 20 contributors to the Capital Region Review panel yielded only 7 responses. I had to expand the original samples before I got responses for one set of interviewing to 24 respondents, and the other set to 10 respondents. The interviewing process proved to be variously frustrating and enjoyable. But in the end I was encouraged by some respondents who were willing to give me more

information than I asked for. One respondent even asked me to conduct a face to face interview. That interview is presented in the study.

4.5 SUMMARY

Researchers normally rely on primary or secondary survey data, or both, to address social and economic issues and to gain information related to the views of individuals. Both secondary and primary data collection methods were employed for this research. To determine the land-use characteristics of the MCR resulting from the migration to the bedroom communities, housing density and development continuity within the Capital Region were measured. Two sets of questionnaires were used to obtain primary data. One set targeted real estate agents buying and selling housing in the rural municipalities. The second set targeted people knowledgeable about the development issues of the MCR.

Primary data are difficult and expensive to collect. Although the use of secondary data can save the researcher time and money, there are risks involved as data are second-hand, and may be of inferior quality.

CHAPTER FIVE : ANALYSIS

5.0 INTRODUCTION

The previous chapter considered the research strategy, including the research methods for data collection. The primary and secondary data collection issues relating to the study were discussed. The calculation of housing density and residential development continuity were also considered.

This chapter deals with the analysis of the variables chosen for consideration in the study. The variables mainly deal with issues meant to help draw conclusions as to the likely causes of the migration of residents to the bedroom communities of the MCR and its impact on land use development trends in the Capital Region.

3.1 Reasons for Moving out of Winnipeg to the Surrounding Bedroom Communities.

To determine whether peoples' decision to move to the bedroom communities from the city of Winnipeg is affected by the high property tax levels in the city, the following questionnaire was administered:

Question 1: What is the main reason often mentioned by your clients for wanting to buy homes in the bedroom communities surrounding the city of Winnipeg?

Question 2: What other reasons are often given in addition to the main reason you have given above?

Question 3: *Do you have any other comments to make apart from the reasons that you have given? If yes, state comments.*

This interviewing targeted real estate agents who deal with the sale and purchase of properties in the rural municipalities. The reasons that respondents stated that their clients often mention for wanting to migrate to the bedroom communities are: the existence of lower property taxes in the rural municipalities and cheaper prices of rural or country properties. They also mentioned lifestyle issues such as the desire for larger lots, the existence of safer, quieter and closer rural communities, the availability of good rural schools, and space for keeping horses. The results from the survey are shown in Figure 6.

Figure 7 shows in summary form the main and other reasons often mentioned by clients about why they want to migrate from Winnipeg to the bedroom communities. Out of 24 real estate agents, 16 (66.6%) agents indicated that the main reason their clients mention for wanting to migrate to the bedroom communities is the existence of low property taxes in the rural municipalities, while another 5 (20.8%) of respondents mentioned PT to be an additional (but not the major) reason. This is opposed to 9 (37.5%) of agents who mentioned that their clients state lifestyle choice as the main reason, with another 14 (58.3%) mentioning lifestyle choice to be an additional reason, for wanting to migrate to the bedroom communities. Of clients who mentioned lifestyle choice either as the main reason or an additional reason, 23 (95.8%) of respondents stated yes, while 21 (87.5%) respondents stated the same for clients who mention PT to be the main reason or an additional reason for wanting to move to the bedroom communities. Only 2 (8.3%) of

Figure 6 Reasons for leaving the city to buy homes in the bedroom communities of the Manitoba Capital Region (24 Respondents*).

Agent	Main reason often stated by clients	Other reasons often stated by clients	Other comments by agents
1	Lower taxes in the rural municipalities.	Smaller, quieter communities.	Some say they simply do not want to live in Winnipeg
2	Lifestyle choice	Safety issues such as less crime. Larger rural lots, family, the slower pace of life, and the quieter communities	"I am also personally thinking of moving out of Winnipeg to a bedroom community and its all because of lifestyle purposes."
3	Lower rural taxes	More acreage at cheaper prices than in the city. Lifestyle (less hectic rural existence as opposed to busy city existence) and to raise children in a quiet environment	
4	Larger rural lots	Lower property taxes.	
5	Lifestyle choices, i.e., larger lots and safety.	Lower property taxes in the bedroom communities, employment.	
6	Closeness of the small communities and greater control over children.	Low property taxes, less crime.	
7	Lifestyle choice (Space for animals and machinery, less crime and quietness of the communities)		
8	Lower taxes in the rural municipalities.	Peace and quietness of the countryside. Desire for rural life.	

* Continued on next sheet.
Source: Questionnaire administration.

Reasons for leaving the city to buy homes in the bedroom communities of the Manitoba Capital Region (24 Respondents*).

Agent	Main reason often stated by clients	Other reasons often stated by clients	Other comments by agents
9	High Property taxes in Winnipeg	Safety factor: security for kids. Space, privacy and larger lots on which to keep horses.	
10	High property taxes in the City	Larger lots, less crime, good rural school system	No single reason may be more important as many reasons may be intertwined in the decision to move out of the city.
11	Lifestyle choices: larger lots.	Lower prices of properties, close communities	There are some in the city who desire lifestyle choices offered by the rural municipalities but choose to live in the city because they desire city services.
12	Lower property taxes in the municipalities.	Large lots. Good and close rural communities.	To the south of Winnipeg, people are unwilling to buy rural property because they worry about flooding.
13	High taxes in Winnipeg Lower tax levels in the municipalities.	Large lots, more space and privacy. Larger lots, less crime, cheaper properties.	The average size of lots in the city is 50' x 100.' In Stonewall, it is 60' x 120.' But these rural lots cost less or are similar to prices of lots in the city.
14			
15	Large rural lots	Low rural property taxes. Close communities and safety issues.	

* Continued on next page
Source: Questionnaire administration.

Reasons for leaving the city to buy homes in the bedroom communities of the Manitoba Capital Region (24 Respondents *).

Agent	Main reason often stated by clients	Other reasons often stated by clients	Other comments by agents
16	Lower property taxes in the rural municipalities.	More property for less price, more space.	
17	High property taxes in Winnipeg.	Large lots. Safety issues, low price of properties.	
18	Lower property taxes in the municipalities.	Large lots, safe communities.	
19	Low Property tax in the bedroom communities.	Bigger lots, less crime.	
20	People mention high property taxes as much as crime in the City of Winnipeg.	Big yards, keeping animals, a sense of space. Less city gangs or punks in the schools.	
21	High taxes in the city	Peace and quiet, less crime.	
22	Permanent family life	Retirement, resort, agriculture and manufacturing.	
23	Quality of life issues (safety, smaller classes and quality of schools. Everyone knows neighbours and look out for each other)	Larger lot sizes and bigger yards. Less property tax in the rural municipalities.	Some other attractions include the following: the town of Stonewall which I deal with is only half an hour's drive from Winnipeg. The town is also a self-sufficient one with sewage, water, fire protection and police. There is a brand new library (5 years old), a hospital (5 years old), an RCMP detachment in town and three good schools.
24	Lower taxes in the rural municipalities.	Larger lots and more space for animals. Safe communities.	Despite the other reasons, lower taxes are the essence of the whole thing.

* (Continued from previous page.
Source: Questionnaire administration.

respondents mentioned that their clients state other reasons, apart from PT and lifestyle choice, for wanting to migrate to the bedroom communities. These other reasons included employment 2 (8.3%) respondents, and agriculture and manufacturing 1 (4.1%) respondent.

Of all the respondents who stated that their clients often mention lifestyle reasons for wanting to move to the bedroom communities, 83.3% of respondents mentioned larger lots as a reason. This is followed by less crime in the rural municipalities, 54.1%, and then quieter and closer rural communities, which stood at 25% of respondents each. Only 16.6% of respondents mentioned family reasons, such as permanent retirement, for their clients wanting to migrate to the bedroom communities, although it is likely that those who mention less crime, quieter communities, and good schools also move for family reasons. Also, 16.6% of respondents stated their clients often mention cheaper prices in the rural municipalities as a factor influencing their decision to migrate. A fewer number of respondents stated good rural schools, 12.5%, space to keep animals, 12.5%, privacy, 8.3%, and a slower pace of rural life, 8.3%, as reasons their clients often mention for wanting to migrate to the rural municipalities. The results are shown in Figure 7.

Figure 7 Summary Table: Reasons for leaving the City of Winnipeg to buy properties in the surrounding bedroom communities of the MCR (Responses of 24 Real Estate Agents).

Agent	Main Reason		Other reasons often mentioned in addition to main reason		
	Property taxes	Lifestyle	Property taxes	Lifestyle	Other
1	•			•	
2		•			
3	•			•	
4		•	•		
5		•	•		•
6	•			•	
7		•			
8	•			•	
9	•			•	
10	•			•	
11		•	•		
12	•			•	
13	•			•	
14	•			•	
15		•	•		
16	•			•	
17	•			•	
18	•			•	
19	•			•	
20	•	•			
21	•			•	
22		•			•
23		•	•		
24	•				
% of Total	66.6	37.5	20.8	58.3	8.3

• Affirmative response.

Source: Questionnaire Administration.

One real estate agent who had a strong conviction that residents of the city migrate to the bedroom communities mainly because of the low property tax regimes in those areas, had this to say:

Question: What is the main reason that your clients give for wanting to leave the city of Winnipeg to buy homes in the surrounding bedroom communities of the city?

Figure 8 Lifestyle reasons in the bedroom communities that attract migrants from the City of Winnipeg (Agent responses)

Agent	Larger lots	Quieter communities	Less crime	Slower pace of life	Keep animals	Close communities	Family	Good rural schools	Privacy	Cheaper prices
1		•								
2	•	•	•	•		•	•			
3	•	•		•			•			•
4	•									
5	•		•			•				
6			•				•			
7	•	•	•		•					
8										
9	•	•	•						•	
10	•		•			•		•		
11	•					•				•
12	•									
13	•								•	
14	•		•			•				•
15	•		•							
16	•									•
17	•		•							
18	•									
19	•		•							
20	•		•		•					
21		•	•					•		
22	•									
23	•					•	•	•		
24	•		•		•					
% of Total	83.3	25.0	54.1	8.3	12.5	25.0	16.6	12.5	8.3	16.6

• Affirmative agent responses
 Source: Questionnaire administration

Answer: The number one reason is taxes. They tend to give many reasons but I firmly believe the number one reason is low taxes in the rural communities. I say this with authority. I have a sub-division in Winnipeg, bordering East St. Paul. This is a large lot development with no sewer or water. However, when people call wanting to buy a lot, they always ask whether my lots are in East St. Paul. These lots are in Winnipeg, but border East St. Paul. Despite the proximity, they insist on buying lots in East St Paul and not in Winnipeg. Why is this so? I can confidently say that this is simply because of the difference in property taxes.

My lots are cheaper. They are up to \$10,000 less for the same lot size in East St. Paul, yet people will not buy from me despite the fact that the plots are basically in the same area and in the same school division (the Riverview School Division). I firmly believe that the reason they will not buy from me is because of the lower taxes they will pay in the adjacent area of East St. Paul.

I think one main reason that creates the tax differences between the City of Winnipeg and the (Rural) Municipality of East St. Paul is that property assessment in these two jurisdictions is done by two different bodies. In Winnipeg, the assessment is done by the City, however, in East St. Paul, property assessment is done by the Province of Manitoba. These two bodies assess property differently. In East St. Paul, property is grossly under-assessed. Another reason why residents of East St Paul have lower property taxes is because they enjoy subsidized services which are catered for by school taxes in which Winnipeg tax payers pay higher amounts.

Question: Why are your lots cheaper than those in East St. Paul?

Answer: Because of low demand.

Question: What other reasons apart from low taxes, do your clients give for wanting to buy homes in the bedroom communities?

Answer: Some simply want large lots. Others want large lots of around 5 hectares or more to enable them keep animals such as horses; for these people lower taxes do not seem to play the greatest role in their decision to move to the bedroom communities. In addition, some mention safety of the communities, but now rural communities are also experiencing crime.

Question: What suggestion do you have to help stop the population shift to the bedroom communities?

Answer: I think those in the bedroom areas are leeches. I suggest that those living in these bedroom communities pay 1% income tax to the city. People living in the surrounding communities commute to work in the city in city-supported industry and facilities, but do not pay taxes to the city. Rural residents also sometimes use addresses of relatives living in the city to enable them to enjoy city services free of charge.

I am also of the view that the city of Winnipeg must reduce its property taxes by about 15%. This is because the city has a tax stigma. Currently it has one of the highest property tax rates in Canada. I also suggest that the city adopt the Greater Toronto Area

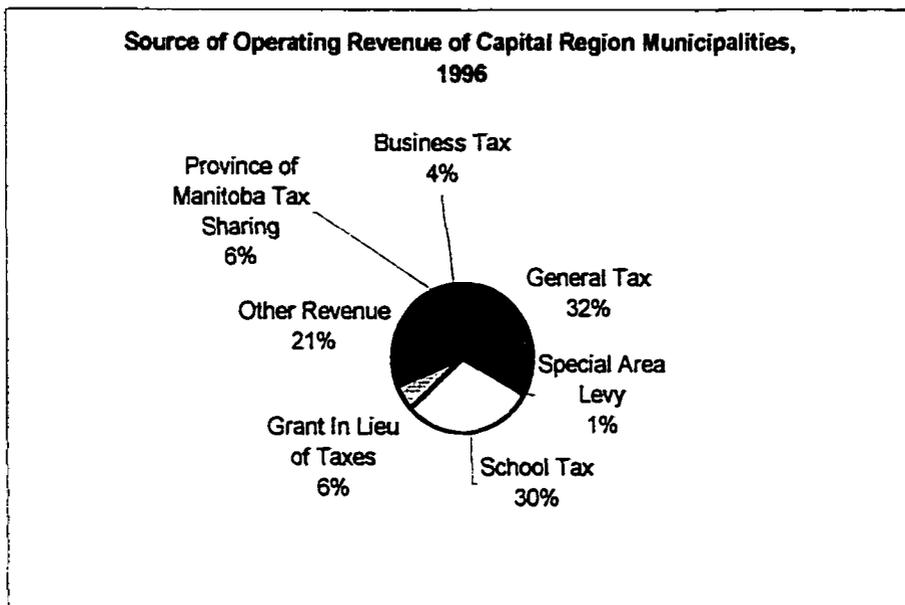
model of regional government to ensure that all residents in the city and its surrounding areas support the services that they enjoy within the urban area [*end of interview*].

This respondent was of the view that the low property taxes in the surrounding municipalities are the driving force behind the decision of Winnipeg residents to relocate in the City's surrounding bedroom communities.

Municipal tax levels in the MCR are fairly high, as the following data show: In 1996, PTs (including school tax, general tax and special area levies) accounted for nearly 63 percent of municipal revenues in the MCR. Other revenue sources included grants-in-lieu of tax (6.2 percent), provincial tax sharing and unconditional grants (6 percent) and business tax (4.4 percent). General (municipal) property tax (32 percent) and school tax (30 percent) formed the largest sources of revenue for the year. This is shown in Figure 9.

Municipal tax levels in the City of Winnipeg are, however, far higher than those in the remaining municipalities of the MCR. Winnipeg's high tax levels stem from its high mill rate for municipal services. The city's mill rate for municipal services is 32.966 per \$1000 of portioned assessed values of realty (see Table 5 for the combined mill rates for Winnipeg school divisions). The municipal mill rates for the rural municipalities of the MCR are far lower. For example, the municipal mill for East St. Paul is 8.75, and 13.992 for the R.M. of Macdonald (Table 6). Only the R.M. of Headingley had a municipal mill rate as high as 19.00, which is still considerably less than the municipal mill rate of 32.966 for Winnipeg. Though it can be argued that Winnipegers enjoy a wider range of

Figure 9



Source: Manitoba's Capital Region, Executive Summary (1998), Municipal Finance Indicators.

services than the rural municipalities and, as a result, deserve to have higher mill rates, most of the surrounding municipalities are close enough to the City of Winnipeg to enable their residents to commute to work and for recreation, while escaping the city's high property taxes.

Using data from Tables 5 and 6, residents of school divisions with the highest mill rates in the city of Winnipeg, the R.M. of East St. Paul, and the R.M of Cartier, will be assessed 67.460, 37.999 and 37.84 mills respectively per \$1,000 of the portioned assessed values of their real estate property. This means that for every \$1,000 of the portioned assessed value of a property in Winnipeg, the tax payer will pay \$67.542 ($67.542 \times 1000/1000$) while the taxpayer in the R.M. of Cartier pays \$37.84 ($37.84 \times 1000/1000$), and the taxpayer in the R.M. of East St. Paul, \$37.99 ($37.999 \times 1000/1000$). These figures

Table 5 City of Winnipeg – Combined Mill Rates (Yr. 2000)

School Divisions	Residential	Other (i.e., commercial & industrial)	Farm
1-Winnipeg	67.460	77.228	59.562
2-St. James-Assiniboia	57.156	66.924	49.258
3-Assiniboine South	62.181	71.949	54.283
4-St. Boniface	61.557	71.325	53.659
5-Fort Garry	61.654	71.422	53.756
6-St. Vital	61.647	71.415	53.749
8-Norwood	62.402	72.170	54.504
9-River East	60.958	70.726	53.060
10-Seven Oaks	65.980	75.748	58.082
12-Transcona-Springfield	60.928	70.696	53.030
14-Seine River	61.655	71.423	53.757
21-Interlake	59.384	69.154	51.488

Source: The City of Winnipeg, Property Assessment Department.

Table 6 Mill Rates for Five Rural MCR Municipalities (Yr. 2000)

Municipality	General Municipal	Provincial Education levy	School Division	Combined Mill Rates (Residential)
R.M. of Cartier	8.4	8.05	21.39	37.84
R.M. of Ritchot	14.77	7.920	21.01	43.7
R.M. of Headingley	19.00	7.97	22.15	49.12
R.M. of East St. Paul	9.696	7.921	20.382	37.99
R.M. of Macdonald	13.992	7.97	19.481	41.44

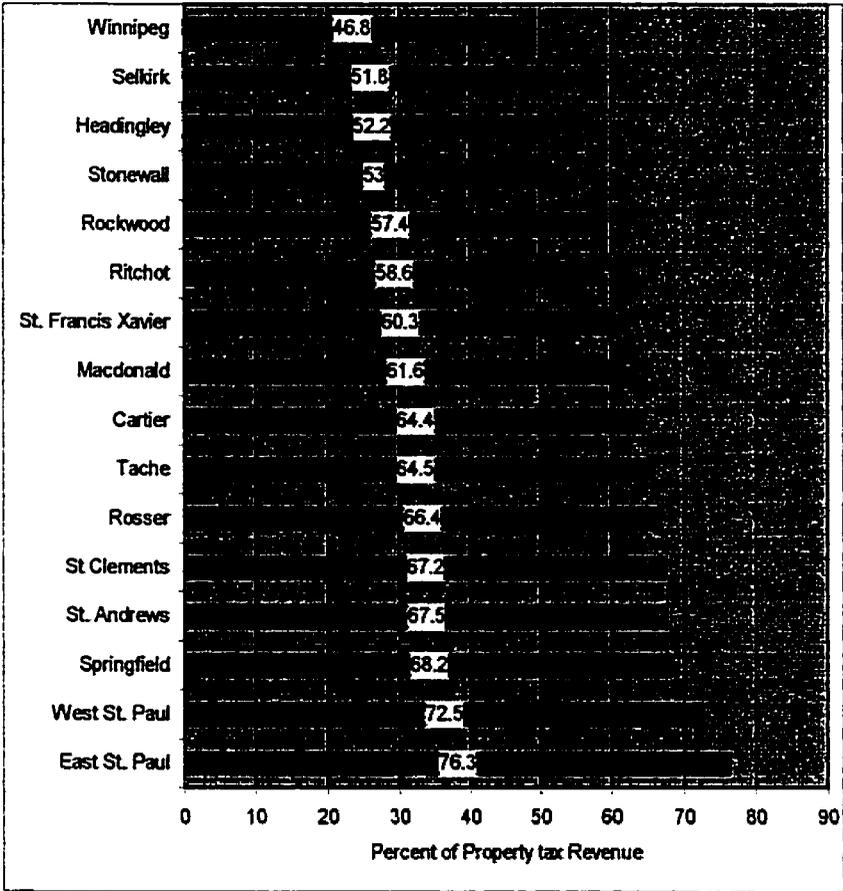
Notes: The highest school division mill rates for a municipality were used. Some municipalities such as Cartier and Headingley have additional mill rates for local improvement and other services.

Source: Constructed from data obtained from the municipalities.

show that the higher mill rates for the City of Winnipeg place a much higher PT burden on Winnipeg residents, as tax payers in Winnipeg will pay roughly twice as much in property taxes for similar amounts of portioned assessed property values.

The high level of PTs in Winnipeg and its surrounding municipalities is also due to the inclusion of educational taxes on the property tax bill. In 1996, the school (or education) portion of PT within the MCR was 48.3 percent, an increase of 0.6 percent from the 1991 level (after adjustment for inflation). It can be noted in Figure 10 that except in Winnipeg, school taxes accounted for a majority of the property tax (see Manitoba's Capital Region, Executive Summary 1998, Municipal Finance Indicators: 8). An exclusion of the educational taxes from the PT bill will dramatically reduce the PT bill, but the educational taxes may still have to be paid in some other form and through some other agency. As a result, in the end, a separation of the 'true' property tax from the educational tax is unlikely to reduce the overall tax burden on taxpayers.

Figure 10. School Share of Property Tax Revenue, Capital Region Municipalities, 1996



Source: Manitoba's Capital Region, Executive Summary 1998, Municipal Financial Indicators: 8.

5.2 Housing Density and Development Continuity Characteristics of the MCR

To calculate the housing density of a sample of the MCR municipalities consisting of Winnipeg, Headingley, West St. Paul, East St. Paul, Ritchot, and Tache, the following formula was used:

Density

$$\text{Dens (i)m} = \frac{\sum_{s=1}^S T(i)s/m}{m}$$

The average density per kilometre for a total number of N kilometre grid cells was calculated with the formula, which follows Galster et al's (2000: 32) formula for the calculation of the dimension of density:

$$\left(\frac{\sum_{s=1}^S T(i)s/N}{N} \right) / m$$

To obtain single family residential housing density per square kilometre for Fort Richmond, Winnipeg:

$$\text{Dens(i)m} = \frac{\sum_{s=1}^S T(i)s/m}{m}$$

$$= s_1 + s_2 + \dots + s_{16} / m$$

$$= 56 + 60 + 59 + 62 + 79 + 58 + 77 + 79 + 70 + 68 + 75 + 90 + 69 + 81 + 78 + 83 / m$$

= 1144 units per square kilometre

Average of (i) per quarter square kilometer grid cell = $1144/16 = 71.5$

(See Appendices for the calculation of the figures for the remaining selected municipalities).

Table 7 Single family housing density levels in selected municipalities of the MCR

Municipality	Average density per ¼ kilometre grid cell	Single residential housing density per kilometre	% of housing units in a square kilometre grid cell compared to Winnipeg
Winnipeg	84.2	1348	100
West St. Paul	7.4	118	8.75
East St. Paul	19.5	312	23.0
Headingley	8.4	135	10.0
Ritchot	10.9	175	13.0
Tache	12.8	205	15.2

Source: Constructed by author using information obtained from aerial photos of the municipalities.

Results from Table 7 show that housing density levels in the rural municipalities are very low compared to density levels in the selected Winnipeg suburbs of Transcona, Fort Rouge and Fort Richmond. In West St. Paul only 8.8% of the total number of housing units in a square kilometre in the Winnipeg suburbs can be found in an area of similar size in the rural municipality. Densities are equally low for the Rural Municipalities of Headingley (10%), Tache (15.2%), Ritchot (13.0%), and East St. Paul (23.0%) (see Table 7 above). If Winnipeg had the density levels of the rural municipalities, the city would

have required an area of between 4.5 to 9 times more than its current size to accommodate its developed area.

To determine development continuity within the MCR, the following formula, which follows Galster et al's (2000: 32) formula for the calculation of the dimension of continuity was used:

Continuity,

$$CONT(i) = \frac{\sum_{s=1}^S [T(i)_s > 9 \text{ Residences} = 1; \text{ zero otherwise}]}{S}$$

[min = 0; max = 1]

Table 8 Development Continuity in the MCR

Municipality	$\sum_{s=1}^S T(i)_s$	$\sum_{s=1}^S [T(i)_s > 9 \text{ Residences} = 1]$	$\sum_{s=1}^S [T(i)_s < (\text{Residences} = 0)]$	Development Continuity
Headingley	2	-	0	Nil
West St. Paul	1	-	0	Nil
East St. Paul	0	-	0	Nil
Ritchot	1	-	0	Nil
Tache	1	-	0	Nil

Source: Constructed by author using information obtained from aerial photos of the municipalities.

Data in Table 8 show a lack of development continuity in the MCR. The lack of continuity suggests the prevalence of 'leap frog' development. Leap frog development within an urban area exacerbates sprawl development and increases commuting and journey-to-work distances within the urban region.

Aerial Photo 1 Fort Richmond, Winnipeg (2 Kilometre Square Tile).



Source: Atllis Geomatics Inc., January 29, 2001

Date Flown: June 2000

Aerial Photo 2 Transcona, Winnipeg (2 Kilometre Square Tile).



Source: Atlis Geomatics Inc., January 29, 2001

Date Flown: June 2000



Source: Province of Manitoba Digital Ortho Coverage. August 1994.

Aerial Photo 4

West St Paul (5x5 Kilometre Tile).



Source: Province of Manitoba Digital Ortho Coverage. August 1994.

Industrial and transportation activities in urban areas often leave the land beneath them unsuitable as sites for other urban land uses (without considerable restoration measures), and the air above them heavily polluted and hazardous to fauna and flora. The water sources may contain contaminants such as fecal waste, other household effluent (“grey water”), chemical residues from house, garden and ornamental lawn use, heavy metals from industry and transportation, and industrial effluent and chemical residues (Patterson 1995: 12-13). The use of chemicals on farmland, especially their prolonged use, has the potential to negatively impact soil and biota. The conversion of such farmland to urban uses could also bring adverse consequences for the new residents.

Currently the city of Winnipeg does not rate a clean bill of environmental health because of certain levels of contamination from domestic and industrial activity. However, there is no sign that the city accepts excessively environmentally-damaging industries characteristic of jurisdictions that may be desperately in need of tax revenue (to the extent that they will be willing to take in industries that other jurisdictions reject as a result of environmental concerns).

Since 1995, when the blue box program was introduced, the garbage produced by Winnipeg residents has increased from 210,000 tonnes to 224,000 tonnes per year. However, only 26,000 tonnes of this amount is recycled annually. Garbage increases result in increased pollution from fossil fuels, such as gas and oil, consumed by trucks

and equipment that haul and bury the garbage. The city's garbage disposal is also done by landfill. Garbage prevention and recycling, including composting, can divert organic wastes from landfills, and reduce the amounts of methane released into the atmosphere by landfills (City of Winnipeg 2001).

The City of Winnipeg is also accepting solid waste from Kenora, Ontario, in return for payment. The first truckload of this waste arrived on the first of September 2000. The question then is: is this a sign that the city is desperate for revenue, to the extent that it is ready to accept potentially environmentally-damaging or risky activities within its jurisdiction? The fact that Kenora did not get a closer place than Winnipeg to dump its garbage is a reflection of the unwillingness of other local jurisdictions to accept potentially risky economic ventures in their areas. Winnipeg is, however, willing to accept for cash what others reject because of its potential dangers.

5.4 Solving Development Issues Relating to the MCR.

In order to elicit views of people knowledgeable about development issues of the MCR, so as to obtain a better feel for their individual opinions and positions with respect to some of the issues discussed in this research, a series of telephone interviews was conducted.

The respondents were asked the following questions:

Question 1: *The Capital Region Review Panel stated in its Final Report of December 1999 that the Province of Manitoba should “evaluate the effect of municipal dependence on property tax revenue in shaping regional land use development trends.” Do you agree with the view of the panel?*

Question 2: *If you do not agree, state reasons.*

Question 3: *(If respondent agrees with panel’s view) What do you think is necessary by way of response to the heavy municipal dependence on PT for revenue generation?*

Question 4: *What do you think should be the role of the City of Winnipeg in this response?*

Question 5: *What do you think should be the role of the Province of Manitoba in this response?*

In response to this questionnaire, 9 of 10 respondents agreed with the view of the Panel that the Province of Manitoba should evaluate the effect of municipal dependence on property tax revenue in shaping regional land use development trends. The single respondent who disagreed with the panel stated that no evaluation was required because the effects of municipal dependence on property tax revenue in shaping regional land use development trends in the MCR are already known. Among the respondents, 8 of 10 stated that the city must play a role in the reduction of property taxes. In relation to the role of the province, 9 of 10 respondents stated the province has an important role to play in resolving the problems arising from over-reliance on PT revenue by the municipalities. One respondent mentioned that the federal level of government must also play a role in the resolution of this problem. The responses are shown in Figure 11.

**Figure 11 Who plays what role in solving the development issues of the MCR?
(Response A)**

Respondent	Questions and Responses			
	Do you agree with view of the panel?	The city must play a role?	The Province must play a role?	Other comments
Respondent 1	Agree	Yes	Yes	
Respondent 2	Agree	Yes	Yes	The province must take the initiative.
Respondent 3	Disagree	Yes	Yes	Disagree because the problems are already known.
Respondent 4	Agree	No	Yes	The city will protect its interests.
Respondent 5	Agree	Yes	Yes	The province must lead
Respondent 6	Agree	Yes	Yes	
Respondent 7	Agree	Yes	Yes	The federal government should also assist
Respondent 8	Agree	Yes	No	City must reduce taxes and provide services on user-pay basis.
Respondent 9	Agree	Yes	Yes	
Respondent 10	Agree	No	Yes	

Source: Questionnaire Response.

The complete responses of the respondents are shown in Figure 12. The general view of the respondents was that both the City and the Province have a major role to play, but most respondents said the province has a greater role than any other level of government in solving the problems resulting from the heavy municipal dependence on property tax revenues.

Figure 11 Who plays what role in solving the development issues of the MCR? (Response B) *

Respondent	Questions and responses				Other comments
	Do you agree with the view of the panel?	What is necessary by way of response to the heavy municipal dependence on PT?	What should be the city of Winnipeg's role in this response?	What should be the role of the Province in this response?	
Respondent 1	Agree	Education costs must be removed from the PT bill.	The city has a lot to do. The city should cut property taxes. Then it must find alternative sources of income generation. The city must avoid borrowing and use the pay-as-you-go method of financing projects. All these will require effective planning.	The Province must assist the city in solving its problems. It must not just sit and look. The Province must guide the municipalities.	
Respondent 2	I agree.	The property tax must be reduced. These taxes as they stand currently, are just too high.	The city should be given the power to levy taxes on income. This should enable the City to reduce property taxes, which are currently very high.	The Province must play the leadership role. It should take up the welfare payments that are currently the responsibility of the City.	Regional planning is important
Respondent 3	Agree	Property taxes must be reduced and other sources of revenue-raising must be explored.	The city should provide services on a user pay basis. The city must also reduce property taxes.	The province must aid the municipalities financially.	
Respondent 4	I agree	The city must find other means of funding its services and not depend mostly on property taxes.	The city must be proactive. It should take initiatives towards greater innovation in ways of operation and provision of services. The city must avoid all forms of waste.	There should be an association of municipalities. There is no need for amalgamation. The province can be a mediator.	
Respondent 5	I agree	There should be a regional pooling of resources. Regional competition is necessary to ensure that costs of service provision are shared regionally.	The city must cut taxes	The Province must give more money to the city.	

* Continued on next page
Source: Questionnaire response.

Who plays what role in solving the development issues of the MCR? (Response B)*

Questions and responses					
Respondent	Do you agree with the view of the panel?	What is necessary by way of response to the heavy municipal dependence on PT?	What should be the City of Winnipeg's role in this response?	What should be the role of the Province in this response?	Other comments
Respondent 6	Agree	Clear matching of revenue source with purpose of expenditure. Education costs must be eliminated from PT base.	Because the city is so large compared to the other municipalities, it has its own momentum. I wouldn't suggest anything. I think the city will be tempted to protect its interests.	The province should grab the bull by the horns. Problems from the provincial perspective should be solved unilaterally. Changes should be made to make things happen. The province should not follow but lead.	
Respondent 7	I basically agree.	I think there is a lot to be said.	The tax base must be widened from other perspectives, and not only on land use taxes. PTs are very regressive. Because a person has land or property does not mean the person has the ability to pay. The education levy is a deterrent. Income tax is better because it is based on people's ability to pay.	The province must create the awareness that these taxes are unfair and hinder the development of the city.	A comprehensive regional zoning plan is required.
Respondent 8	Agree	There should be reduction in property taxes and revenue should be sought from other sources.	The city should provide services on user-pay basis	The province must get the municipalities to work together, do research and market the MCR. The province has the financial and civil service resources to aid the municipalities in carrying this out.	Leadership rests with the province.
Respondent 9	I Agree	The politicians must do something about the high property taxes.	The city should remove school taxes from property tax bills.	The Province must help to ensure cooperation between municipalities. But the municipalities must have right to decide.	
Respondent 10	I don't think we have to evaluate. We know what is going on.	Effective regional planning is required. Tax breaks must be removed	The city doesn't have much to do. It is the province that has a role and must take up the leadership	The MCR sustainable development plan is a handy guideline that must be followed	

*Continued from previous page.
Source: Questionnaire response.

In response to the question, what do you think is necessary by way of response to the heavy municipal dependence on PT for revenue generation, 8 of 10 respondents were not entirely clear about what should be done. However, 2 of 10 respondents stated that school taxes must be eliminated from the PT bill, while another 2 of 10 respondents said that alternative sources of revenue-raising must be sought. In addition, 2 of 10 respondents seemed to call for greater innovation and accountability in the way the municipalities are governed.

In response to the question, what do you think should be the role of the City of Winnipeg in this response, 1 of 10 respondents said that the city does not have much to do, and it is the province that must act. Another 1 of 10 said that the city must remove the school tax bill from the PT bill while 2 of 10 stated that the city must provide services on a user-pay-basis. In addition, 2 of 10 respondents called for the use of alternative sources of financing, while another 1 of 10 said the City must be given the authority to levy income taxes. Finally, 1 of 10 respondents said that the City should avoid borrowing to finance development projects, and instead adopt the pay-as-you-go method of financing projects. They maintained that this should help reduce the City's high interest payment bills.

In response to the question, what do you think should be the role of the Province of Manitoba in this response, the majority of respondents (6 of 10 respondents) said that the Province must guide the municipalities by providing a leadership role. Another 2 of 10 respondents stated that the Province should aid the City financially, while 1 of 10 respondents said that the Province must take up the welfare payment role that is currently

held by the City. From the answers to the questionnaire, it appears that most respondents want to see the Province take on a more active role in ensuring that municipalities cooperate on development issues and in the areas that will lead to tax reduction.

5.5 SUMMARY

Results from the analysis show that housing density levels in the rural municipalities are very low compared to density levels in the selected Winnipeg suburbs. There is also 'leap frog' development in the MCR. Such development increases commuting distances and worsens environmental problems resulting from automobile pollution. The city's willingness to take waste from Kenora, Ontario, for disposal in exchange for payment, appears to be a sign that the city is in need of critical revenue resources.

Responses from the interviewing process indicate that property tax is an issue that impacts regional land use management, and the city, together with the province, must play major roles in resolving the heavy central city dependency on PT revenue.

CHAPTER SIX: INTERPRETATION OF RESULTS AND CONCLUSION

6.0. INTRODUCTION: INTERPRETATION OF RESULTS

It was revealed in the last chapter that migration from the City of Winnipeg to the surrounding municipalities increases a sprawl form of urban development. The leap frog development that is characteristic of the development trends in the MCR leads to increased commuting distances and environmental pollution.

This chapter interprets the results of the analysis in chapter five and attempts to find links between the MCR development indicators and the land use and taxation issues revealed by the research.

6.1 Research Question 1

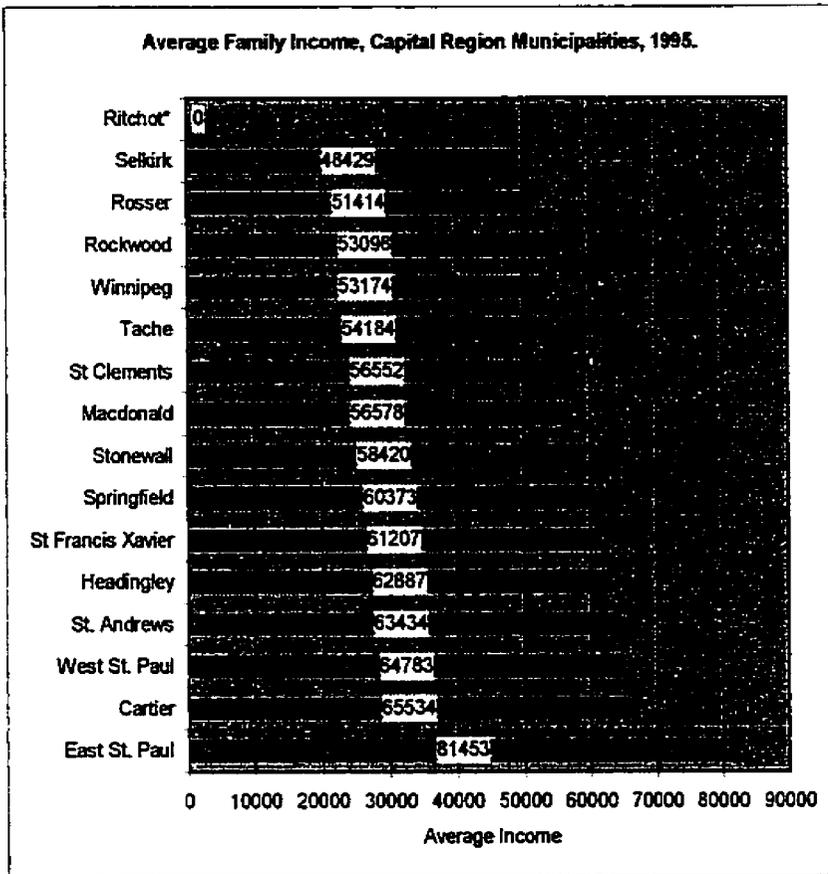
What are the reasons for the migration of Winnipeg residents to the outlying bedroom communities?

Although crime is not exclusive to poor areas of urban centres, poor inner city areas tend to experience higher levels of crime than wealthier areas. Low incomes are prevalent in a large and growing segment of the MCR's population. In 1996, 153,875 people lived in households with incomes below the Statistics Canada low-income benchmark. Between 1991 and 1996, the low-income population of the MCR increased from 19.5 to 22.3 percent. In 1997, municipal social assistance caseloads in the region exceeded 14,131 (Manitoba's Capital Region 1998). Average family incomes differ widely among the municipalities, from \$48,429 in Selkirk to \$81,453 in East St. Paul (Figure 13). Poverty

in the MCR is, however, most prevalent in the City of Winnipeg, and more so in the inner city areas. The two inner city areas delineated by the postal codes R3A and R3B are the fourth and fifth poorest neighbourhoods in Canada (Canada West Foundation 2000a, Issues 200: 18). It is likely that these high poverty levels within the city are leading to growing crime in the City of Winnipeg. Safety concerns are the second largest reason, noted by the real estate agents, for people wanting to migrate to the bedroom communities.

Winnipeg is a city of high property taxes. Some respondents noted that huge debt servicing costs are partly responsible for the high taxes. They therefore called for alternative forms of development financing such as the pay-as-you-go method to help relieve this burden. Although the property taxes in the City are generally high, the debt servicing burden makes the tax load even more pronounced. Debt servicing costs for 1998 for the City of Winnipeg were estimated at \$132,147,752, or \$207.23 on a per capita basis. This cost represented 19.7% of the total estimated 1998 expenditures. Comparatively, other prairie cities such as Calgary, Edmonton and Saskatoon have lower debt servicing levels. Debt servicing costs for Calgary in 1995 stood at 17.1%, for Edmonton 8.9% and for Saskatoon only 4.6%. In the city of Winnipeg's Spring 2000 Report to Citizens, it was noted that the city's debt servicing takes up 23 cents of every tax dollar paid to the city. Because this heavy debt burden is a result of past borrowing,

Figure 13



* Data not available.

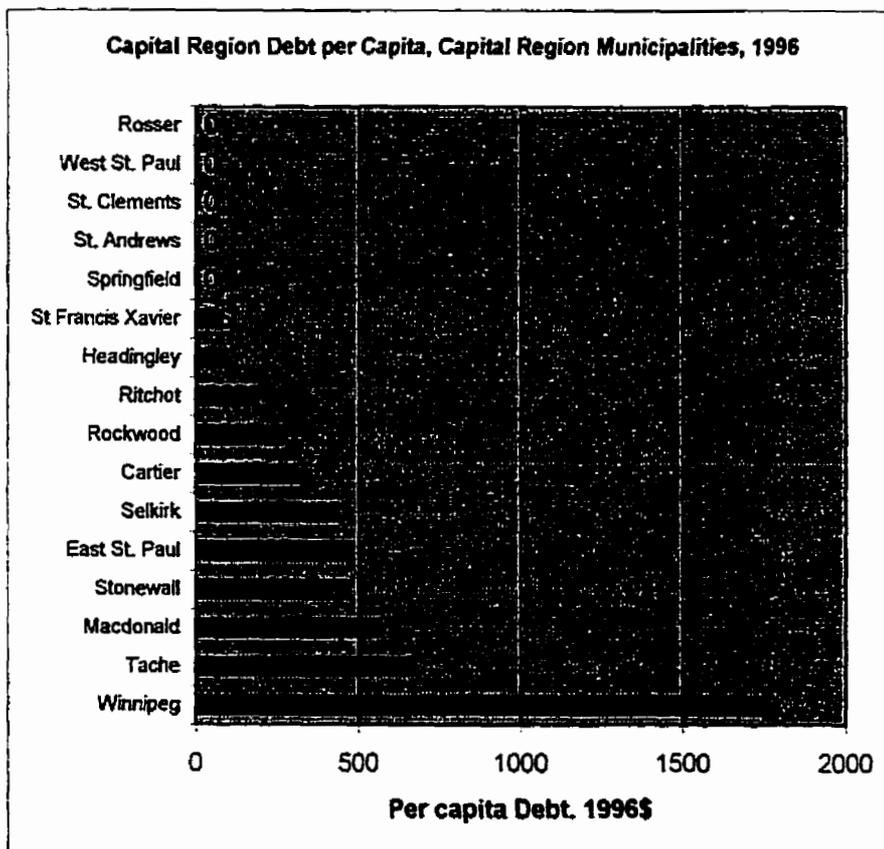
Source: Manitoba Capital Region Municipalities, Executive Summary (1998), Socio-economic characteristics; original data from Canada, 1991, 1996.Census

the city council stated in 1999 that it will no longer issue debt for tax-supported capital projects.

It is true that debt servicing costs constitute a significant part of what is hurting the city of Winnipeg and keeping PTs high relative to other municipalities. Collectively, the MCR had a capital debt of approximately \$1.1 billion in 1996 – an inflation-adjusted increase of 12.5 percent since 1991. The City of Winnipeg, compared to other MCR municipalities, had a very high level of per capita debt. The city's per capita debt was

\$1,747 compared to \$672 for the R.M. of Tache and zero for St. Andrews, St. Clements, and West St. Paul. This is shown in Figure 14.

Figure 14



Source: Manitoba's Capital Region, Executive Summary (1998), Municipal Finance Indicators, p. 11: original data from Census Canada, 1991, 1996.

It is evident that avoiding debt financing of development could relieve the long-term burden of debt servicing that leads to property tax hikes.

From the analysis, tax differentials between the City of Winnipeg and its surrounding municipalities appear to be the single most important factor for the population shift from Winnipeg to the rural communities. However, the lower PT levels alone are unlikely to produce city-to-bedroom-community migration because lifestyle choices also featured prominently among reasons people often mention for wanting to migrate to the rural municipalities. But it is also unlikely that lifestyle choices acting alone could have produced current levels of migration without the promise of lower taxes. Because 66% of real estate agents interviewed indicated that the major reason their clients give for wanting to migrate to the bedroom communities is lower property taxes in the rural municipalities, it appears that low property taxes in the rural municipalities is the main driving force for the population shift to the bedroom communities in the MCR. This conclusion is reinforced by the fact that an additional 20.8% of real estate agents that stated lifestyle choices as their primary reason also added PT as a secondary reason.

It can also be noted from the study that probably the two main reasons that will make people do something are when they like the thing and when that thing is affordable to them. This is because all the real estate agents interviewed mentioned lifestyle choice or low property taxes as either the main factor or an additional factor to a major reason that make people from Winnipeg want to buy properties in the bedroom communities. Low property taxes in the bedroom communities, therefore, seem to be a factor that enhances affordability for the migrants to the bedroom communities.

6.2 Research Question 2

What are the likely impacts on the MCR's land use as a result of the migration of Winnipeg residents to the outlying bedroom communities?

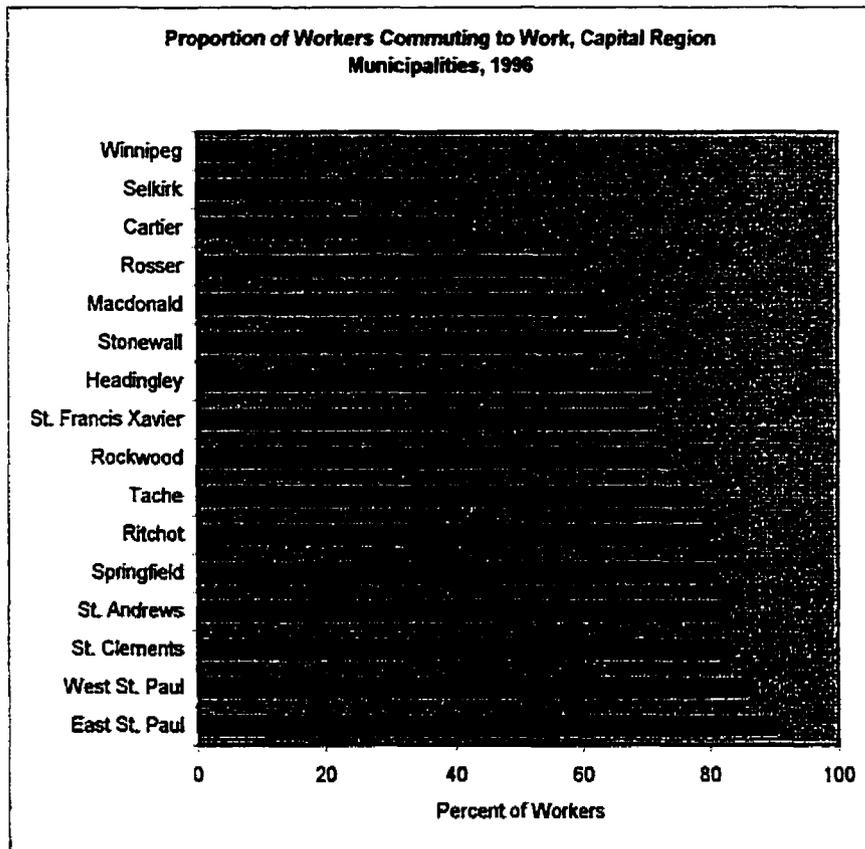
Between 1991 and 1995, Winnipeg's population grew only at a rate of 0.5 percent compared to 7.6 percent for the MCR. The average annual growth rate between 1991 and 1996 was 0.1 for Winnipeg, while a majority of the municipalities grew at a rate of between 1.0 and 4.3 percent. The MCR growth average stood at 0.27 percent, above the rate for Winnipeg. At a time when Winnipeg's population is experiencing slow growth there is rapid expansion in both population and urban sprawl in surrounding municipalities. This sprawl is a consequence of people moving from Winnipeg, to bedroom communities with larger lots, making a choice for a more desirable rural lifestyle, and with a bonus of low property taxes. About 66% of real estate agents surveyed mentioned that the single largest reason in people's decision to move to the bedroom communities stems from the comparatively higher taxes in Winnipeg vis-à-vis the surrounding municipalities. It can be stated that one consequence of this tax differential has been to encourage urban sprawl in the MCR. This is because of the huge differences in housing density between the City of Winnipeg and the bedroom communities.

Individuals, households and families reside where they can do because they earn a living from there. A significant number of residents in the fringe areas of central cities earn their living from jobs located in the central cities, to which they may commute on a daily basis. Commuting to another municipality for work is common among the municipalities of the MCR. In 1991, an estimated 40,670 workers reported that they commuted to work in municipalities other than the ones in which they resided. In 1996, the number of regular commuters to other municipalities within the MCR for work purposes increased to 62,675. This represented an increase of 54 percent (22,005 additional commuters) over the five-year period. This is shown in Figure 15. The figures show that for the municipality of East St. Paul, 9 out of 10 people in the labour force commute to Winnipeg on a daily basis. In comparison, only about one out of 10 persons in the city of Winnipeg commute to work in the surrounding municipalities on a daily basis. Migration to bedroom communities thus leads to increases in distance-to-work measures within the MCR.

One motivational factor for the flight to bedroom communities is inter-municipal property tax differentiation, which encourages migration from high tax central city areas to low tax, larger lot size, and rural lifestyle settings, available in the bedroom communities adjacent to the central city. With lower mill rates in the municipalities as compared to Winnipeg, people with the means to be able to live in the bedroom communities and commute to work in Winnipeg have decided to vote with their feet against the City's high tax levels. Being able to enjoy a wide array of services that the city provides without shouldering the tax burdens associated with them, is an attractive

option for those migrating to the bedroom communities. However, this flight to the bedroom communities is fueling greater sprawl development in the MCR, as revealed by the lower housing density levels prevailing in the rural municipalities.

Figure 15



Source: Manitoba Capital Region, Executive Summary (1998), Transportation/Freight Services, p.4: original data from Census Canada, 1991, 1996.

It is thus evident from these figures that most of the municipalities are basically bedroom communities for people working in Winnipeg.

In the development industry, the number of new home starts per 1000 residents is used as a 'quick ratio' in comparing the relative strengths of markets. Between the 1991 and 1996 censuses, there was an annual average of 1.8 starts per 1000 residents in Winnipeg, while the starts for the rest of the capital region stood at 5.6 starts per 1000 residents. Winnipeg's population is seven times larger than the rest of the capital region. If the city of Winnipeg were growing at the same rate as the other Capital Region municipalities, there should have been more than 3,300 single-family housing starts in Winnipeg in 1997, but the City had only 892 single family housing starts in that year. Rapid growth in several areas of the Capital Region is being generated by a loss of residents from elsewhere, primarily Winnipeg. This is evident by the continuing weakness in new housing starts in Winnipeg relative to other municipalities of the capital region (see Klassen 1999: 6). This slow pace of growth in Winnipeg as compared to the remaining municipalities bodes ill for the general well being of the MCR, since the City is the economic nerve-centre of the Capital Region. Furthermore, when Winnipeg's total housing starts (consisting of single detached, semi-detached, row, and apartments) for 1997 are compared with those for some Western Canadian Cities such as Calgary and Edmonton, Winnipeg's low rate of growth is revealed. With a population of 790,498 for Calgary in 1997, the city's total housing starts for the year was 11,215, compared to Winnipeg's total housing starts of 1,518 with a population of 630,00. Edmonton, with a population of 616,300 in 1996 had 4,962 housing starts in 1997 (see CMHC 1997).

Results from the analysis in chapter five show that land-use development has a 'leap frog' pattern in the Capital Region. With the housing density levels of the bedroom communities being 4.5 to 9 times less per square kilometre in the rural municipalities than in Winnipeg, it is evident that migration to the bedroom communities promotes greater levels of sprawl for the MCR. The pattern of settlements in the rural municipalities also tends to be linear, following communication lines such as roads and highways. In areas where there are major rivers, settlements also tend to follow the linear pattern of the rivers. Sprawl and linear (or 'ribbon', or 'strip') developments are known to increase costs of service provision in addition to commuting costs. As a result, the continued migration of residents from the City of Winnipeg to the bedroom communities creates unsustainable land-use conditions for the MCR.

6.3 Research Question Three

How might the Central City's almost exclusive dependence on PT revenue be better managed to enhance the prospects for the sustainable development of the MCR?

The response to this research question is based on identifying those elements of governance that ensure inter-municipal cooperation and effective region-wide governance. Avenues for tax reform were also explored.

The integration of economic development and environmental protection is the key to the fulfillment of sustainable development. Any economic planning strategy that does not incorporate sustainable development principles will likely turn unsustainable in the short

or long haul. PT levels in the MCR therefore need to be set with an eye to ensuring that the negative consequences of PT are eliminated. Because the MCR has more than 60% of the Manitoba's population, the ability of the province to be economically sustainable will depend on the extent to which the MCR is able to devise taxation strategies that retain business and residents in its various municipalities, while attracting others from elsewhere. To do so, one of the major areas that needs tackling is the PT level in the City of Winnipeg, which needs to be customized to enhance positive development trends in the MCR.

Development methods need to be sound to assure positive living standards for current and future generations. Sustainable development has the capacity to protect the environment and encourage the wise use of resources to ensure that current and future generations enjoy healthy economic and environmental standards. Regional cooperation has the capacity to produce comprehensive planning that can reduce costs of municipal services, eliminate downtown deterioration and urban sprawl, and provide better environmental management and sustainable development.

Though there does not appear to be a serious immediate environmental threat from development activity in the MCR, the city of Winnipeg is currently accepting waste from Kenora, Ontario, for disposal in Winnipeg in return for payment. It is likely that desperation for tax revenue is the driving force behind the consideration of this potentially environmentally harmful activity within the city. Limited recycling of the

City's waste, coupled with the acceptance of waste from other urban regions for disposal in the MCR, is likely to pose environmental problems for the region in the future.

The level of recycling, especially, needs to be increased because current levels of recycling are very low. Using recycled material to produce goods typically requires less energy than making goods directly from raw materials. Garbage prevention is even more effective because less energy is needed to extract, transport and process raw materials when people reuse things or when products are made with less material. Recycling, as a result, leads to reduced energy demand, less fossil fuel use and less carbon dioxide emission into the atmosphere. Increased green house gases such as carbon dioxide, in the atmosphere, raise global temperatures, produce extreme weather events, and increase risks to human health and natural habitats.

6.3.1 Tax Base Sharing

Tax base sharing is a revenue raising option that could be pursued within the MCR in order to help avoid tax wars between the MCR municipalities. The rationale of tax-base sharing stems from the fact that since the property tax is the primary local government revenue source, certain types of development – office space, headquarters buildings, upscale housing – are very attractive because they normally generate more revenue than it costs to serve them. Not all municipalities can expect to attract such development, but most take part in funding the regional facilities that serve these developments. The main idea underlying tax-base sharing is to allow all municipalities to share in the commercial-

industrial development that, to a large extent, stems from the regional market and public investments made at the regional and state levels (Metropolitan Council, Minneapolis, Minnesota, 1991; see also Rusk 1995:106).

There are, however, criticisms of the tax base sharing idea. Because it is based on the idea of progressiveness, it has been attacked at various stages as “community socialism,” “creeping communism,” and ‘taking from those who have and giving to those who have not in a manner suggested by Karl Marx’ (Orfield 1997: 144).

Tax base sharing has been successfully applied in the Twin-Cities of Minneapolis and St. Paul in the US. It has also been copied by other regional governments such as Portland, Oregon. The Fiscal Disparities Plan enacted by the Minnesota legislature in 1971, for example, applied to 187 municipalities in the seven-county Twin Cities area. Since 1971, 40 percent of the increase in commercial-industrial property valuation has been placed in a common pool. This pool is then taxed at a uniform rate and redistributed among all 188 municipalities on a basis of annual estimated population and how each city’s per capita market value of commercial-industrial property compares with the metro-wide per capita value. This programme is successfully reducing fiscal disparities between communities. Among communities of 3,000 or more households, the ratio of richest community to poorest community, without tax-base sharing, would be 17 to 1, as measured by per capita commercial-industrial property value. But tax base-sharing has reduced the ratio to 4 to 1 (Rusk 1995: 106-107). Most researchers suggest that this “Fiscal Disparities programme has also had a favourable impact on discouraging destructive economic

competition among communities” (Dodge 1996: 167). A similar programme, modified to meet the specific needs of the MCR, is likely to reduce the tax competition between municipalities and possibly prevent population shifts that result from tax differentials between municipalities.

It appears that the tax base sharing idea does not enjoy wide popularity in its country of origin. This is because, Dodge (1996) notes, the only regional tax base sharing programme in serious operation in the United States is the Twin-Cities Disparities program. He also notes, however, that countries - especially those with strong central or state governments - have tended to establish equalization programmes similar to tax base sharing that redistribute central or state government funds to local governments. Distributing formulas in these countries, such as Australia (States Personal Income Sharing Act) and Japan (Local Allocation Tax Law) consider relative fiscal capacities and relative service levels in local areas. He further maintains that although these programmes are more like national and state revenue sharing programmes, their formula distributions, administrative arrangements, and political acceptance offer insights for designing tax sharing arrangements at the local government level (Dodge 1996: 165). Tax base sharing that has a formula distribution and administrative arrangement that is attractive to the municipalities of the MCR will likely generate political acceptance for the pooling of regional resources in the city-region.

6.3.2 Increased Use of User-Pay Principle

The efficient provision of services requires local governments to charge directly for them. In this way, recipients know how much it costs to provide the services and can make an informed choice on how much to consume. User fees also allow businesses to know how much they are paying for services and, based on the costs incurred, to make efficient decisions about where to locate. But where user fees are charged, prices are often set too low. There is a critical link between pricing and investment decisions. Where prices are set too low, demand expands to the point where facilities become overcrowded and there is pressure to expand them. However, where proper pricing is used, investment decisions will be based on what people are willing to pay for the service. If user fees were used more widely, the role of the property tax would be restricted. This would lead to lower property taxes.

With user charges, there is no payment unless services are used and there is increased payment with greater use. Also, with user fees, the user pays, whether resident or not, which is not the case with tax-financed service provision. User-charges ought to be considered for non-residents of the City of Winnipeg in cases where they have access to services that are tax-financed by the City. Because non-residents are likely to use the addresses of relatives living in the city to help skip user charges, special checks will have to be introduced to ensure that a user-charge policy works well in cases where only the addresses of service users are needed.

In 1994, Regina raised 10.8% of its revenue from fees and charges. The figure stood at 13.5% for Saskatoon, 10.4% for Calgary, and 12.5% for Edmonton. The City of Winnipeg raised only 5.2% of its revenue from these sources (Diamant and Cory 1995: 39). Winnipeg is therefore far behind these prairie cities in its use of user-pay principle as a means of revenue generation.

Income from the sale of goods and services by City of Winnipeg, as budgeted for in 1998, stood at \$43.8 million, or 6.51% of total revenues. This low percentage of revenue from “user pay” sources continues to contribute to the high reliance within the city on property taxes as a revenue source. User fees or other means of revenue-generation routes, such as frontage levies, hotel taxes, minimum property tax, surtax on fire insurance policies, library cards, transit fees, waste utility, fuel taxes, and motor vehicle registration fees (Committee on Tax Reform 1998: 26-27), may be relevant for the City of Winnipeg. An exploration and greater use of some or all of these “user pay” revenue sources is likely to help relieve the tax burden on the City’s residents.

6.3.3 Eliminating the Business Tax

The existence of a business tax ,which also applies to small businesses operating in the City of Winnipeg, is a significant disincentive to job creation (Committee on Tax Reform 1998: 26). The continued use of the business levy for revenue generation by the City of Winnipeg is an issue that needs revisiting.

The assessment of business tax is being revisited in North America. Whether or not to levy a business tax at all is being seriously debated. Regina has dropped the tax completely, thereby gaining a significant competitive advantage in attracting businesses seeking relocation. Criticisms of the business tax usually fall along the following lines: first, it contradicts the “ability to pay” principle, since it is insensitive to whether businesses are making a profit or not. Second, it is a “tax on a tax,” that is, the assessed value of the property is used as one factor in determining the property’s realty taxes, and again used to determine a further tax, the business tax. Third, it is simply a levy and a revenue source unrelated at all to any services provided by the municipality. Fourth and finally, because it is insensitive to economic conditions, it has serious negative effects on municipal economies, primarily as it is applied to the primary wealth-creating sectors. As a result, eliminating the business tax is likely to promote a better climate for the attraction of business to the City of Winnipeg in particular, and the MCR in general.

Calgary realized 13.8% of its total revenue for 1994 from the business tax. The figure was 8.7% for Edmonton, and 7.6% for Winnipeg (Diamant and Cory 1995: 38). The high level of revenue from this source for Calgary is due to the fact that it has extensive commercial and office development in its central business district. Though Winnipeg registered the lowest figure of these three cities, the fact that these business taxes were calculated as a percentage of the property tax, means that Winnipeg businesses paid proportionately more than businesses in the other cities due to the higher property taxes

in the city. Because of the already high property taxes in the City of Winnipeg, it would be helpful to businesses if the business tax can be eliminated altogether.

6.3.4 Ensuring Fairness and Equity in the PT Assessment System.

The PT assessment of the City of Winnipeg is inefficient, unfair (because it is generally regressive) and riddled with several other difficulties. Successful assessment appeals, for example, led the city to pay out an unbudgeted amount of \$200 million in assessment appeal refunds in 1996 (see Committee on Tax Reform 1998: i). The researcher therefore supports the view of the City of Winnipeg Committee on Tax Reform (1998: 52) that “an alternative method of property taxation that is precise, generally understandable, fair and equitable, and not growth inhibiting through allocative inequities, be instituted for the city.”

6.3.5 The Role of the Province

The province of Manitoba charges Winnipeg property tax payers an education tax, the Education Support Levy. This levy appears on property tax bills and is collected by the City for the Province to supplement provincial grants to all school divisions in Manitoba. In 1994, this tax accounted for 18.6% of total Winnipeg property taxes on all properties. This levy is inequitable because Winnipeg pays 66% of total provincial education support levy but has only 52% of the students. The Ontario Fair Tax Commission (1993) has called this tax inappropriate. Many provinces and territories are moving away from such

a levy (City of Winnipeg 1995: 6) and it is important that the province of Manitoba reconsiders this tax to help lighten the PT burden in the city of Winnipeg.

The federal and provincial governments have access to a great variety of revenue sources. For example, federal government revenues include income tax, sales tax (Goods and Services Tax or GST), Employment Insurance (EI) and Canada Pension Plan (CPP) contributions, corporate tax, and various duty and excise taxes, among others. Similarly, provincial governments have access to provincial income tax, sales tax, PT, federal transfers, corporate tax, gasoline and tobacco tax, and gambling revenues, among others. These various tax sources present a significant financial advantage for Canada's senior governments (Canada West Foundation, 2000b). The senior governments must therefore make efforts to support education from these taxes without an additional tax in the form of an educational levy. Such an initiative will significantly reduce the PT burden on residents and businesses within the city.

To reduce its reliance on PT, the City of Winnipeg Council must develop a strategy to ensure that the province gives it the authority to vary its revenue base. In this respect, a larger portion of income tax ought to be allocated to the city. Such transfers have the merit of being income based, and easily collected since the system is already in place. Furthermore, it is in the city that most of the income revenue is generated (CHOICES, November 1994: 7). However, unless a policy that seeks to generate municipal revenue from the further taxing of income is sensitive to income levels, income growth and inflation, it may be resented by tax payers because of the already high federal income tax

burden. Inflation could also erode any real gains in revenue unless these tax re-adjustments are adjusted for inflation.

6.3.6 Governance

A single urban-regional planning body, in which the rural municipalities have some effective powers of local control, is required for Winnipeg and its surrounding municipalities. This regional planning body should then put in place effective coalition building strategies within the MCR to mobilize support for the solution of region-wide development problems. Responses to the questionnaire administered by the researcher and analyzed in chapter five revealed fears about possible loss of local control, should a single all-controlling regional government be created for the MCR. Some respondents express anxiety about the possible subservience of local development needs and choices, to the wishes and needs of a greater regional body.

For cooperation to be achieved between varying positions and multiple local government jurisdictions within a larger region such as the MCR, there is the need for coalition building that targets various influential groups within a region in order to enhance the prospects for achieving consensus on region-wide development issues.

6.3.7 The Use of Innovative Approaches to Sustainable Development

The 1992 Winnipeg Area Study, which consisted of a survey of 500 residents of the City and in which respondents were asked to indicate their preferences over a number of environmental issues, produced results noting that people were ready to put effort in recycling household waste. Increased recycling in the City will therefore be very acceptable. However, 48% of the respondents stated that they would not alter their mode of transport to work even if there was a doubling of gasoline prices to deter car users. There was also opposition to higher housing densities or to measures that would lead to higher densities in existing neighbourhoods. This is evidence that sprawl development is likely to persist for a long time in the MCR. If sprawl development cannot be prevented, it can be controlled. Doing this would require a careful approach to development that incorporates planning and conservation practices from a variety of sources with an eye to the specific needs of the MCR.

To ensure more sustainable development of the MCR, the innovative approaches discussed in the literature review, namely, Sustainable Urban and Regional Development, Green Cities, Ecosystem Planning, Ecosystem Planning in the Private Sector, Eco-Cities, Eco-Towns, Eco-Villages, Conservation Strategies, Round Tables, Environmental Assessment, Healthy Communities, Bioregionalism, Growth Management, and State of the Environment Reporting, contain useful elements that must be tapped to ensure that current development practices do not harm the ability of future generations to meet their own development needs.

This researcher is of the view that the ecosystem planning approach or a new eco-regionalism has the capacity to reduce the use of resources, and minimize on-site and global impacts of development, and must be favoured by the MCR in any efforts at sustainable development planning. Ecosystem planning's "green" development processes, as already noted in the literature review, are comprehensive and embrace many sectors involved in community building such as architects, home builders, engineers, service providers, landscape architects and scientists. Natural processes are fostered by allowing the growth of indigenous plants in open places to provide habitat for insects, birds and animals. Conservation of energy ensures that buildings are insulated and have passive and other solar heat; land-use development patterns allow proximity of homes to workplaces and support reduced travel; and alternative transportation modes are an inherent design component. All these are necessary

Also, this new eco-regionalism has the capacity to solve most environmental issues of the MCR because its street system and land-use mix reduce traffic congestion and vehicle distance traveled, and brings significant reductions in pollution, energy consumption, transport costs and general aggravation.

6.4 RECOMMENDATIONS FOR FURTHER RESEARCH

Some areas that this researcher identifies for further research in the MCR are:

1. How viable are current attempts to promote regional cooperation, and what form of governance is likely to promote the highest level of regional cooperation in the MCR?

This question requires further research because, although it is over a decade since the idea of the Manitoba Capital Region was first mooted, there have been no concrete attempts to bring all the municipalities of the city-region together in a viable attempt to solve the problems confronting the region. Any attempts at regional cooperation will also require effective governance. However, with the exception of studies such as those of Lennon and Leo (2001), little research has been done on these areas.

2. What are the consequences for regional development of a wide scale application of the user pay principle in the MCR?

Research on this question is important because efficiency in the use of resources requires that users of resources pay directly for the full costs of the resources that they use. In this way, they can make informed choices about how much to consume. Wide application of the user fees to services in the MCR will deter people from settling in municipalities where taxes are lower, while commuting to work and to obtain entertainment in areas where they do not contribute in tax payments. User fees are also important for resource conservation because they ensure rational use of resources. This study called for increased use of user fees to help lower property taxes and help conserve resources. A detailed study of the consequences for regional development from a wide application of user fees is therefore required.

3. Another area that requires examination is the type of relationship that exists between levels of property taxes and degrees of sprawl in city-regions, especially comparison between city-regions where central cities have higher property taxes than their surrounding municipalities. Could, for example, a strong or weak relationship be found between levels of property taxes and degrees of sprawl in such regions?
4. In addition, because this study is not a longitudinal one, it would be useful to compare the current situation featured here with the situation in previous decades, since regional cooperation has been an issue.
5. Furthermore, because this study concentrated only on inter-municipal residential shift, a study that focuses also on the location behaviour of commercial and industrial activities in a city-region, as a result of higher taxes in the central city of that city-region, would be useful.
6. In order to establish the 'true' cost to those who migrate from Winnipeg to the bedroom communities and yet commute to the city for work and entertainment, it would be relevant to determine costs, e.g. monetary, time, etc., that these migrants incur vis-à-vis costs they would have incurred if they resided in the city. On the financial side, especially, this should help determine whether monetary gains are

made from the decision to move to the bedroom communities, when the lower property taxes prevailing in those communities are taken into account.

6.5 CONCLUSION

A bad tax system is one that is complex or difficult in its definition or understanding, expensive in its administrative overhead, broadly viewed as unfair and distortive, and linked to negative impacts on general economic growth and community competitiveness. Winnipeg's taxes have the characteristics of a bad tax system. This gives surrounding municipalities the opportunity to devise ways to exploit the City's tax woes to their benefit. With lower taxes as one of the attractions, Winnipeg residents are finding it convenient to migrate to bedroom communities with lighter tax burdens. This migration has consequences for the land use and development sustainability of the MCR. With about 87% of the MCR's population and more than 60% of Manitoba's population, the City occupies a central place in the economic sustainability of the province as well as the Capital Region.

Attractive tax policies that will help retain the City's residents and businesses, and appeal to others within the Province and out-of-Province locations, are necessary to ensure that the city regains its vitality and maintains an atmosphere conducive for progress. Regional cooperation and good governance are also required to ensure that there is development coordination in the Capital Region. Development coordination could lead to better and more economical ways of providing services on a region-wide basis. Planning

fragmentation within the Capital Region is unlikely to provide the atmosphere for effective regional cooperation within the Capital Region.

One instrument that can ensure regional cooperation in the MCR for the sake of sustainable regional development is the introduction of tax base sharing in the region. The main idea underlying tax-base sharing is to allow all municipalities to share in the commercial-industrial development that, to a large extent, stems from the regional market and public investments made at the regional level. Tax base sharing is an effective tool for regional cooperation because it assures a part of regional revenues for all municipalities. Since not all municipalities within the MCR can expect to attract revenues from central city developments such as downtown office developments, for example, but may be required to take part in funding regional facilities that serve these developments, they may be unwilling to be part of any regional consolidation system. But with tax base sharing that assures all municipalities some reward from regional investments, constituent municipalities may be more willing to cooperate in attempts at regional integration.

Among the tax policies that should be promoted to remove the dependence on property tax for municipal revenue are the increased use of the user pay principle and the elimination of the provincial education support levy. The school division education levy also needs to be removed from the PT bill. More efficient cost-efficient forms of governing and service promotion must, in addition, be sought.

The ecosystem planning approach has the capacity to reduce the use of resources, and minimize on-site and global impacts of development, and must be favoured by the MCR in its efforts at promoting sustainable development. This approach has the capacity to solve most environmental issues of the MCR because its street system and land-use mix reduces traffic congestion and vehicle distance traveled, and brings significant reductions in pollution, energy consumption, transport costs and general aggravation.

Smart growth policies have been used elsewhere to control sprawl development through protection of the environment, increasing density and improving transportation. Smart growth policies prescribe denser development. This often leads to urban revitalization, which in turn causes gentrification and the displacement of the poor from inner city neighbourhoods. Because smart growth policies do not often promote equity, they are unlikely to be useful in solving the type of problems that confront the MCR. It appears that *fair growth* policies that aim at curbing sprawl development without hurting housing affordability and job access for minorities and the poor are needed here, and must be integrated with policies meant to solve the land use problems of the Capital Region.

APPENDICES

Appendix 1 The City of Winnipeg – 1998 Revenue Estimates (1998 Budget Adopted by Council).

	Dollars	Percent of Total
Realty tax/Payments in lieu	391,392,435	58.24
Business tax	47,550,000	7.08
License in lieu of business tax	2,270,000	.33
Other taxation	18,902,000	2.81
Government grants	116,431,438	17.33
Regulation fees	15,520,257	2.31
Sale of goods and services	28,241,632	4.20
Interest/Dept charges recoverable	15,062,199	2.24
Transfers from other funds	36,140,757	5.38
Other	555,083	.08
Total revenue	672,066,401	100.0

Appendix 2

Single family residential housing density per square kilometre for Fort Richmond,

Winnipeg:

$$\text{Dens}(i)m = \sum_{s=1}^S T(i)s/m$$

$$= s_1 + s_2 + \dots + s_{16}/m$$

$$= 56 + 60 + 59 + 62 + 79 + 58 + 77 + 79 + 70 + 68 + 75 + 90 + 69 + 81 + 78 + 83/m$$

$$= 1144 \text{ units per square kilometre}$$

Average of (i) per quarter square kilometer grid cell = $1144/16 = 71.5$

Appendix 3

Single family residential housing density per square kilometre for Fort Rouge, Winnipeg:

$$\begin{aligned} \text{Dens}(i)_m &= \sum_{s=1}^S T(i)_s/m \\ &= s_1+s_2+\dots+s_{16}/m \\ &= 118+70+112+102+93+98+87+89+93+82+91+105+89+102+80+78/m \\ &= 1489 \text{ units per square kilometre} \end{aligned}$$

Average of (i) per quarter square kilometer grid cell = $1489/16 = 93.0$

Appendix 4

Single family residential housing density per square kilometre for Transcona, Winnipeg:

$$\begin{aligned} \text{Dens}(i)_m &= \sum_{s=1}^S T(i)_s/m \\ &= s_1+s_2+\dots+s_{16}/m \\ &= 101+86+87+85+81+87+84+86+85+92+97+95+82+86+87+90/m \\ &= 1411 \text{ units per square kilometre} \end{aligned}$$

Average of (i) per quarter square kilometer grid cell = $1411/16 = 88.1$

Appendix 5

Single family residential housing density per square kilometre for West St. Paul:

$$\text{Dens}(i)m = \sum_{s=1}^S T(i)s/m$$

$$= s_1 + s_2 + \dots + s_{16}/m$$

$$= 9 + 5 + 5 + 7 + 4 + 4 + 5 + 6 + 7 + 7 + 6 + 18 + 6 + 13 + 10 + 6/m$$

$$= 118 \text{ units per square kilometre}$$

Average of (i) per quarter square kilometer grid cell = $118/16 = 7.4$

Appendix 6

Single family residential housing density per square kilometre for East St. Paul:

$$\text{Dens}(i)m = \sum_{s=1}^S T(i)s/m$$

$$= s_1 + s_2 + \dots + s_{16}/m$$

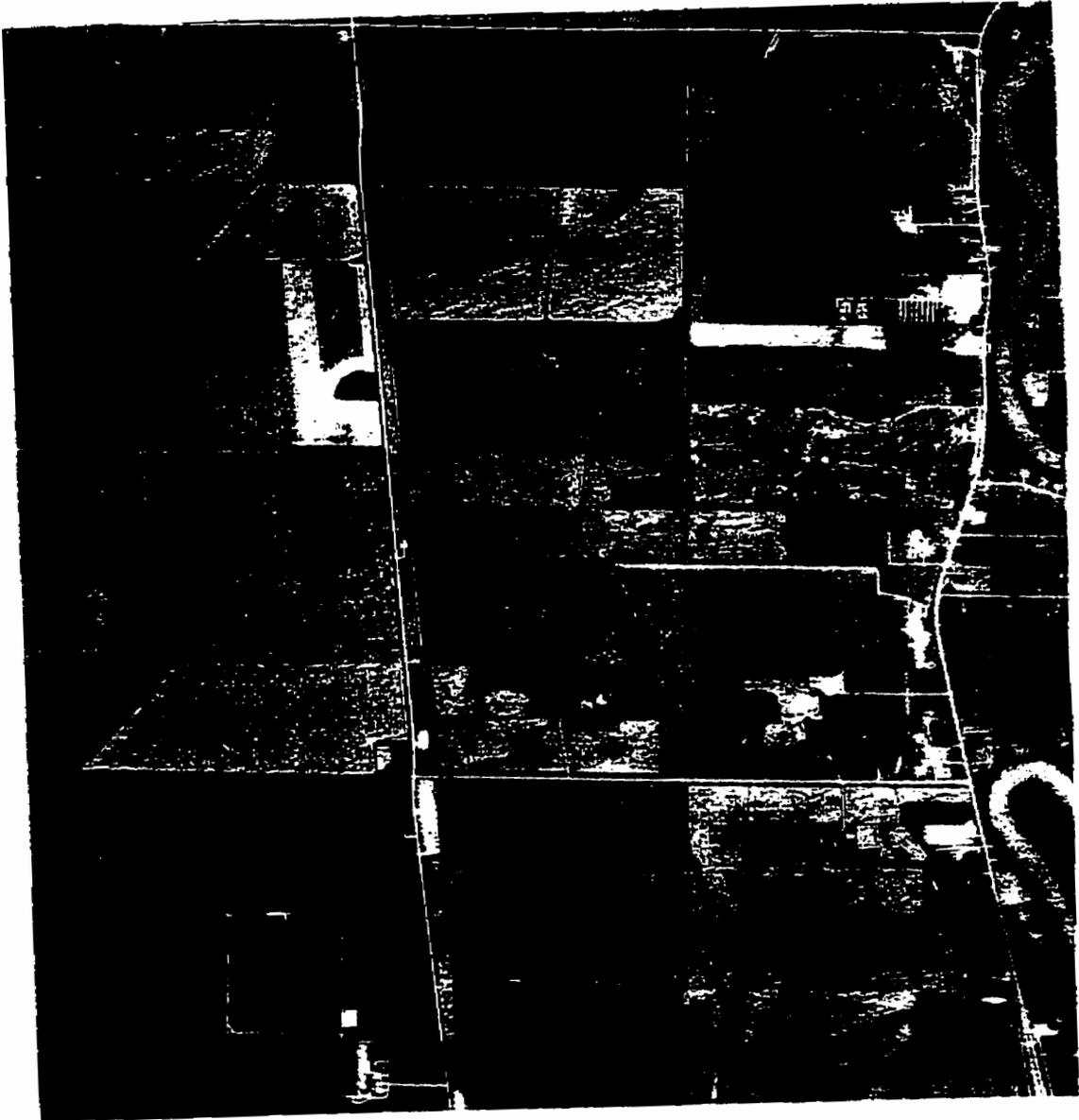
$$= 26 + 19 + 23 + 22 + 19 + 25 + 20 + 26 + 19 + 12 + 10 + 15 + 17 + 23 + 19 + 17/m$$

$$= 312 \text{ units per square kilometre}$$

Average of (i) per quarter square kilometer grid cell = $312/16 = 19.5$

Aerial Photo 5

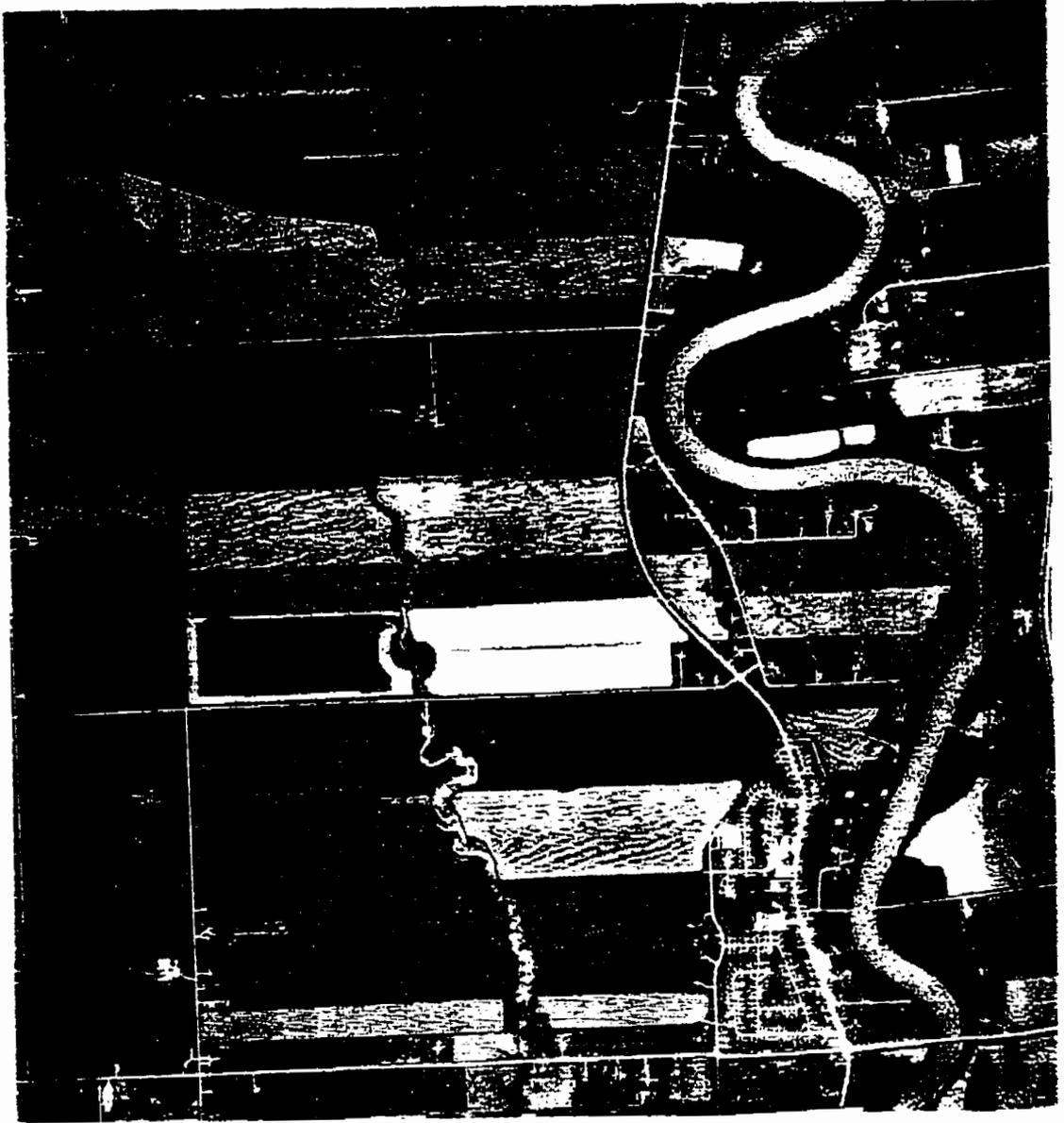
Headingley (5x5 Kilometre Tile):



Source: Province of Manitoba Digital Ortho Coverage. August 1994.

Aerial Photo 6

Ritchot (5x5 Kilometre Tile).



Source: Province of Manitoba Digital Ortho Coverage. August 1994.

Appendix 7

Single family residential housing density per square kilometre for Headingley:

$$\begin{aligned} \text{Dens}(i)_m &= \sum_{s=1}^S T(i)_s/m \\ &= s_1+s_2+\dots+s_{16}/m \\ &= 8+9+11+3+4+15+13+8+12+10+8+8+7+5+7+7/m \\ &= 135 \text{ units per square kilometre} \end{aligned}$$

Average of (i) per quarter square kilometer grid cell = 135/16 = 8.4

Appendix 8

Single family residential housing density per square kilometre for Ritchot:

$$\begin{aligned} \text{Dens}(i)_m &= \sum_{s=1}^S T(i)_s/m \\ &= s_1+s_2+\dots+s_{16}/m \\ &= 13+22+18+13+26+17+20+13+6+5+6+4+4+3+5+4/m \\ &= 175 \text{ units per square kilometre} \end{aligned}$$

Average of (i) per quarter square kilometer grid cell = 175/16 = 10.9

Appendix 9

Single family residential housing density per square kilometre for Tache:

$$\text{Dens}(i)_m = \sum_{s=1}^S T(i)_s/m$$

$$= s_1 + s_2 + \dots + s_{16}/m$$

$$= 39 + 30 + 18 + 21 + 13 + 18 + 10 + 16 + 3 + 3 + 13 + 5 + 4 + 3 + 5 + 4/m$$

$$= 205 \text{ units per square kilometre}$$

Average of (i) per quarter square kilometer grid cell = $205/16 = 12.8$.

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