Does mixed-use development benefit everyone?

Housing Affordability in a Changing Labour Market

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

Mixed-use development is one of the canonical elements of modern urban planning theory and practice. The principles of this approach to development are applied throughout the world and have seen a resurgence in the last several decades as part of the rise of populist movements such as smart growth and new urbanism. At the same time, cities across the industrialized world have been reshaped within the broader context of fundamental restructuring in the labour market over the past several decades. The urban core of the post-industrial city has increasingly become the site of residential development amongst various complementary land uses, marketed to an upwardly mobile professional class. Who benefits from this kind of mixed-use development in the housing market? Despite its popularity, mixed-use development is not often examined with regard to the affordability of housing. This study explores the affordability of housing in areas zoned as mixed-use in the old City of Toronto in relation to shifts in the occupational structure of the city's workforce between 1991 and 2006. Using census data and spatial analysis methods, the cartographic and analytical outputs of this study demonstrate two major findings: first, that housing in mixed-use areas was more expensive than the rest of the city over the study period; and second, that socioeconomic polarization between classes of occupations is not only evident in mixed-use areas, but in some ways more pronounced than in the rest of the city. Based on these findings, the study concludes with a realistic assessment of why and how academics, practitioners and policymakers active in urban planning should step up efforts to couple the revitalization of Toronto's urban core with gains to the affordability of housing.

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Chapter 1
Introduction

1.1 Context

Mixed-use development is an approach to the development of land that is actively encouraged in urban planning theory and espoused by practitioners and policymakers alike as a tool to encourage intensification, bring about a greater degree of socio-economic balance, and create more livable cities (Grant, 2002). While there are variations in the accepted definitions of what constitutes "mixed-use" across the planning world, the concept generally refers to development in which land uses are mixed (not segregated), such that residential, commercial and industrial uses may coexist within a given area. This notion of different, co-existing uses may also apply to individual buildings (e.g. residential units in the same building as retail/office space). The concept of mixed-use development is not revolutionary by any means, though it does reverse the dominant historical approach in North American planning of strict segregation of land uses. The growth in the popularity of mixed-use development is often attributed to the works of Jane Jacobs and her critiques of post-war American planning efforts (Foord, 2010). In the decades since, mixed-use development has become a standard feature in the toolbox of the modern urban planner. Today, mixed-use development is often at the core of efforts to create more livable cities, where urban form both allows for and promotes decreased automobile use and transportation costs, increased access to public goods, and an overall increase in quality of life (Grant, 2002; Song, Merlin, & Rodriguez, 2013).

One of the central tenets in support of mixed-use development is the notion that it can contribute to increased socioeconomic vitality and equity through the urban form (Grant, 2002); more specifically, that the mixing of land uses can help to create an urban landscape in which the total cost of living is more affordable. This follows from the general idea that if residents can live in districts shared by commercial and other activities, they may be able to live closer to where they work, shop, play, and obtain services. This implies greater access to public goods and decreased transportation costs. Moreover, mixed-use development is often conceptualized as offering greater choice in housing types and tenure, particularly for smaller households. Ostensibly, in combination, these features are thought to lead to decreases in the total cost of living in mixed-use areas. In theory, these benefits should apply across occupational classes: a janitor should benefit from living near the office they clean as much as a manager would. At the same time, the aforementioned features that typify housing in mixed-use areas are also features for which developers and landowners can charge a premium; that is, housing is more expensive when it is located in proximity to the types of amenities that typify

mixed-use development. However, the degree to which housing in mixed-use areas is more or less affordable than elsewhere, and affordable relative to specific occupational groups, is not often examined.

Alongside the rise in popularity of mixed-use development, affordability of housing has become an increasingly hot topic across many large cities over the past several decades. The City of Toronto has long had provisions in its planning bylaws explicitly designating sizeable portions of the city as mixed-use, with much of that zoning explicitly encouraging higher-density residential development (City of Toronto, 1986). While Toronto has seen a great deal of development over the past several decades, the city's urban form has been most notably reshaped by the seeming explosion in high-density residential towers – mostly condominiums, with many projects having been developed in areas zoned as mixed-use. The share of housing starts in the Toronto census metropolitan area (CMA) accounted for by apartment units intended for the condominium market has markedly increased over the last several decades: after declining precipitously in the early 1990s, falling from a share of 35.9% of all residential starts in 1989 to only 2.9% in 1992, the share held by apartment condos more or less steadily grew such that by 2013 they accounted for fifty-two percent of the roughly thirty-three thousand residential starts that year (Canada Mortgage and Housing Corporation, n.d.). Much of this urban residential development has been explicitly oriented and marketed towards the growing market of young professionals working in the urban core. Mixed-use in this type of market setting implies living, working and 'playing' in the amenities-rich urban core. However, the degree to which mixed-use development influences housing affordability outcomes – and the resulting distributional question of who stands to benefit - has not been thoroughly investigated in Canada.

Just as housing markets have shifted over the past several decades, so too have labour markets. Many large urban centres like Toronto have been party to structural changes wherein the labour market has become more divided along income and occupational lines. While there has certainly been growth in high-paying professional occupations in sectors such as finance, there has also been growth in the polar opposite: low-paying service jobs. This trend is neatly encapsulated in the "creative class" and "knowledge economy" concepts, which both describe the nature of these structural changes, while also being viewed as economic development goals by many municipal and regional policymakers (Adler, Bednar, & Matheson, 2010). At the same time, the nature of work itself is changing. The traditional model of employment has been replaced by more precarious forms of employment, wherein jobs are increasingly undertaken on a term or contract basis (Vosko, Zukewich,

& Cranford, 2003; Morissette & Johnson, 2005). This is associated with increasing insecurity in job markets, which have become more "flexible" in nature (Scott & Marshall, 2012).

Since mixed-use development in an urban setting implies the proximal or co-location of living spaces, employment lands, transportation and other amenities, it can be viewed as a valuable proposition to both developers and residents alike. Basic economic theory would suggest that such spatial proximity to amenities and services should command a price premium for a given property (Cheshire & Vermeulen, 2009); that is, we would expect to see people willing to pay more to live near places of work, or in proximity to amenities such as transportation, retail and leisure. At the same time, shifts in the labour market towards growth in the so-called "creative class" or "knowledge economy" occupations may very well be driving demand for the kinds of residential development that are profitable for developers but out of reach for those in lower-level service class jobs.

What are the implications of these trends with regard to the affordability of housing in mixed-use areas in Toronto? The City of Toronto has included mixed-use zoning as part of its land development policy framework for several decades, and has coupled this approach with the use of the development approvals process to mandate the provision of certain forms of affordable housing (e.g. non-market rate housing) (Sewell, 1993; Filion, 2007; Bednar, Minichini, & Appleby, 2010; Moore, 2013). Since the early 1980s, the city has undergone the broader processes of de-industrialization and structural shifts in its labour market, while municipal and regional actors have actively pursued and supported growth in "creative class" or "knowledge economy" sectors (Adler et al., 2010). Toronto provides an excellent case study for testing the degree to which housing is affordable in mixed-use areas and the effect that broader trends in the labour market may have upon those outcomes. This study tests these notions by examining temporal changes in the affordability of housing in areas zoned as mixed-use, relative to specific occupational groups, over the period of 1991-2006 in the city of Toronto.

1.2 Research Questions, Objectives & Significance

This study revolves around the following research questions:

1. *How does the City of Toronto plan for mixed-use developments?*
2. *How has the labour market changed in Toronto between 1991 and 2006?*
3. *How has the residential affordability of mixed-use zones in Toronto changed between 1991 and 2006 in relation to average incomes? and,*
4. *How has the residential affordability of mixed-use zones in Toronto changed between 1991 and 2006 across occupational groups*

There are four central research objectives. First, to assess the degree to which residential developments in mixed-use zones could be deemed "affordable" to the general population of Toronto must be analysed for the study period. Second, to complete an analysis of the local labour market in order to demonstrate how broad structural shifts may have reshaped Toronto's labour market over the study period. This will allow the study to focus on specific occupational groups for which structural changes in the labour market have had demonstrable impacts. Thirdly, to determine the degree to which mixed-use zones could be deemed "affordable" over the study period for the specific occupational groups identified as part of the previous objective. The final research objective involves a combined analysis of the previous parts, allowing for discussion regarding the housing affordability outcomes associated with mixed-use development, and the degree to which such outcomes may have been shaped by broader changes in the labour market.

For the purposes of this research, the term "Toronto" refers generally to the municipal boundary of the City of Toronto prior to amalgamation. In instances where the geographic precision of data is constrained to higher-order levels, such as Census Subdivision (CSD) or Central Metropolitan Area (CMA), care will be taken to note this specifically. The term "mixed-use" refers to the mixing of land uses in an area or as part of the nature of the built form. As applied to zones and zoning, it refers to the City of Toronto zoning by-laws explicitly providing for mixed land use. As applied to development, it refers to built projects or buildings in which a variety of land uses are present.

This study is influenced by Talen's (2010) work examining the affordability of housing in New Urbanist developments relative to specific occupations across the United States. While drawing from a similar conceptual base, this study differs in that it examines a much more common feature in the urban planning landscape (mixed-use zoning), while also giving much more explicit focus to the relationship between labour and housing markets. A literature review of relevant materials pertaining to mixed-use zoning and development, occupational change, labour market restructuring, and housing affordability was conducted. The review provides context for the positioning of the study, and also serves to identify gaps in the body of knowledge. The bulk of the study rests on the mapping and analysis of socio-economic data relating to cost of housing, income, and occupational structure in Toronto over the study period of 1991-2006. The resulting maps and analytical findings will inform theoretical and practical views of mixed-use development, and contribute to the growing discourse on labour-housing market interactions.

1.3 Study Structure

There are six chapters in this thesis. The second chapter introduces a literature review of the concepts and research relevant to mixed-use development, economic/occupational restructuring, and housing affordability and thus forms the conceptual framework upon which the study is based. The third chapter outlines the rationale behind the research and methodological approach used in the study, with the fourth chapter detailing the case study subject. The fifth chapter encapsulates the majority of the analysis and findings. The sixth and final chapter offers a synthesis of the results, implications for policy and accordant recommendations, alongside a brief discussion of the limitations of the study and opportunities for further research.

Chapter 2
Literature Review

This chapter serves as a review of the theoretical and empirical knowledge to date on topics relevant to the study. The chapter begins with a review of the nature of occupational change and economic restructuring, mixed-use zoning as a concept and practice, the issue of housing affordability, and ends with a consideration of the ways in which labour and housing markets interact.

2.1 Mixed-use Zoning

2.1.1 Definition

Despite its popularity in the planning world, mixed-use development remains ambiguously defined in theory and practice (Grant, 2002; Rowley, 1996; Hoppenbrouwer & Louw, 2005; Foord, 2010). The Urban Land Institute offers a strict, practice-oriented definition of mixed-use development, characterizing it as development that meets the following criteria: three or more significant revenue-producing uses; significant physical integration of project components; and development in conformance with a coherent plan (2003, pp. 4–5). Along similar lines, a group of real estate industry associations recently provided clarity of terms for their own practitioners, defining mixed-use development as the following:

> *"a real estate project with planned integration of some combination of retail, office, residential, hotel, recreation or other functions. It is pedestrian-oriented and contains elements of a live-work-play environment. It maximizes space usage, has amenities and architectural expression and tends to mitigate traffic and sprawl"* (as qtd. in DeLisle & Grissom, 2013, p. 26).[1]

Aurand (2010) defines development as mixed-use when such development takes the form of:

> *"a diversity of compatible land uses that serve the needs of the local population. These land uses include public services, retail, entertainment and professional services that are easily accessible to residents, preferably by walking or public transit" (p. 1023).*

These definitions demonstrate that there are threads of commonality among various understandings of what constitutes "mixed-use", such as the integration of complementary but varied land uses in proximity to residential uses.

[1] The grouping consisted of the International Council of Shopping Centers, Inc (ICSC); the National Association of Industrial and Office Properties (NAIOP); the Building Owners and Managers Association International (BOMA); and the National Multi Housing Council (NMHC)

However, mixed-use development is not necessarily a homogenous concept in practice. Indeed, Freestone (2008) notes that mixed-use development can take various forms. While one might consider "mixed-use" to refer to the classic instance of housing atop ground-level retail such as a corner grocery store, the same basic concept could also refer to large-scale residential developments that include retail on the ground floor. DeLisle and Grissom (2013) note that since mixed-use development takes on a variety of forms in the real world, it is difficult to capture this variety within a single definition of what broadly constitutes "mixed use". The authors note that even the determination of what buildings or projects are classified as "mixed-use" at the municipal level can be difficult, as records are often ambiguous, or data limited by the willingness of government sources to disclose such information publicly. In the process of their own research on the nature of mixed-use development in Seattle, they conclude that identifying mixed-use development in a large city is a "daunting" task (DeLisle & Grissom, 2013, p. 28).

With the ambiguity of how mixed-use development is defined in the literature, and the inherent difficulties associated with approaching such research, it would seem that the operationalization of any such study requires a simple, clearly defined understanding of "mixed-use." This study relies on a common thread extant across all the various understandings of mixed-use development: that it entails some mixing of land uses within a given site of development, such that residential development exists alongside a variety of complimentary land uses (e.g. retail, office, commercial, institutional).

2.1.2 History of Mixed-use Development

In order to better understand the nature of mixed-use development it is necessary to consider its history in the field of urban development. The notion of mixed land uses is not a revolutionary concept: indeed, it was the basis of urban development across Western Europe throughout much of its urban history (DeLisle & Grissom, 2013; Urban Land Institute, 2003). However, the development of many North American cities – much younger in chronological terms – had been largely shaped by the segregation of land uses through zoning, the dominant practice throughout the first half of the 20th century. Whereas many European towns and cities had developed in a more organic fashion, the application of zoning in order to segregate land uses was meant to ameliorate the historical downsides of urban development during the industrial revolution by separating noxious land uses from residential development. By the mid 20th century, strict zoning controls meant that many North American cities had witnessed strong population growth in the primarily residential suburban fringes, while the urban core began to experience decline (Grant, 2002). As industrial and commercial activities left sites in the urban core for newly developed land in the suburbs, decline in the inner city

took the form of dilapidated or unused buildings. Many Canadian and American cities engaged in a variety of urban renewal projects through the 1950s and 1960s oriented at clearing and redeveloping lands deemed to be "blighted" within the urban core in order to restore its commercial attractiveness. Such projects often entailed the replacement of formerly productive employment lands with segregated uses, such as high-density residential projects. As many redevelopment projects failed to spur the intended market demand, and most carried the stigma of forced relocations of populations still living on the targeted lands, urban renewal came to be seen as a failed exercise in urban planning (Hodge & Gordon, 2013).

Reactions to urban renewal and criticisms of the dominant approach to urban planning at the time can be seen as the root of the resurgent interest in mixed-use development among urban planners since the mid 20th century. Of particular saliency is the work of Jane Jacobs, whose 1961 book *The Death and Life of Great American Cities* is seen as having given the greatest impetus to the contemporary understanding of mixed-use development (Foord, 2010). The book was an aggressive attack on modern approaches to urban planning at the time, with particular criticism focussed on what Jacobs saw as ignorance of the elements of urban success on the part of urban planners. Jacobs (1961) argued that vibrant, successful neighbourhoods resulted from fine-grained mixing of complementary land uses, with emphasis placed on districts having at least two primary uses – for example, housing and office.

While widely lauded as an urbanist in the decades since the book was published, her work is not without criticism. Jacobs had no formal training in urban planning and the book has come to be seen by some as a somewhat nostalgic depiction of life in the inner-city particular to New York in the 1950s, perhaps ill-suited to serve as a reference point for the realities of urban development in other times and places (Rowley, 1996). Indeed, Foord (2010) notes, "Jacobs' original description of mixed-use streets failed to recognize the wider context of post-war social and economic restructuring" (p. 48). Regardless, Jacobs' vocal activism was a central force behind the backlash against urban renewal and the shift in urban planning in the 1960s whereby mixed-use came to be seen as a preferable method of development in the urban core (Grant, 2002).

Through the later decades of the 20th century, mixed-use development was espoused as part of several movements in urban planning. Primarily, mixed-use development was seen as a way to undo some of the unintended consequences (such as monofunctional districts and residential over-reliance on private automobile transportation) resulting from the strict segregation of land uses that had defined the first half of the 20th century in most North American cities (Song et al., 2013). As environmental awareness grew and sustainable development became fashionable, mixed-use

development was seen as a more 'sustainable' approach to urban development. The rise of the New Urbanism movement brought with it increased focus on mixed land use in the traditionally strictly segregated suburban environment, and has been described as one of the most important forces driving the entrenchment of mixed-use into North American planning theory and practice (Grant, 2002). At the same time, mixed-use development was promoted as part of the process of remaking the urban core in response to broader shifts in the economic structure of cities towards services and creative industries, orienting city life towards what Foord (2010) calls "a new urbane population" (p. 48). By the 1980s and 1990s, many Canadian cities had begun amending their zoning provisions to allow for and encourage mixed-use development (Tomalty, 1997; Wolfe, 2002). At the beginning of the 21st century, ninety-one percent of Canadian municipalities surveyed indicated that they had adopted the most basic of mixed-use zoning regulations allowing for the mixing of commercial and residential uses (Canada Mortgage and Housing Corporation, 2001).

2.1.3 Mixed-use Development in Planning Theory

Today, mixed-use development has become fully integrated into the theory and practice of urban planning. It is seen as an important and key principle in contemporary planning strategies, and in many places has become the established norm in practice rather than the exception. The principles of mixed-use development are considered to be a core part of the conventional wisdom of modern urban planning (Grant, 2002; Foord, 2010; Freestone, 2008; Song et al., 2013). Mixed-use development forms a central part of the theoretical foundation and explicit principles of both the smart growth and New Urbanism movements (Smart Growth Network, 2006; Congress for the New Urbanism, 2001). Long associated with urban intensification policy and transit-oriented development, mixed-use development is now manifest in a variety of contemporary urban forms (Hodge & Gordon, 2013; Hoppenbrouwer & Louw, 2005; Song & Knaap, 2004).

Mixed-use development is often conceptualized in terms of geographic scale or how uses are tied together. Common frames of geographic reference view mixed-use development at the neighbourhood level, the scale of building complexes, or at the local level (Hoppenbrouwer & Louw, 2005). In practice, mixed-use developments are often seen as falling under two forms of projects: the first being master-planned communities, where clusters of compatible uses are planed for under the auspices of encouraging pedestrian activity and transit use; and the second being multiuse projects where several uses (or functions) exist within one or more buildings in the same development, often in the urban core (Grant, 2002).

The conceptualization of how mixing is applied to land use is much broader than the simple concept of having two or more different land uses in a given area. Grant (2002) describes three

approaches to mixed land use. First, mix can be achieved through increases to the intensity of extant land uses, such that a mix of forms and tenures are encouraged within a given pre-existing category of land use. Second, the diversity of land uses within a given area can be broadened, such that compatible mixing of different land uses is encouraged. This takes the form of what many would think of as the classic definition of "mixed-use" where, for example, residential projects may be encouraged in existing commercial or office districts. Third, mix can be achieved through the integration of segregated uses, wherein policies such as inter-zone buffers are relaxed, making it easier for different categories of compatible land use to exist in proximity to one another. Generally speaking, these approaches to mixing are only really conceived of in relation to commercial, office, retail, institutional and residential land uses; industrial uses are considered for mixing much less commonly.

However, theoretical examinations of mixed-use development have not kept pace with its popularity in practice. While there is no dearth of practice-oriented discussions of mixed-use development, comparatively very little work has been done to examine the concept from a theoretical perspective (Hoppenbrouwer & Louw, 2005). This has resulted in a large body of work extolling the virtues of mixed-use development in practical terms without much examination as to its successes or failures as a theory (Rabianski, Gibler, Tidwell, & Clements, 2009). Grant (2002) notes that while the concept of mixed-use development is viewed as "gospel" and the term used like a "mantra" by contemporary urban planners, its purported benefits are often taken for granted (p. 71, 79). Rowley (1996) describes a sense of "nostalgia and propaganda… overtaking research and analysis" with regard to mixed-use development, even though its potential for contributing to sustainable, revitalized cities has been highlighted repeatedly (p. 85). However, as noted earlier, research into the nature of mixed-use development is inherently difficult to undertake, thus it remains a topic that is underserved in theoretical and empirical research (Rabianski et al., 2009).

2.1.4 Benefits and Drawbacks of Mixed-use Development

If there is such little theoretical understanding and empirical basis upon which to justify mixed-use development, why do proponents advance the concept so readily? Generally speaking, mixed-use development is viewed as "a theory of good urban form, with the objectives of economic vitality, social equity, and environmental quality" (Grant, 2002, p. 73). The multitude of potential benefits that mixed-use development is said to deliver generally fall under three fields of study:

transportation, public health, and urban economics (Song et al., 2013).[2] In transportation studies, the benefits of mixed-use development stem from the proximity of complementary land uses, such that a variety of origins and destinations are brought closer together, therefore shortening trip distance and enabling more non-motorized modes of travel. In terms of public health, having a variety of interesting and desirable destinations in proximity to residential areas is thought to encourage active modes of travel. Lastly, urban economists view mixed-use development as having the potential to increase land values and encourage higher-density development through the provision of urban amenities. This study explores the question of how mixed-use development may offer benefits or drawbacks in terms of the affordability of housing.

Mixed-use development is thought to contribute to improved housing affordability outcomes through changes to the housing stock and reductions in total cost of living. With regard to the stock of housing, mixed-use development may lead to increases in the provision of affordable housing and achieve greater social equity in projects where there is a mix of housing forms and tenure, although this is heavily reliant on a regulatory approach. This is an example of Grant's (2002) first category of approaches to mixed land uses. Instead of building out housing stock intended for a single market tier, rental units may be included alongside condominium tenure, or a broader range of unit types might be present in a single development. This is commonly associated with the practice of density bonusing, whereby municipal zoning regulations allow developers to increase the height and/or density of their projects if they include some provision for affordable housing. However, the approach is usually targeted to the provision of housing for low-income groups, and not necessarily concerned with the affordability of housing in the broader market. Second, residential developments within the urban core often take the form of more intensified, varied forms of development, and thus may be better suited to smaller, post-baby-boom households. This assumes that a greater variation in the supply of new housing (i.e. other than single-detached homes) may translate into easier access into the housing market for a broader array of households. Overall, mixed-use development is thought to have the potential to increase housing stock and reduce housing costs in tight markets, to the advancement of housing affordability, and thus social equity, outcomes (Grant, 2002; Rabianski et al., 2009).

Housing affordability outcomes are also thought to be improved in the context of mixed-use development due to potential reductions in the total cost of living. One of the most basic tenets for advancing mixed-use development has always been that there are efficiency gains to be made through the proximal or colocation of compatible land uses. By allowing for multiple land uses in a given

[2] A more detailed listing of the benefits associated with mixed-use development can be found in Grant (2002) and Hoppenbrouwer and Louw (2005)

area, people may be able to live closer to where they work, while also engaging in the functions of daily life within a smaller geographic footprint. With proper transit provision, this could allow reduced costs of transportation, and thus such 'live/work/play' arrangements may lead to reductions in the cost of living for many (Rabianski et al., 2009).

However, mixed-use development is not a planning panacea, as it is often described in the non-academic literature (DeLisle & Grissom, 2013). Just as there are proposed benefits with regard to affordability of housing, mixed-use development implies certain downsides as well. Grant (2002) notes that while mixed-use development has contributed to the reversal of decline in many inner-city districts, the benefits do not accrue to all residents. Class-based spatial segregation associated with mixed-use developments is commonly seen in the form of gentrification, whereby less productive land uses are redeveloped into trendy mixed-use projects (Grant, 2002). Such projects, particularly those undertaken in the context of inner-city revitalization, can often lead to a tightened local housing market in which market forces push out existing residents who can no longer afford to live in a redeveloped area, or the new developments may simply be out of reach for broad portions of the market in general (Bunting, Walks, & Filion, 2004). Moreover, the kinds of mixed-use developments offered by the market may not match up with how the theoretical benefits have been framed. Foord (2010) notes that many projects in the urban core neglect to accommodate family households and instead are planned and marketed with singles or couples in mind, thus calling into question whether mixed-use delivers on elements of social sustainability. Indeed, he concludes that despite widespread policy support for mixed-use development, conclusive evidence is lacking as to its positive impact on broader urban vitality and equity. In her review of mixed-use development in Canada, Grant (2002) concurs, calling the Canadian experience "discouraging" in that mixed-use districts have become more segregated by class and no improvements have been made in relation to the affordability of housing. These conclusions lie juxtaposed to the fact that planners continue to advocate for mixed-use development.

2.1.5 Mixed-use Development and Affordability of Housing

Given the dearth of empirical research into mixed-use development generally, and serious questions regarding the translation of proposed benefits into actual reality, what do we know about mixed-use development and housing affordability? Generally speaking, little work has been done with regard to examining the affordability of housing in mixed-use developments. In their broad literature review on the topic of mixed-use development, DeLisle and Grissom (2013) found that only two articles out of seventy-eight were concerned with issues of affordability in relation to mixed-use. Virtually all empirical studies undertaken to examine the pricing of mixed-use development have

focussed solely on the effect that proximity to a mix of land uses may have on the pricing of residential land – none consider these price effects in the broader context of affordability of housing. Yet the affordability of housing is directly linked to the price of housing, thus there is an interest on the part of policymakers concerned with housing affordability to understand the role that zoning may be playing in shaping market outcomes.

In general, empirical work to date suggests that housing in proximity to a complementary mix of land uses commands a price premium over housing in monofunctional areas. This follows the logical assumption that residents will be willing to pay a premium to live near and have access to various services and amenities. When housing is located in a prime location such that there is access to employment, transportation and other necessities, it is said to provide more 'services' to its occupant than housing somewhere else (Aurand, 2010). This proximity to services and amenities is one of the basic elements of mixed-use development. In general, if these services are valuable enough, we can expect that they may be expressed through the price of housing.

A handful of studies have attempted to examine how the price of housing responds in relation to geographic proximity to non-residential land uses – though none have specifically examined housing in the context of mixed-use developments. Early studies sought to test the notion that proximity to non-residential land uses would lead to depressed housing values, but found indeterminate results (Grether & Mieszkowski, 1980; Mark & Goldberg, 1986). In their examination of house values in Tucson, AZ, Cao and Cory (1982) demonstrate that the value of single-detached homes tends to increase in proximity to a variety of land uses (such as commercial, light industrial, public), when those non-residential land uses are limited.

More recent studies have employed GIS technology to supplement hedonic pricing models when examining the effect of non-residential land uses on housing prices. Song and Knaap (2004) demonstrate in their study of Washington County, Oregon, that housing prices increase in proximity to neighbourhood-scale commercial uses, with these premiums increasing further if the non-residential land uses are within walkable distance. Moreover, they found that house prices tend to be higher in areas with a greater proportion of service jobs, such that housing was more expensive in areas where residents had proximate access to a variety of personal and professional services (e.g. retail, health, entertainment, education). The authors conclude that the careful mixing of land uses within a given neighbourhood can lead to increased property values.

Much of the research that has been undertaken to date applies only to single-detached housing; there is little empirical research examining the impact of mixed-use development on the price of other forms of housing, such as townhouses or apartments - the types of housing that are

often developed in mixed-use projects. Cervero and Duncan (2004) employed a hedonic price model to explore the degree to which land-use composition influences residential land use values for both single-family and multi-family land parcels in Santa Clara County, California, in the late 1990s. Their model utilizes a measurement of land-use entropy – the degree to which land uses are different – within a one-mile radius from a given parcel. Holding socioeconomic factors constant, the authors found that single-family parcels of land commanded substantial price premiums over those found in proximity to a less diverse land use landscape. Importantly, the authors also examined the price effect on multi-family parcels of land, demonstrating that while mixed land uses indeed conferred similar price premiums to multi-family properties, these effects only applied to parcels zoned for condominium use. While they found that no meaningful capitalization of benefits accrued to the pricing of rental apartments, this may have been a result of the tendency of rental apartments to be found in mixed or transitional neighbourhoods in the context of the case study, thus diminishing any premium effect from the start. However, this applies only to parcels of land where rental housing has been explicitly zoned; it does not apply to owned housing that is subsequently rented. Therefore, given the price premium present for owned housing, and the commonplace reality of condominium units being rented out, it can be inferred that the rental prices charged for condominium units would also reflect a similar price premium. Cervero and Duncan (2004) also point out that if residential land values do indeed command a premium in the context of mixed-use development, municipal governments will have a vested interested in advancing such development through zoning controls: the land value premiums, extant in the form of assessed or market values, would inevitably generate higher property tax proceeds.

While the results of the empirical work to date indicate a price premium for housing in mixed-use areas, the lack of any discussion on the implications for housing affordability is problematic. Referring to the proposition mentioned at the beginning of the section, the price of housing is be viewed as the aggregate price of the attributes that make it valuable – a majority of which stem from access to public goods, amenities, and services (Cheshire & Vermeulen, 2009). Given that housing in mixed-use areas should have greater access to these public goods, amenities and services, the price of housing should be higher in such areas – a fact borne out by the empirical work to date. However, the corollary of this relationship implies that housing affordable to low-income groups – that is, housing that is relatively cheap - is likely to provide fewer of these services than more expensive housing. Thus, low-income households are less likely to benefit from mixed-use development due to the housing price premium that often results in such developments. At the same time, the advancement of mixed-use development in terms of land use policy may also be eroding housing affordability across the general population. The market for housing in mixed-use areas will

respond to the type of demand bearing out the greatest profits; that is, developers will be far more likely to be apt to build the kind of housing for which they can charge a premium. Thus, development in mixed-use areas would likely tend towards a higher end of the market given that people would be willing to pay a premium to live in proximity to amenities and services. In essence, it may very well be that market forces are driving mixed-use development towards the provision of housing for a far narrower section of the market than intended.

The lack of empirical work making explicit considerations of the affordability of housing in mixed-use areas may stem from a seeming divide between the fields of planning and economics. Cheshire and Vermeulen (2009) argue that that while economists are used to viewing problems in the quantitative context of costs and benefits – for example, the effects of land use regulation on the price of land and the distributional outcomes that result – planners come from a different intellectual tradition, one that aspires to utopia through design of the built form. The intellectual development of urban planning has been heavily centred on normative theories of how planning should be undertaken and the resulting prescriptive notions of how the city ought to take shape (Alexander, 1992). It is in this intellectual context that planners are apt to view concepts such as mixed-use development – with its clear normative prescriptions for how development should take place – as worthwhile simply because they regard them as 'right' (Cheshire & Vermeulen, 2009). Following this logic, planners may be less likely to question the affordability outcomes of mixed-use development if the concept itself is seen as part of the conventional, received wisdom, possibly reflected in the lack of empirical work on the subject.

The lack of empirical work examining the effect of mixed-use zoning on housing affordability can also be seen as reflective of the apparent disconnect between policy goals and the real-world results, where mixed-use development is pursued at the same time as housing affordability is espoused as a pressing issue. Measures designed to promote mixed-use development may be at odds with the desire to improve the state of housing affordability if the aforementioned empirical evidence suggesting a price premium for housing in proximity to mixed land uses applies more broadly across all housing types and tenures. Fundamentally, cities have a vested interest in seeing the value of land increase as it leads to increased property tax revenues, and thus have a financial interest in promoting mixed-use development. Municipal policymakers may be caught between advancing the application of mixed-use zoning for all its purported benefits, while at the same time paying lip service to the issue of housing affordability. Yet there remains a need to examine this apparent tension in empirical terms so as to determine the relationship between mixed-use development and affordability of housing. While the fact that there has been limited empirical research to examine

these possible outcomes leaves a great deal of room for novel academic research, it also raises the troubling notion that mixed-use development has been popularized and pursued with little to no attention paid to its real-world impact on the affordability of housing.

2.2 Housing Affordability

The affordability of housing is a key part of understanding the housing market for several reasons. First, because housing constitutes a household's largest expenditure, understanding the nature and level of spending that occurs in the context of the housing market provides a reflection of the broader economy (Engeland, Figueroa, Rea, & Yuen, 2008). In a recent poll conducted by the Federation of Canadian Municipalities (2013), respondents ranked the availability of housing as the number one financial issue (alongside healthcare) facing Canadians today. These sentiments are increasingly reflected in the policy stances of many governments, such that housing affordability is seen as a pressing challenge across developed economies. Since housing is a fundamental need, difficulties in obtaining or paying for it can have knock-on effects throughout the rest of one's life, and the broader economy. Thus, not only is there a need for greater understanding of how the affordability of housing may have shifted over time, it is also important to examine the issue in spatial terms (Bunting et al., 2004).

2.2.1 Definition

As this study deals with an exploration of the affordability of housing in mixed-use developments, it is important to define what we mean with regard to affordability. This is not as obvious a point as it may seem; the conceptual definition of affordable housing has been a consistent point of contention in housing discourse and no single, universal definition exists as to what constitutes affordable housing stock (Somerville & Pituach Consulting, 2004). Multiple definitions exist, dependent on the object and jurisdiction of study. Regardless, a distinction must be made from the outset as to the focus of this study: while the term "affordable housing" is generally understood to refer to housing that is affordable for lower-income groups, this study is not concerned with this specific, and well-studied, aspect of housing research. Instead, it is more useful to specify the focus of this study as being the broader *affordability of housing*, the degree to which the housing stock is considered affordable for various socioeconomic groups.

Conceptualizations of housing affordability are often broken down into the two market constituents, rental and ownership tenure, reflective of the major tenure outcomes in Canadian housing markets. Rental tenure has always been the most affordable means of access to housing in Canadian markets, but has also almost always been less economically attractive to land developers.

The affordability of home ownership has traditionally revolved around the ability of renters to transition into ownership, something that has been seen as a natural progression for many Canadians, yet a transition which is increasingly questionable in many markets (Tomalty, Hercz, & Spurr, 2000). Given differences in the operation and structure of the rental and owned housing markets, it is important to evaluate housing affordability outcomes using a measure that applies equally to both forms of tenure.

2.2.2 Shelter Costs-to-Income Ratio

Although a variety of definitions exist with regard to what constitutes affordable housing, virtually all share a common approach to their application, such that affordability is defined on the basis of proportion of income spent on housing costs. Employing housing expenditure-to-income ratios as a measure of the affordability of housing stems from 19th century studies of household budgets. Mortgage lenders at the time would often apply a rule of thumb with regard to ability of a prospective homebuyer to fulfill the obligations of their mortgage, such that a week's wages roughly corresponded to one month's rent – twenty percent of wages (Hulchanski, 1995). In the Canadian context, federal housing agencies and statistical bodies used a similar twenty percent cut-off up until the 1950s, at which point it was raised to twenty-five percent. By the 1980s, the cut-off for what was considered 'affordable' housing had risen to thirty percent, the value used today (Bacher, 1993).

The way in which this descriptive statistic is applied to measure the affordability of housing varies across jurisdictions within Canada. For example, Ontario's Provincial Planning Statement (2005) takes a very specific approach to defining affordability. For ownership tenure, housing is considered affordable if the purchase does not result in annual accommodation costs exceeding 30% of gross annual household income (in the case of low and moderate income households), or if the purchase price is at least 10% below average resale prices in a given regional market area. For rental tenure, housing is said to be affordable if unit rents do not exceed 30% of gross annual household income (for low and moderate income households), or if unit rents are at or below the average market rent in a given regional market area (Ministry of Municipal Affairs and Housing, 2005). The definition of housing affordability used at the national level in Canada – known as the *Shelter Cost to Income Ratio* (STIR) - is broader: affordable housing is defined as units for which the total cost of housing does not exceed 30% of gross annual household income, where housing costs for owners include mortgage payments, property taxes, condo fees and utilities, or rent and utilities for rental tenure (Tomalty et al., 2000). Established in 1986 by Canada Mortgage and Housing Corporation and provincial authorities, the national definition provides a clear, workable standard that can be easily applied to existing and future datasets.

While the 30% income cut-off constitutes a useful evaluative standard for measuring housing affordability stress, it must be understood that the affordability of housing is an inherently relative concept: a low income household spending more than 30% of annual income on housing will face entirely different financial implications than a high income household spending the same proportion of household income on housing. Households exceeding the 30% cut-off are not necessarily experiencing a housing affordability problem; indeed, many households choose to spend higher proportions of their income on housing even though they may be able to find cheaper, suitable housing in their locality. Using this measure, it is plain to see that housing affordability outcomes have different implications depending on housing tenure. For example, while the probability of ever having exceeded the 30% STIR cut-off is similar for both market renters and home owners with mortgages, the latter group has a much higher median income and has the added benefit of building equity through their homes (Engeland et al., 2008). Thus, the 30% cut-off must be understood as a standard against which affordability outcomes can be measured over time, and not, by itself, an absolute indicator of unaffordable housing.

Use of the ratio of housing expenditure-to-income to analyse the affordability of housing is not without criticism. When applied generally across populations, such ratios amount to a rule of thumb, and as such they can be misleading with regard to describing the ability of a given household to pay for housing (Carver, 1948). Moreover, the numeric point at which housing is considering 'affordable' or 'unaffordable' is inherently an arbitrary choice. Hulchanksi (1995) notes that such ratios lack any empirical basis for the determination of cut-off values, and thus their usefulness in measuring the affordability of housing stems more from the fact that they are popularly used than any empirical logic. In more specific terms, Hulchanski argues that housing expenditure-to-income ratios should not be used to define housing need or to predict the ability of households to pay for housing, particularly because such ratios are seen as being too much of an oversimplification of complex economic interactions.

Notwithstanding these criticisms and limitations, Hulchanski (1995) nevertheless notes that housing expenditure-to-income ratios can be "a valid and reliable quantitative indicator in housing research and analysis" if used in an appropriate research context. He sees two main uses as appropriate: describing housing costs in relation to household expenditures, and analysing housing trends over time and space. Such uses are appropriate to demonstrate how different household types have varying housing costs, and to place households within a spectrum of housing costs. However, in both cases Hulchanski stresses the need to shy away from making subjective claims regarding what

constitutes an appropriate level of expenditure, ability of households to pay for housing, or status of affordability problems.

We are then left with an awkward methodological quandary: on the one hand, descriptive measures such as the use of housing expenditure-to-income ratios are limited by their apparent arbitrary nature and lack of empirical validity; on the other hand, such measures are widely used to describe, if not measure, the affordability of housing of certain populations. Given the reality of the latter point – that such measures are indeed used in the context of policymaking and socio-demographic analysis by both academics and government agencies – it seems most reasonable to employ such measures as long as the aforementioned limitations and caveats are noted.

2.2.3 Housing Policy in Canada

Housing policy has changed dramatically over the past several decades in Canada, with generally deleterious effects with regard to the affordability of housing. Policies specifically relating to the affordability of housing generally focus on two areas of concern: the provision of non-market rate housing (i.e. subsidized or social housing), and the provision of rental housing generally. However, the broader relationship between housing policy and the affordability of housing is directly linked to what forms of tenure are prioritized or supported by government programs. Housing policy in Canada has traditionally given primacy to homeownership ahead of rental tenure. Since the beginning of the second half of the 20th century, Canadian homeowners have benefitted from a variety of government programs and policies that have effectively subsidized the cost of homeownership, without equal support for those in the rental market (Hulchanski, 2006). As Toronto's urban revitalization efforts have sought to couple the cultivation of an upwardly mobile professional class with residential development in the urban core, it is no surprise that condominium form of homeownership has dominated residential development in the old City of Toronto over the past several decades (Kern, 2010). Since condominium developments are generally marketed (and affordable) to the aforementioned professional classes, such developments have not helped to improve housing affordability in the urban core.

Although the rental housing market has taken a back seat to government support for homeownership, the rental market is an important factor to consider when discussing the affordability of housing simply because rental tenure is usually the most affordable option available to the greatest number of people, thus changes to the fundamentals of the rental housing market inevitably shape housing affordability outcomes. Shifting market conditions and changes to regulatory structures over the last several decades have led to the failure of the private rental housing market in its historical role as a source of new affordable housing stock (Hulchanski, 2004). Despite generally solid economic

growth throughout the latter half of the 20th century, especially in the late 1990s and early 2000s, and amidst an overall increase in the stock of housing generally, the stock of rental housing has declined or remained stagnant in most Canadian cities (Drummond, Burleton, & Manning, 2004). The causal factors behind this decline or stagnation in the market for new rental housing can be attributed to a confluence of shifting market conditions and regulatory changes. First, market conditions shifted in the 1970s such that it became less profitable for private sector developers to build unsubsidized rental apartments. Volatility in inflation and interest rates meant that developing rental properties became a risky proposition from the standpoint of long-term investors.

Second, a series of changes to the regulatory frameworks governing the operation of the housing market further compounded market shifts. For example, beginning in the late 1960s in Ontario, laws changed to allow condominium tenure; compared to rental apartments, condominium projects allowed developers to recoup their costs upfront instead of through monthly rents. Moreover, as condo projects generally appealed to a higher end of the market than rental apartments, condo developers could afford to pay more for land and thus were able to out-compete rental developers (Hulchanski, 2004). At the same time, tax reforms implemented in the 1970s made rental housing much less attractive to investors and developers alike: individual investors could no longer deduct the depreciation of a rental property from their income, while developers could no longer deduct certain construction expenses, making investment and development of rental projects much less attractive. To a lesser degree, the implementation of rent controls – most of which had been loosened by the late 1990s - added yet another disincentive for private developers to engage in construction of new rental properties, and likely incentivized conversion of existing rental stock to condominium tenure. The CMHC's tightening of mortgage insurance regulations in the 1990s has also been implicated in making rental properties less attractive to developers, although these regulations were loosened again in the early 2000s as part of an explicit effort to attract investment from pension funds and real estate investment trusts (Drummond et al., 2004). Unsurprisingly, amidst an increasingly unattractive market and regulatory environment, developers responded by shifting construction and investment to more lucrative segments of the housing market – high-end rental, owner-occupied units (condo or otherwise), and commercial real estate (Drummond et al., 2004; Hulchanski, 2004).

At the same time, senior levels of government divested themselves of their responsibilities in, and in some cases completely withdrew from, the housing space. Beginning in the 1980s, the federal government engaged in aggressive cutbacks of funding for subsidized housing – funds which had accounted for the lion's share of funding for affordable housing programmes from the 1950s onward. As housing subsidies dried up, so too did any interest real estate developers might have had in

undertaking construction of affordable rental units. Furthermore, amidst the generalized climate of public sector cutbacks in the 1990s, several provinces – with Ontario leading the charge - began to divest themselves of certain fiscal responsibilities whereby provincially-managed programs such as social housing were reconstituted as municipal responsibilities. Given new responsibilities for program delivery but lacking in accordant expansion of powers to generate revenue, many municipalities began to rely on instruments such as development charges and density bonusing as a way of making up the resulting funding shortfalls. As a result, upward pressure on development charges made it less economically attractive for developers to undertake rental projects (Drummond et al., 2004). Coupled together, the federal withdrawal from and provincial divestiture of responsibilities in the housing space has left a large void: the provision of affordable housing now rests in the hands of cash-strapped municipalities who must use the limited powers they have available to them to incentivize, or in some cases force, private developers to engage in a market segment in which they have little incentive to operate.

Where does this leave the market for affordable housing today? Apart from the application of regulatory instruments, private actors in the housing market are unlikely to engage in the market-driven provision of affordable housing, rental or otherwise. Notwithstanding the aforementioned market and regulatory disincentives, even if private developers wanted to engage in large-scale rental projects, the reality of an increasing income gap between households who rent and those who own makes it less likely that renters would be able to afford the price levels at which it would be necessary to set rents in order for developers to make a profit (Hulchanski, 2004). Moreover, even though there is an expanding secondary rental market, particularly in the form of rental condos in places like Toronto and Vancouver, such forms of tenure should not be expected to have much of any impact on the supply of affordable housing as such units are generally priced at or above market levels (Drummond et al., 2004). Overall, Shapcott summarizes the end result as follows: “low, moderate, and middle-income tenants have literally been priced out of the private rental market” (2004, p. 200).

2.2.4 Housing Affordability in Planning Practice

In light of senior levels of government pulling out of the housing space over the last several decades, and the lack of market incentives to spur private development of rental housing, how have Canadian municipalities approached the issue of housing affordability? While urban planners often concern themselves with the topic of housing affordability, the tools to guide affordability outcomes in a market system are limited. Land use regulation, whether through zoning or other tools such as development charges, is limited to influencing the price of land and development. Various approaches to zoning and development in the Canadian context have sought to improve affordability outcomes.

These approaches include inclusionary zoning, alternative development standards, performance-based planning, and/or density bonusing (Tomalty et al., 2000).

Inclusionary zoning ties approvals for high-density residential projects to the provision of affordable housing, whereby developers are forced to allocate a certain number or proportion of the total housing units of a given project under the auspices of affordable housing (Hodge & Gordon, 2013). Alternative development standards involve the revision of municipal planning and urban design policies to allow for residential development characterized by smaller lot sizes, reductions in distance between house lots, and a greater range of housing types in proximity. In theory, the ability of developers to build more and different types of housing units on the same amount of land should lead to cost savings passed along to the consumer (Federation of Canadian Municipalities, 2009). Performance-based planning is a method of land regulation whereby proposed development is judged against a set of criteria relating to a preferred outcome instead of prescribed land uses, as is the case under traditional zoning regimes. Its application with regard to housing affordability stems from the fact that if some quantifiable increase in affordable housing is the desired outcome, performance-based planning regimes allow for whatever types of development to take place, as long as they meet that desired outcome (Baker, Sipe, & Gleeson, 2006). Density bonusing has become a common policy instrument of choice in many Canadian cities seeking to induce the provision of affordable housing. Developers are granted permission to exceed or avoid certain defined planning standards in return for some net-benefit for the city. In the context of affordable housing, density bonusing often takes the form of a developer being granted approval to exceed density or height limits beyond the normal standards applicable to a given site if they agree to allocate, build or finance some number of affordable housing units (Moore, 2013).

The City of Toronto, both pre- and post-amalgamation, has approached the issue of housing affordability in a two-pronged manner, orienting policy instruments towards the provision of affordable housing (i.e. social, subsidized, or non-market rate housing) and the protection of the existing stock of private market rental housing. The majority of Toronto's stock of affordable housing has been supplied and managed by a variety of government agencies over the past several decades; following the process of amalgamation, since 2002 responsibility for the provision and management of social housing has been vested in a single municipal agency, the Toronto Community Housing Corporation (Toronto Community Housing Corporation, 2014). The City of Toronto has also used the development applications process to induce developers to build or contribute funding towards affordable housing through the provisions of section 37 of the provincial *Planning Act*. Otherwise known as density bonusing, section 37 agreements allow the City to secure cash or in-kind

contributions from developers towards affordable housing. However, these agreements are negotiated on an ad-hoc basis as the City has no legal framework governing how contributions should be requested or spent: instead, individual councillors decide what where and how contributions end up being allocated (Moore, 2013). This can result in a politically-driven process of allocating what would otherwise be public goods.

In spite of the obvious opportunity for new, market-driven development to be coupled with efforts to ameliorate housing affordability stress, such ends are not often sought by city councillors through the auspices of density bonusing agreements. Upon examination of the section 37 agreements made between 1983 and 2009, Mah (2009) estimated that while 18.9% of benefits pertained to affordable housing in some way, there were very few instances wherein the benefits sought resulted in increases in the stock of affordable housing, owned or rented. In a more recent and thorough study of section 37 agreements in Toronto between 2007 and 2011, Moore (2013) found similar results: contributions categorized as supporting affordable housing accounted for just six percent of the benefits sought through section 37 agreements, amounting to $4.88 million in cash contributions. Similarly, other categories of benefits that could play a role in ameliorating housing affordability outcomes were rarely sought: public housing accounted for just three percent of section 37 benefits, while rental replacement and three-bedroom units accounted for only two percent each. Instead, most benefits from section 37 agreements sought between 2007 and 2011 went towards capital improvements such as roads, parks, or streetscapes. While these improvements tend to be undertaken in census tracts with lower median income values where rental housing is the predominant form of tenure, such improvements do little to alleviate housing affordability stress. On the contrary, since the majority of section 37 improvements involve the provision of amenities or streetscape improvements, such improvements may be acting to further complicate the issue of affordable housing by virtue of making land more valuable than it otherwise would have been prior to new development.

As for provisions relating to the City's stock of rental housing – which is a core part of the affordable housing landscape – policy instruments have tended to focus on protecting the existing stock of rental housing. Originally, powers to protect rental housing stock from demolition or conversion to condominium tenure (outcomes driven by the aforementioned market pressures), were exercised at the provincial level through the *Rental Housing Protection Act*, which was in force from 1986 to 1998 (Province of Ontario, 1986). These measures were effectively mirrored by various facets of the old City of Toronto's official plans (City of Toronto, n.d.). In 2007, the new City of Toronto used expanded powers granted by the provincial *City of Toronto Act* to further tighten provisions in the City's *Municipal Code*, intended to limit the demolition or conversion of existing

rental stock (City of Toronto, 2007a). This process is currently in force today, wherein developers must engage in a permitting process explicitly designed to protect against reductions in existing rental stock. This approach is reflective of current market realities, wherein little incentive exists for private developers to build affordable rental housing, amidst strong pressures to convert existing stock to upmarket segments.

Reflective of the typical discussion on 'housing affordability', the design and application of most of the aforementioned approaches is generally concerned with the provision of affordable housing for low and moderate income groups. Much less attention is paid to the affordability of housing in general. For example, Ontario's planning regulations dictate that municipalities must include provisions in their official plans for affordable housing (specifically social housing) alongside the much more nebulous directive to establish development standards intended to minimize housing costs (Ministry of Municipal Affairs and Housing, 2005). While the latter point does seem to refer to broader conceptions of affordability, the provincial policy framework fails to mandate any real, concrete directives for considering the broader nature of housing affordability outside of the traditional focus on low-income housing. This points to a gap in both the academic discussion on what constitutes the so-called housing affordability problem, and in the responses by policymakers and practitioners intending to address the issue.

2.2.5 Spatial Analysis

Even though the nature of housing and labour markets are often studied in spatial terms, there is a need to apply spatial analysis methods in the context of examining the affordability of housing. In their work examining the nature of housing affordability stress across and within several Canadian cities, Bunting et al. (2004) note that there is a lack of research involving spatial analysis in the empirical literature on housing affordability; they argue that greater attention needs to be paid to the spatial aspects of housing affordability. Most research addresses only the aggregate picture of a given geographic unit, and does not offer much in the way of pinpointing where affordability stresses may lie in spatial terms within cities. Moreover, the authors note that studies that include a spatial component often suffer from limited replicability or comparability, such that there exists "a dearth of quantitative analysis of reliable design that compares housing in-affordability across different places and for different categories of households" (Bunting et al., 2004, p. 362). Given the methodological gap in current research, there is a need for further research that employs spatial analysis methods which are easily replicated, using readily comparable datasets.

2.3 Labour market restructuring

An understanding of how labour market restructuring shapes the housing market is important for a number of reasons. At the most basic level, our occupation and the nature of how and where we work plays a large role in shaping our living arrangements. The impetus to frame this study of housing affordability in mixed-use areas at the intersection of the labour and housing markets stems from the observation that mixed-use development has occurred within the broader context of labour market restructuring. Since structural shifts in the labour market are reflected at the urban scale, these shifts will ultimately be reflected in the way housing markets operate, and thus may influence housing affordability outcomes (Maclennan & Pryce, 1996; Böheim & Taylor, 2002). Understanding the nature of these broad macroeconomic shifts gives us the necessary context upon which analytical efforts can be made to better understand the relationship between labour market restructuring and the affordability of housing in mixed-use areas.

The increasing prevalence of mixed-use zoning and interest in the issue of housing affordability have occurred within the context of fundamental changes in the economy as a whole and the labour market in particular. Several structural shifts have occurred over the last several decades across the developed world that have reshaped labour markets, and consequently, have changed the nature of housing markets. This chapter begins by tracing the concurrent trends of deindustrialization and the rise of service-oriented work, the shift towards a more flexible labour market, and wraps up with a consideration of the impacts these trends may have on the housing market.

2.3.1 Deindustrialization

Deindustrialization has profoundly changed the nature of many advanced economies over the last several decades, particularly in North America. Its effects can be said to have manifested in both spatial and structural terms, changing the fabric of land use in many cities, while at the same time reflecting the changing structure of the labour market.

In spatial terms, the shifting of industrial land uses from the urban core to suburban locations preceded (and was part of) the broader forces of deindustrialization. As noted earlier, by the middle of the 20th century, many Canadian cities saw formerly productive industrial lands locate in the urban core begin to decline, contributing to the decline of the urban core in general. At the time, the inner city was considered the root of socioeconomic ills such as poverty and crime, and as factories relocated to the suburbs they were followed by workers. As industrial uses left the urban core, cities such as Toronto were left with large parcels of land that would eventually become prime sites for

redevelopment as mixed-use zoning became more prominent throughout the latter part of the 20th century.

At the same time, the forces of deindustrialization proper reshaped the labour landscape the broader economy, and in particular the labour markets in large urban centres. Deindustrialization is commonly framed within the context of a declining manufacturing sector. Throughout the latter half of the 20th century, the manufacturing sectors of many Western nations faltered in the face of stiff competition from foreign competitors who benefitted from cheaper labour and less overhead costs. However, this is not a precise description. With advances in technology and increases in productivity over the last several decades, the manufacturing sector has been able to maintain output levels with a smaller labour force. At the same time, process efficiencies have led to falling prices. Coupled with the growth of service-sector industries, the relative share of employment and GDP attributed to the manufacturing sector has decreased. In the midst of fundamental macroeconomic restructuring, the manufacturing sector in Canada has adapted: output levels stayed relatively stable between 1961 and 2005, and the sector remains an important economic driver in many regions (Baldwin & Macdonald, 2009). Nevertheless, while deindustrialization in the Canadian context cannot be described as the wholesale collapse of manufacturing, the labour market has fundamentally restructured such that production-oriented labour has become much less important with regard to economic output.

One of the most obvious manifestations of deindustrialization in Canada has been the reconfiguration of the labour market away from production-oriented activities. Employment associated with manufacturing and the goods-producing sector as a whole has grown slower than other industries, and has declined in the share of the workforce in Canada over the last several decades. Whereas total employment in all industries in Canada grew eighty percent between 1976 and 2012, employment in goods-producing sectors grew by only fifteen percent, with only four percent growth in manufacturing over the period. Compared to the 1.6% annual rate of growth for all industries, the goods-producing sector grew at a rate of only 0.4%, while the manufacturing sector declined at a rate of 0.1% per year. Most importantly, the share of the workforce employed in goods-producing sectors shrank from 34.6% in 1976 to 22.1% by 2012, while manufacturing's share of the workforce nearly halved, shrinking from 19.1% of all employment in 1976 to only 10.2% by 2012 (Statistics Canada, n.d.-f). These trends are described in Table 1.

Table 1: Employment by Industry (000s) in Canada, 1976-2012

	1976	2012	Change	% Change	1976 Share	2012 Share	Annual Growth Rate
Goods-producing sector	*3,371*	*3,872*	*501*	*14.9%*	*34.6%*	*22.1%*	*0.4%*
Agriculture	464	309	-155	-33.3%	4.8%	1.8%	-1.1%
Forestry, fishing, mining, quarrying, oil and gas	255	369	114	44.9%	2.6%	2.1%	1.0%
Utilities	110	141	31	28.1%	1.1%	0.8%	0.7%
Construction	682	1,268	586	86.0%	7.0%	7.2%	1.7%
Manufacturing	1,861	1,786	-76	-4.1%	19.1%	10.2%	-0.1%
Services-producing sector	*6,377*	*13,636*	*7,259*	*113.8%*	*65.4%*	*77.9%*	*2.1%*
Trade	1,572	2,644	1,072	68.2%	16.1%	15.1%	1.5%
Transportation and warehousing	563	849	286	50.8%	5.8%	4.9%	1.1%
Finance, insurance, real estate and leasing	526	1,093	567	107.8%	5.4%	6.2%	2.1%
Professional, scientific and technical services	253	1,299	1,047	414.4%	2.6%	7.4%	4.7%
Business, building and other support services	161	691	529	327.8%	1.7%	3.9%	4.1%
Educational services	677	1,288	611	90.3%	6.9%	7.4%	1.8%
Health care and social assistance	794	2,128	1,334	168.1%	8.1%	12.2%	2.8%
Accommodation and food services	413	1,102	689	166.7%	4.2%	6.3%	2.8%
Information, culture and recreation	347	790	444	128.0%	3.6%	4.5%	2.3%
Other services	427	795	368	86.3%	4.4%	4.5%	1.7%
Public administration	645	956	311	48.2%	6.6%	5.5%	1.1%
Total, all industries	**9,748**	**17,508**	**7,760**	**79.6%**			**1.6%**

Note: Red text indicates negative values.
Source: Statistics Canada (n.d.-f)

The decline in the relative importance of manufacturing employment is an important facet of the connection between deindustrialization and changes in the housing market. Jobs in the manufacturing sector were often viewed as being central to the rise of the middle class as they offered good pay, relative stability of employment, and decent benefits, all without requiring high levels of education (Kuttner, 1983). Jobs in such industries enabled many to enter the housing market from a relatively strong financial position. Given the declining share of the workforce held by the manufacturing and goods-producing sector, the question then turns to what types of industries and occupations have replaced them, and what this might imply for outcomes in the housing market.

2.3.1.1 Rise of the service-oriented economy

The decline of employment in sectors like manufacturing has not occurred in a vacuum, and is one side of the labour market reconfigurations that have occurred in the context of deindustrialization. As part of broader economic shifts through the latter half of the 20th century, goods-producing sectors shrank in their share of the labour market as the structure of most Western economies shifted towards services. In the Canadian context, while service-oriented industries have long been the largest portion of the economy, they accounted for nearly ninety-four percent of job growth between 1976 and 2012 (Table 1). Just as goods-producing sectors have lost relative share of the workforce, service-sector industries have grown, their share of the workforce increasing from 65.4% in 1976 to 77.9% by 2012. The strongest gains in annual employment growth have all been in service-sector industries, such as professional, scientific and technical services (4.7%); business, building and other support services (4.1%); health care and social assistance, and accommodation and food services, respectively (2.8%); and information, culture and recreation (2.3%).

However, shifts in the structure of the workforce have not just occurred with regard to the *industries* in which Canadians are employed, but also with regard to the types of *occupations*. Arguably, the type of work one does matters more with regard to their economic position than the industry in which they are employed. To that end, the rise of the service-oriented economy has occurred in a bifurcated manner – growth in upwardly mobile, knowledge-intensive professional occupations alongside growth in low-skill service occupations, with direct implications for the spatial organization of our cities and the workings of the housing market.

2.3.1.2 Knowledge Economy

On the one hand, the decline of production-oriented sectors in the economy left room for, and was driven by, the shift towards what is commonly referred to as the 'knowledge-based economy' (Vinodrai, 2010). As technological advances led to gains in automation and efficiency, it is no surprise that advanced economies shifted towards more knowledge and technology-intensive economic activities. The attendant increase in employment in such activities has been explored using a variety of occupational typologies. In general, occupations that are considered to typify the knowledge-based economy involve knowledge-intensive work that tends to require a high degree of skill and education.

Florida's (2002) 'creative class' taxonomy is a well-known approach to understanding the structural shifts inherent in the rise of the so-called knowledge economy and their implications for the urban structure of our cities. Although the occupational taxonomy Florida uses to delineate the nature

of the 'creative class' was originally designed in reference to the structure of the American labour market, the basic concept has been applied elsewhere. Florida generally posits that economic growth in advanced economies is increasingly driven by the outputs of those in knowledge-intensive, 'creative' occupations. Since cities are seen as the engines of the modern economy, and thus the sites in which this 'creativity' takes place, the 'creative class' brand of thinking implores urban policymakers to engender the kind of urban environments thought to be amenable to attracting and cultivating this class of worker. In later work, Florida (2005) asserts that creative class workers strongly prefer living and working in mixed-use areas as this type of development satisfies their demands for a stimulating mix of work and play, alongside the efficiency gains to be had by minimizing commute times. While Florida's creative class taxonomy is not without criticism (see Peck, 2005), it may help to contextualize the findings of this study if similar patterns are found to be present in the workforce structure of Toronto's mixed-use areas.

An alternative approach, specific to the Canadian labour market, is offered by Beckstead and Vinodrai (2003) in their work developing an occupational taxonomy to categorize and describe the nature of the knowledge-based workforce in Canada between 1971 and 1996. The authors showed knowledge-based occupations grew substantially in their share of the workforce, increasing from 13.8% of the workforce in 1971 to 22.2% by 1996 – faster than the rate of growth in the overall workforce. Importantly, the authors note that the activities of the knowledge economy are squarely centred on Canada's largest cities, where they found the highest rates of knowledge-based employment growth and highest proportion of knowledge workers. As might be expected, such workers tend to have higher rates of educational attainment than the rest of the workforce. Given the increasing importance of knowledge-intensive activities in the broader economy, it may also come as no surprise that those in knowledge occupations earn higher wages than others, averaging a fifty-percent premium over the overall average hourly wage of all occupations.[3] However, this wage premium stayed relatively stable between 1981 and 1996, meaning income levels between knowledge workers and others were not actively polarizing during the study period (Beckstead & Vinodrai, 2003). Thus, in the Canadian context, it is clear that occupations central to the knowledge-based economy have not only been better paid, but have also grown at a faster pace than all other occupations, with the majority of this activity taking place in large urban centres like Toronto.

[3] Approximate value as presented in Beckstead and Vinodrai (2003, fig. 6)

2.3.2 A polarizing labour market

While growth has occurred among high-skill, high-paid jobs in the knowledge-intensive sectors, job growth in the labour market as a whole has not been evenly spread. For middle-skill, middle-pay jobs, where tasks are often routine and procedural – and thus ripe for automation – the advancement of technology and increased reliance on foreign outsourcing has been reflected in a decreasing share of the workforce (Burleton, 2013). Yet job growth has occurred among low-paid, low-skill service occupations: growth in absolute numbers employed between 1971 and 2006 was highest among sales and service occupations, while the group's share of the workforce grew from 20.7% in 1971 to 23.9% by 2006 (Vinodrai, 2010, p. 97). This should come as no surprise, as the increasing prevalence of well-paid and high-skill jobs leaves a greater pool of disposable income available to be spent on personal services. At the same time, an aging population has increased demand for personal support caregivers. However, this bipolar growth in the types of jobs that run the city (knowledge-intensive) and those that keep the city running (low-skill service jobs) presents us with a paradox central to the growth of the knowledge-based economy: perhaps as we move up the economic skill ladder, we also risk polarization between occupational classes and all the attendant social inequality that may result (Vinodrai, 2010).

2.3.2.1 Occupational polarization

The supposed bipolar structure of growth in the service sector is often described conceptually as a process of income and occupational polarization. The pattern of labour market restructuring in Western economies over the last several decades has often been described as involving growth at the polar ends of the job market, resembling what Pahl (1988) refers to as an "hourglass" economy, where growth is concentrated amongst high-pay and low-pay occupations. However, such notions may not be particularly accurate descriptions of the Canadian labour market. Morissette and Johnson (2005) examined the wage structure of the Canadian labour market between 1987 and 2004 and found that the relative importance of well-paid and low-paid jobs increased only marginally. More recently, using occupational groupings based on skill and pay levels, Burleton (2013) found high-skill, high-pay occupations increased only slightly in their share of the workforce between 1999 and 2010, while medium-skill, medium-pay occupations declined slightly, and low-skill, low-pay occupations stayed relatively stable. Instead of the oft-cited bipolar "hourglass" distribution (growth in high and low end jobs), he notes that Canada's labour market growth pattern since the late 1990s appears to have followed more of a unipolar, "hockey stick" pattern, wherein job growth has occurred in the high-pay, high-skill portion of the labour market (Burleton, 2013).

The application of the "hourglass" concept to earning outcomes resulting from labour market restructuring in the Canadian context also seems questionable. As noted earlier, Beckstead and Vinodrai (2003) found that while those in knowledge-based occupations commanded a substantial wage premium, the wage differential remained stable throughout 1981 to 1996, indicating that wage levels were not actively polarizing relative to other occupations. Similarly, Burleton (2013) found that wage levels of high-skill, high-pay jobs and low-skill, low-pay jobs relative to the overall average wage increased only slightly between 1999 and 2010. At the same time, the average wages of medium-skill, medium-pay jobs relative to the overall average wage decreased slightly in the same period. Thus, though differences in categorical definitions complicate the comparability of various studies, it would seem that labour market restructuring in Canada has not necessarily followed the pronounced bipolar 'hourglass' pattern of income and occupational polarization witnessed in other advanced economies. However, these data say nothing specific with regard to patterns extant at the municipal level. While the 'hourglass' pattern may not be as apparent at the national level as is commonly assumed, there is a strong imperative to examine outcomes at the scale of individual cities.

Moreover, certain forms of polarization have occurred within occupations with regard to the nature of compensation. In their study of the wage structure of the Canadian workforce, Morissette and Johnson (2005) found that the wage gap between younger and older workers increased substantially between 1987 and 2004, such that new entrants to the workforce are making less and less compared to their senior colleagues. Real wages of those entering the workforce (defined as those with two years of seniority or less) fell substantially compared to the rest of the workforce. In essence, companies are paying new employees much less than they used to for the same level of work. This may have direct implications for the affordability of housing: new entrants to the workforce may delay transitions to homeownership if they must wait longer to save; moreover, lower relative pay should be reflected in higher rates of housing affordability stress among young workers.

2.3.3 Flexible labour markets

Alongside the forces of deindustrialization and the rise of the service sector, the nature of employment and the relationships between employer and employee have changed over the past several decades, encapsulated in a process referred to as labour market flexibility (Scott & Marshall, 2012). During the second half of the 20th century, beginning particularly amidst the economic turmoil and restructuring of the 1970s, economic thought in the West began to turn to the institutional and political structures regulating the labour market. Strong regulations and unionization were thought to contribute to labour market 'rigidity,' such that firms could not easily shrink their labour force without substantial transaction costs even if necessary to do so in light of shifting market conditions.

The prevailing view was that the institutional setup of regulations and union agreements meant that markets could shift faster than the ability of firms to restructure their labour force to adapt. By shifting away from the standard employment model towards more 'flexible' labour market arrangements – contract work, flexible working hours, less or no pensions/benefits, increased reliance on outsourcing – firms were thought to be better able to quickly respond to changes, and compete, in an increasingly global marketplace (Castree, Kitchin, & Rogers, 2013). The results of this shift towards increasing labour market flexibility have been quantified in various ways with regard to the changing nature of work, and have direct implications for the relationship between one's position in the labour market and their position in the housing market.

Labour market flexibility can be defined in various ways, though in the Canadian context these definitions tend to revolve around the nature of work arrangements and relationship between employer and employee. Shifting economic realities have seen the rise of what is defined as "non-standard," "flexible," or "precarious" labour, referring to work which could be part-time, temporary in nature (such as contract, casual or seasonal), or even self-employment (Vosko et al., 2003, p. 16). Although full-time permanent jobs remain the standard, the Canadian labour market has seen a rise in both temporary work and self-employment. Vosko et al. (2003) examined the departure from the traditional standard employment model by defining a typology of non-standard employment, which they define as including part-time, temporary work, own-account self-employment, or multiple jobholding. They found that the share of the workforce employed in full-time permanent work fell from sixty-seven percent in 1989 to sixty-three percent by 2002, while temporary work increased in share from seven percent to eleven percent in the same period. Overall, they note that even though Canadian workers seemed to report feeling increasingly insecure in the labour market, and non-standard work grew in its share of the labour force throughout the 1990s, that growth seemed to stabilize in the early 2000s (Vosko et al., 2003).

Morissette and Johnson (2005) reported similar findings, focussing their analysis of temporary work on those in the workforce aged 25-64 who are not full-time students. This specificity is useful as it effectively removes the sample bias present in student workers aged 15-24 who are far more likely to be employed in part-time/temporary work, instead focussing more accurately on those who make up the majority of the workforce proper. The authors found that temporary work grew in its share of the employed labour force from five percent in 1989 to nine percent by 2004. Importantly, the authors note that the increasing prevalence of temporary work is disproportionately manifested among new entrants to the workforce – particularly in the private sector, where the proportion of new

employees in temporary jobs doubled from eleven percent in 1989 to twenty-one percent by 2004 (Morissette & Johnson, 2005).

While the increase in "flexible" arrangements allow employers to cut labour costs and ostensibly strengthens their ability to adapt to changing market conditions, restructuring of the labour market also entails an increasing lack of job security and decreasing outlay of job-related benefits or entitlements. What will these broad socioeconomic shifts mean for the housing market?

2.4 Housing in a Restructuring Labour Market

A large part of the central thrust of this study is to further elucidate the connections between restructuring in the labour market and how this may be shaping the housing market. Few attempts have been made to explicitly analyse the effects that changes in the labour market may have in the housing market. Most of the introductory work tended to undertake such analyses either as separate points of study (the housing market and the labour market) or looked at the reverse causal relationship (Hamnett & Randolph, 1988; Doogan, 1996). And yet the value of understanding such connections seems straightforward in the context of basic economic theory: broad macroeconomic shifts in the wider economy, and more specifically in the labour market, will inevitably shape the housing market, with those effects linking back up into the broader economy as a whole (Maclennan & Pryce, 1996). A number of the macroeconomic shifts mentioned in section 2.3 – for example, restructuring of the labour market towards knowledge-intensive service work, the increasing prevalence of non-standard employment, and socioeconomic changes to the nature of the workforce – have been reflected in the housing market (Böheim & Taylor, 2002). In the Canadian context, such fundamental structural shifts in the nature and operation of the labour market have directly influenced both the housing market as a whole and the nature of housing affordability in particular (Bruce & Carter, 2003). This section seeks to delineate explicit links between the structural shifts described in section 2.3 and the implications these shifts may have with regard to housing affordability in Canada.

2.4.1 Gentrification

Gentrification is one of the most pronounced effects of labour market restructuring within the context of the housing market. As noted earlier, the forces of deindustrialization and reconfiguration of the labour market towards a services orientation meant that as the manufacturing sector left the urban core in many cities, production-oriented jobs have been replaced by employment the service sector, particularly in knowledge-intensive industries. In this sense, gentrification can be viewed as a reflection of broad structural changes in society, wherein post-industrial economic restructuring shifted demand for housing in the urban core from blue-collar to white-collar workers. The latter have

been conceptualized as having different consumption patterns compared to the former: namely, those in knowledge-oriented service employment wanted to live in the urban core in order to take advantage of the amenities associated with urban living, and importantly, possessed a greater ability to pay a premium for housing (thanks to a greater prevalence of dual-income and smaller households) compared to the types of workers that already lived there (Ley, 1986). Understanding how gentrification relates to the restructuring of the labour market is a key facet in any analysis of housing affordability (Ley, 1996).

As employment in the urban core grew rapidly in many Canadian cities through the latter decades of the 20th century, those in service-oriented jobs (primarily knowledge economy workers) flocked to live near where they work in the inner city. These types of workers – Ley's (1986) "new middle class" – fundamentally changed the inner-city housing market in places like Toronto. Housing markets have responded in due course: whereas the inner city used to be the place where affordable housing and public services coexisted, the urban core has increasingly become reshaped to meet the demands of those in upwardly mobile white collar occupations (Bruce & Carter, 2003). Such demands are reflected in the redevelopment of former industrial lands into high-density residential condominiums or lofts, often in the context of mixed-use development (Bunting et al., 2004; Grant, 2002). Restructuring of the labour market in the urban core is inexorably tied to the process of gentrification, wherein those in the knowledge-intensive occupations that have become increasingly central to the urban economy effectively out-compete the rest of the labour force for housing in the urban core (Walks, 2001).

Gentrification manifests in the housing market as changes in the type, tenure and cost of housing. As the urban core of many cities have been revitalized through the aforementioned influx of knowledge-intensive professional service jobs and occupants, existing land uses and residential occupants have been pushed out by market forces – primarily through increasing rents. Given the ability of higher-paid knowledge workers to pay more for housing near the types of services and amenities the urban core is apt to provide, gentrification results in housing markets becoming less affordable (Bunting et al., 2004; Walks & Maaranen, 2008). As housing costs increase, those in low-income occupations are often displaced from the urban core. Thus, although labour market restructuring has led to a revitalization of the inner city, often in the context of mixed-use development, not everyone benefits from this restructuring of the urban housing market; indeed, many are effectively excluded from the greater provision of amenities and services gentrifiers want and are willing to pay for. This results in what Walks and Maaranen (2008) regard as a public policy

problem, wherein those that need access to the amenities and services present in the inner city – low-income households – get pushed out to the less accessible, but more affordable, urban fringes.

However, several peculiarities relating to the nature of gentrification in the Canadian context may be relevant to understanding the results of this study. In his analysis of gentrification in the inner core of Canada's largest cities, Ley (1996) points out that the occupational groups that lay the foundations for gentrification end up priced out of the market as the process intensifies. These first-stage gentrifying 'pioneers' tend to include professionals in the arts, media or other cultural fields, who are attracted to both the social mix and affordability of housing in the post-industrial urban core. Yet as investment is attracted and redevelopment (often in the form of mixed-use) begins to occur as the image of these neighbourhoods changes, these first-stage gentrifiers are inevitably priced out of the housing markets they helped to gentrify in the first place. At the same time, Ley notes that the socioeconomic shifts in gentrifying areas seem peculiar in that income values seem to lag behind upward shifts in education and occupational status. Thus, if gentrification is present in mixed-use areas, socioeconomic shifts may include the worsening of affordability for those in cultural occupations, and an apparent gap between income and education/occupational status.

Furthermore, the nature of the populations considered to be gentrifiers is not as clear-cut as might be assumed. Rose (1984) introduced the notion of 'marginal gentrifiers': that there were sections of the workforce that outwardly fit the bill for gentrification – that is, white-collar workers – who had been "considerably proletarianised" as a result of the processes of labour market restructuring and public sector rollbacks. Notwithstanding their relatively upward social standing, this class of worker – mostly young professionals – could no longer assume job security and steadily increasing incomes. Rose cites teachers and professors, public sector professionals on fixed-term contracts, and self-employed professionals as being the kinds of occupations that might be found within the 'marginal gentrifier' grouping. Thus, workers in what might traditionally have been considered 'good' jobs had experienced downward social mobility relative to previous generations. This has implications for the affordability of housing in mixed-use areas, as those being priced out of the market in such areas may not be limited to low-income service workers – as we would expect, but may also include those in what have traditionally been considered to be "good jobs".

At the same time, gentrification in the urban core may also be driven by demographic changes. Moos (2013b) points out that the urban cores of large Canadian cities have increasingly become defined by the consumption-oriented lifestyle demands of young adults – namely smaller housing units with access to amenities and transit. While the location patterns of young adults are increasingly aligned with urban planning policy goals (mixed-use, transit-oriented development and

intensification), Moos notes that such demands may be resulting in the exclusion of households who do not fit into the young adult lifestyle, such as families with children or those in later life-cycle stages. This raises the question of who benefits from the kinds of development occurring in the urban core.

Mixed-use areas in the urban core may constitute focal points for gentrification as such areas are often typified by lands that may be underutilized and ripe for redevelopment (thus leading to higher rents), and offer the prospect of housing in proximity to complementary land uses and amenities for which certain classes of workers are willing and able to pay a premium. At the same time, mixed-use development is often a key component in urban revitalization projects intended to attract middle- and upper-income residents into the inner core. Such revitalization efforts have often been pursued partly as a means of improving municipal tax revenues, especially in light of the fiscal pressures many municipalities have faced as a resulting of the devolution of responsibilities from senior-level governments (Hackworth & Smith, 2001). In this sense, gentrification can often be viewed as the ostensible goal of urban revitalization efforts (Eckerd & Reames, 2012). Thus, since housing in mixed-use areas is often sought after for its proximate location to various amenities, and since such development can often occur in the context of urban revitalization efforts, one might expect to see the some of the facets of gentrification (rising rents, shift towards service-oriented labour force, increasing affordability pressures for certain occupational classes) present in mixed-use areas.

2.4.2 Sociospatial polarization

Assuming the aforementioned processes of labour market restructuring and resulting income and occupational polarization, some occupations will stand to be winners with regard to their position in the housing market, while others will stand to lose. This is particularly true in the case of those in the well-paid knowledge-intensive occupations that are said to be reshaping the inner city while formerly well-paid, stable manufacturing jobs have been replaced by low-paid and insecure service sector employment (Bunting et al., 2004). The restructuring of the housing market in the urban core in response to the demands of these winners (but to the exclusion of the losers) is reflective of process known as sociospatial polarization, wherein the spatial layout of the city is segregated along socioeconomic lines. Described as “the most direct concern to issues associated with housing affordability” (Bunting et al., 2004, p. 363), the concept of sociospatial polarization is an important facet of our understanding of how housing affordability may be changing in mixed-use areas in light of labour market restructuring.

As the labour market divides along income and occupational lines, so too does the housing market; while this is nothing new – the poor have always lived in poor quarters of the city – it is perhaps becoming more pronounced (Maclennan & Pryce, 1996). As demand for highly paid white collar jobs increases in the labour market, ripples in the housing market become apparent as workers in such high-demand jobs are able to bid higher for housing, causing local housing prices to rise where such growth is concentrated (Hamnett & Randolph, 1988). At the same time, those in knowledge-intensive occupations may also benefit from housing-related incentives not available to other classes of worker. Doogan (1996) notes how high demand for banking and finance workers in central London in the 1980s led many firms to offer incentives relating to the subsidization of housing costs, such that workers in those occupations benefited while the local housing market became increasingly distorted. Broader socioeconomic changes such as the entrance of females into the workforce and increasing prevalence of dual-income households mean that many are in a better position to compete for housing, but only if they fall into occupational groups that have benefitted from labour market restructuring (Bruce & Carter, 2003). Thus, as the labour market has become polarized along occupational and income lines, we would expect to see this reflected in the relative affordability of housing among those in certain occupational classes living in mixed-use areas.

2.4.3 Labour insecurity and housing tenure

The effects of shifts towards more flexible labour markets are closely related to the concept of sociospatial polarization. Indeed, Walks (2001) notes that the move towards more flexible labour markets is a key theme when analysing the role that labour market restructuring has played in reshaping the urban fabric. Since the nature of one's employment will likely shape one's income and ability to pay, it is important to understand the ways in which changing employment structures play out in the housing market, as a weak labour market position will likely translate into a weak position in the housing market (Hamnett & Randolph, 1988; Maclennan & Pryce, 1996). Labour market flexibility manifests in the housing market primarily via the increasing prevalence of non-standard employment and associated labour market insecurity, which result in increasing housing affordability stress and challenges to entering homeownership. Bruce and Carter (2003) note that the trend towards a more flexible labour market and the growing prevalence of precarious employment in Canada may manifest in the housing market in the form of increasing affordability stress, as part-time workers are far more likely to fall into the "core housing need" category than those employed in full-time positions. Moreover, as some occupational classes have benefitted while others have lost out in the process of labour market restructuring, these affordability trends will likely be more pronounced

among the occupational groups who continue to have a weak labour market position, such as those employed in low-end, unskilled service jobs.

Perhaps the greatest effect that labour market flexibility and the attendant increase in labour market insecurity may have is to make entrance into homeownership more difficult. The shift towards more flexible labour markets has brought with it increasing insecurity in the labour market for many, as employment becomes less stable. Ford and Wilcox (1998) note that since secure, continuous employment (and thus income) is seen as one of the fundamental tenets in the viability of mortgage-based homeownership, shifts towards less stability in employment or income will mean more homeowners will experience difficulty maintaining their mortgages, and thus more households will be pushed away, or be delayed, from entering into homeownership. Empirical evidence seems to confirm that households will be less likely to enter into homeownership if employment or income security is lessened. Multiple studies from several countries have shown there to be a strong negative correlation between unemployment risk and/or income variability and propensity to enter into homeownership (Haurin & Gill, 1987; Robst, Deitz, & McGoldrick, 1999; Gathergood, 2011; Moriizumi & Naoi, 2011). Moreover, commitment to one's job and employer directly shapes housing tenure decisions; since labour market trends imply an increase in the prevalence of fixed-term employment (as opposed to permanent careers), home ownership may become less preferable for those in such impermanent jobs if they must move from job to job, let alone city to city (van Leuvensteijn & Koning, 2004). This labour market mobility point is important, as the most influential factor in shaping geographic mobility decisions is employment. Böheim and Taylor (2002) found that those in non-manual occupations are most likely to move between labour markets for work, and more likely to move between cities than change careers. Given this propensity to move for work, combined with the trend towards increasingly tenuous employment for certain occupations, the transaction costs of buying and selling a house repeatedly may prove too much and push some towards rental tenure. Overall, if the effects of increasing labour market insecurity imply greater challenges entering into home ownership, or increasing necessity to rent, housing policies that prioritize home ownership ahead of rental tenure become increasingly questionable (Maclennan & Pryce, 1996).

2.4.4 Patterns of Socioeconomic Change in Toronto

When one examines how the socioeconomic landscape of the old City of Toronto has changed over the last several decades, many of the aforementioned patterns of socioeconomic restructuring – deindustrialization, gentrification, sociospatial polarization - become apparent. Hulchanski (2010) examined the nature of socioeconomic change in Toronto over the period from 1970 to 2005 and observed that the city seemed to have become divided along income lines into three

categories: (1) neighbourhoods where income grew substantially relative to the CMA as a whole; (2) neighbourhoods where income roughly stayed in line with the CMA; and (3) neighbourhoods where average incomes decreased relative to the CMA over the period. The old City of Toronto is comprised mostly of neighbourhoods falling in the first category, with a third falling in the second category, and only a handful falling in the third category. Thus, although there may be "three cities within the city", the old City of Toronto is very different from its amalgamated former boroughs.

Compared to the boundaries used in Hulchanski's (2010) mapping of the 'three cities', there is a noticeable degree of overlap between areas of the old City of Toronto zoned as mixed-use and the neighbourhoods categorized as being in the 'first city' (where income grew substantially relative to the CMA as a whole).[4] Given this overlap, the socioeconomic landscape of these first-tier neighbourhoods may be similar to that of Toronto's mixed-use areas generally. Overall, Hulchanski found the socioeconomic structure of the 'first city' to be largely composed of an upwardly mobile, well-educated and highly paid workforce. Those living in the first-tier neighbourhoods remain far more educated than the rest of the city (forty-nine percent of people aged twenty or older hold a university degree), while the proportion of the workforce employed in white-collar occupations has seen strong growth, accounting for the majority of employment (fifty-eight percent). It is thus not surprising that these neighbourhoods also have the highest average after-tax individual and household incomes of the three neighbourhood categories. The characteristics relating to housing are telling. Households in such neighbourhoods are increasingly smaller (2.3 persons per household), on average, than the rest of the city, with most increasingly under ownership tenure (sixty-four percent). Housing costs are also the highest in the city: average dwelling values are far higher than the rest of the city and have more than tripled since 1971 (nearly $700,000 in 2006 dollars), while average rents have increased by 34.9% over the period to rank highest in the city ($1,120 in 2006 dollars). While housing costs may be high, higher average incomes have softened increases in housing affordability stress compared to elsewhere: twenty-one percent of owners and forty-one percent of renters spend more than thirty percent of household income on housing costs (Hulchanski, 2010).

Other work has examined these broad trends with a more specific focus on the way Toronto's housing markets have been reshaped by the aforementioned patterns of socioeconomic change. Gentrification is prevalent in many neighbourhoods in Toronto's urban core, and has had specific effects on the city's housing market. In a longitudinal examination of the effects of gentrification in Canada's largest cities between 1961 and 2001, Walks and Maarenen (2008) found that average

[4] Compare the three categorical boundaries used in Map 1 in Hulchanski (2010) with those of the mixed-use zones depicted in Figure 28

incomes and housing costs were generally higher (and rose faster) in Toronto's gentrified areas compared to the rest of the city, while rental tenure rates were lower. Importantly, the study identified various forms of gentrification as being present in areas of mixed-land use, particularly in the waterfront area and along the north-south subway corridor. These areas in the urban core fall predominantly within sections of the city covered under the mixed-use zoning designation, as is visible in Figure 28 (Appendix B). Given the aforementioned link between deindustrialization and the process of gentrification, particularly in mixed-use areas, one may expect to see similar effects with regard to the affordability of housing in mixed-use areas.

Overall, it would seem apparent that many of the patterns of socioeconomic change mentioned earlier in the chapter have contributed to the (re)shaping of the old City of Toronto into a more socioeconomically polarized, spatially segregated landscape. However, while the existing body of knowledge refers to the city as a whole, we lack an understanding of how these socioeconomic trends have played out in the context of mixed-use development. This study stands to make a valuable contribution to this discourse by exploring how such broad patterns of change may have shaped the socioeconomic landscape of Toronto's mixed-use areas.

2.5 Summary

This chapter has given an overview of the various bodies of knowledge relevant to the study at hand. Overall, it is clear that mixed-use development is a concept that needs greater empirical study, especially with regard to the affordability of housing. At the same time, broad macroeconomic shifts have occurred leading to structural changes in the labour market. Given the links between the housing and labour markets, considered within the context of structural economic change, the review of the extant knowledge points to a need to consider how the affordability of housing may be changing as the city becomes reshaped in form and function. The next chapter details the methods used to operationalize such research.

Chapter 3
Methods

This chapter serves to outline and describe the ways and means by which the research questions will be addressed. The chapter begins with a consideration as to the rationale for undertaking this research in the first place, moving onto description and discussion of data sources and variables of study, and ends with a discussion of the nature of the methods used to conduct the research effort.

3.1 Study Design Rationale

3.1.1 Case Study Method

In order to approach the research questions outlined in section 1.2, the exploratory case study method applying quantitative methods using existing data was deemed the most appropriate way to conduct a feasible yet meaningful research effort. The use of the case study method involves the examination of many features of a case in-depth over time, where a case can be a geographic unit such as a city (Neuman, 1997, p. 29). The researcher uses the specific case to illustrate an issue in detail analytically, such that conclusions may be drawn and tested in other cases. The case study method is well suited to this research program in that it allows us to delineate the nature of any causal relationship that may exist between broad societal shifts and results on the ground in a particular setting. This method also allows for an exploration of the boundaries and characteristics of the research topic in question, such that case studies can help in the generation of new thinking and theory on the topic at hand (Neuman, 1997, p. 30). In this study, the case is geographically-bounded (mixed-use zones in the old City of Toronto), the features under study are quantitative (statistical measures of socioeconomic quantities), and measurements are repeated over time (from 1991 to 2006).

Perhaps the greatest limitation of the case study method is the fact that the applicability of the results from a given case are inherently bounded to the context of the case itself; one cannot simply undertake a single case study and apply the conclusions to all other possible cases. However, conclusions can be strengthened when they are drawn from multiple case studies making use of the same method. To that end, the methods of quantitative data analysis employed by this study are explicitly designed to be applicable to other cases in the Canadian urban universe; that is, the methods described here could be replicated in other Canadian cities that feature mixed-use zoning. As such,

the limitations of the case study method can actually be viewed as an impetus for further research using other cases.

In the case of this research program, the dearth of empirical knowledge regarding the role that mixed-use zoning has to play in housing affordability outcomes means that this case study is primarily exploratory in nature. However, the quantitative method applied is also descriptive in nature as the primary data collection method relies on the use of existing data. The output of this case study research is not only an analytical product but also a modest contribution to a roadmap for future research efforts oriented at elucidating similar research questions in greater detail and with broader applicability.

Although the case study method is often categorized as an example of qualitative research methods in the social sciences, it is possible to engage in case study research largely driven by quantitative methods (Creswell, 2009; Neuman, 1997). This study is concerned with the use and description of existing statistics – quantitative measures - and is thus largely divorced from any value judgements or ideological stances that might be more apparent in a broader application of qualitative methods (Neuman, 1997, p. 14). However, some of the research questions are explicitly qualitative in nature, such that policy choices and their history are described so as to give context to the quantitative work.[5] Moreover, because the study is examining the human outcomes (housing affordability) of something that is largely considered orthodoxy in theory and in practice – mixed-use development – and is doing so in the midst of ideologically controversial debates, the research must be placed within the context of relevant political, economic and social theory. It is thus acknowledged that the results, as descriptive as they may be, are inherently open to interpretation as to their meaning depending on the theoretical lens through which they are viewed.

3.2 Data Sources

Analytical socioeconomic data was sourced primarily from the Census of Canada for the years 1991, 1996, 2001 and 2006. These years were selected so as to show change over time while also retaining a useful analytical window of comparability. While there were slight differences in the fine-grained Census geographic boundaries used over the study period (that is, 1991/1996 data used *enumeration areas*, while 2001/2006 data used *dissemination area* boundaries), the statistical representation of the study area remained consistent and comparable over time. Although inclusion of 2011 data may have been preferable, especially given the economic crisis of 2008/2009, these data

[5] The combination of the two approaches may amount to what Creswell refers to as "transformative mixed methods" (2009, p. 15)

were not publicly available at the time of data collection and processing. Moreover, the voluntary nature of the 2011 *National Household Survey* would have made comparability with pre-2011 data somewhat questionable. Using data at the Dissemination/Enumeration Area level was necessary as this is the smallest spatial unit for which the relevant variables are publicly released in usable form. Greater levels of spatial specificity would have been preferable (such as at the Dissemination Block level), particularly with regard to the ability to spatially differentiate mixed-use areas from others, however it was not possible to access such data through public means. Income and occupational data were also collected from the *Survey of Income and Labour Dynamics* for the years 1991, 1996, 2001, and 2006.

Zoning data, specifically data used for the mapping of mixed-use zones, were collected in the form of a digital map supplied by the City of Toronto to the Geospatial Centre at the University of Waterloo in PDF format. This file described the zoning designations according to by-law 438-86 as of May 2005, pertaining to the former border of the pre-amalgamation old City of Toronto (City of Toronto, 2005). Unfortunately, this file was poorly exported and did not even include a proper legend indicating the zoning designations. Some double-checking by hand was necessary to compare maps included in the zoning by-law with the provided PDF map in order to ensure accuracy (City of Toronto, 2007c).

3.3 Variables of Study

A primary component of this analysis centres on housing costs in relation to income. Housing costs can be subdivided into the two major forms of housing tenure: owner's major payments and gross rent. Since home ownership is often the ostensible 'goal' of many in the Canadian housing market, it is important to examine how affordability of housing may have shifted for either form of tenure over time (Tomalty et al., 2000).

3.3.1 Housing Costs

Average monthly owner's major payments (OMP) refers to the "monthly total of all shelter expenses paid by households that own their dwelling," and thus includes mortgage payments, utilities and municipal services, property taxes, and condominium fees. Average gross rent refers to the "average monthly total of all shelter expenses paid by tenant households," including rent, utilities and municipal services (Statistics Canada, 2010, pp. 157–159). These OMP and rent figures (reported as the average of monthly payments across a year) are multiplied by twelve to give an annual total for comparison to annual income data. Collected for all years at both the EA/DA and CMA levels, the housing costs variables give us the first input into the calculations for affordability of housing.

Housing affordability data were also collected at the EA/DA and CMA levels, showing the percentage of owner and rental households spending more than thirty percent of household income on housing costs. This derived statistic, computed as part of the Census, was only available for the years 1996-2006; while the variable was available for 1991, the way in which the values were computed in that year made it effectively incomparable to years following. In the 1991 Census and earlier, the values for "owner's major payments spending 30% or more" and "gross rent spending 30% or more" were calculated using owner and tenant "one-family households without additional persons" as the denominator, respectively. Beginning in 1996, these values were calculated as a percentage of all owned and rental dwellings (Association of Public Health Epidemiologists in Ontario, 2013).[6] As values for the two methods were divergent between 1991 and years following (on the order of a tripling or quadrupling of values from one census to the next), these data were only used for the years 1996-2006.

3.3.2 Income by Occupation

Average annual occupational income data were collected using the *Survey of Labour and Income Dynamics* at the Census Metropolitan Area (CMA) level for Toronto, as the necessary data was not publicly available using Census products. While it would have been preferable to source the same data at a smaller geographic scale (such as Census subdivision units), the fact that the municipal boundaries of old City of Toronto were subsumed into the larger post-amalgamation borders meant that such smaller units lost spatial consistency over time. Even though CMA-level data incorporates values for both the core (in this case, Toronto) and outlying municipalities, CMA-level data is useful as there is a high degree of economic integration between the various municipal units such that the CMA forms a reasonable representation of the local economy (Statistics Canada, 2010, p. 202).

A consistent occupational variable was necessary to demonstrate how affordability of housing may have shifted over time for various occupational types,. The standard statistical reference for occupational groupings is the *National Occupational Classification for Statistics* (NOC-S), employed by Statistics Canada to group occupations by the kind of work performed in a given job. This approach allows for occupations to be grouped on the basis of similarity in the tasks performed, while retaining homogeneity in terms of skill level; as such, while there is variation within a given occupational grouping, one can expect a reasonable amount of homogeneity in terms of "education, training, experience, or inherent talents required" (Statistics Canada, 2007, p. 2). This study makes use of the ten broadest groupings, known as the "Broad Occupational Categories". While NOC-S

[6] It is unclear why the methodology changed for the 1996 Census

occupational data can be drilled down beyond this single-digit level of specificity, specific job titles at the four-digit level, such data were not publicly available.

Income data from the SLID were available in constant 2011 dollars for annual average income by NOC-S 2006 occupational groupings (Statistics Canada, n.d.-e). The consistent occupational grouping system meant that no further work would have to be undertaken to ensure concordance between occupational groupings from census year to year, thus offering a high level of comparability. The 2011 constant dollar values were adjusted for inflation in a manner consistent with the way in which Census income values are published.[7] Average annual income values between 1991 and 2006 were obtained for each of the occupational groups listed in Table 2.

Table 2: NOC-S Broad Occupational Groupings

NOC-S 2006 Broad Occupational Groupings	Shortened Titles
Group A – Management occupations	Management occupations
Group B – Business, finance and administrative occupations	Business occupations
Group C – Natural and applied sciences and related occupations	Technical professions
Group D – Health occupations	Health occupations
Group E – Occupations in social science, education, government service and religion	Social, Edu., Gov't occupations
Group F – Occupations in art, culture, recreation and sport	Cultural occupations
Group G – Sales and service occupations	Sales and service occupations
Group H – Trades, transport and equipment operators and related occupations	Trades occupations
Group J – Occupations unique to processing, manufacturing and utilities	Manufacturing occupations

These groupings account for greater than ninety-nine percent of the Toronto CMA workforce for each year, thus providing a useful lens onto the nature of occupational change in Toronto's economy as a whole. An eleventh broad occupational group, *Group I – Occupations unique to primary industry*, was excluded in the study as the group often accounts for less than one percent of the CMA workforce, and its annual income values are thus often suppressed due to sampling error (Statistics Canada, n.d.-g, n.d.-h). With these data, we are able to compare the affordability of housing between given occupational groupings for a specific year, as well as over time in order to see structural changes in the occupational space may have interacted with shifts in the housing market.

[7] For a given Census year, annual income values actually refer to the previous year's dollars; e.g. 1996 income is calculated using 1995 dollar figures. Thus, the data pertaining to average income by occupation – which is denominated in 2011 dollars – was inflation-adjusted for each Census year used in the study. For example, values pertaining to 2006, originally denominated in 2011 dollars, would be inflation-adjusted to 2005 dollars. See Bank of Canada (2013)

3.3.3 Household & Individual Income

Average annual income data were also collected at both the CMA and DA/EA level for both households and individuals. Debates have occurred in the literature with regard to the question of when and whether to use household or individual income variables when exploring social change. Household income is an important variable in relation to affordability of housing as most major economic decisions – such as the consumption of housing - are often thought of as being made as a household unit. Bourne (1993) notes that since income is a reflection of the production system, the use of such variables ties the empirical analysis of housing affordability to restructuring in the labour market. Housing costs – which amount to basic units of expenditure - tie the analysis to a consumption-oriented approach and thus imply the use of the household income value. However, since this study is concerned with both sides of the analytical lens – consumption and production patterns – it makes sense to employ the use of both household and individual income variables.

For the purposes of this study, average annual household income refers to the sum of the total incomes of all members of a *private household*, which is defined simply as "a person of group of persons (other than foreign residents) who occupy a private dwelling and do not have a usual place of residence elsewhere in Canada" (Statistics Canada, 2010, pp. 153–155). Thus, a household may constitute a single individual, a family, or a group of otherwise unrelated individuals. Average annual individual income refers to the income of all persons over the age of fifteen, regardless of their employment or household status. While it is true that housing decisions are made on the basis of household consumption, it is also true that a household may be comprised of a single individual (Bunting et al., 2004). Much of the new residential development in the mature urban core of the old City of Toronto has been oriented towards condominium tenure, and is often explicitly marketed towards single (unmarried) young professionals (Kern, 2008). Given this increasing focus on single homebuyers, it is increasingly important to track the affordability of housing in relation to individual income as well as household income.

Collection of average household/individual income data at the EA/DA level allows for a fine-grained demonstration of the relative affordability of housing in general between some spatial areas, supplementing the specific interest in affordability by occupational group. However, average annual individual income data at the EA level were not available for the 1991 Census year, slightly limiting this comparability. The same impetus exists for collecting values at the CMA level, which affords a birds-eye view of how the affordability of housing has changed over time across the region.

3.3.4 'Knowledge Workers' and 'Creative Class' Occupational Groupings

In addition to the occupational groupings identified in section 3.3.2, two additional occupational typologies, discussed below, are employed in order to examine structural changes in the makeup of the labour force over time in spatial terms (the *creative class* and the custom *knowledge economy*). Both typologies make use of Census data consisting of two-digit NOC-S 2001 occupational categories tabulated using the CHASS Canadian Census Analyzer. Data were only available in a consistent classification scheme and for all spatial scales for the years 1996, 2001 and 2006. Making use of both typologies, one established and the other novel, allows us to frame our understanding of the labour market structure of different spatial frames within the context of broader academic debates.

3.3.4.1 'Creative Class' Occupational Grouping

Florida (2002) popularized a method of occupational categorization widely known by his 'creative class' branding, wherein occupations were grouped on the basis of the role in contributing to what he referred to as the 'creative economy'. While Florida's method is just as frequently criticized as it is lauded (see Peck, 2005), the creative class method is nonetheless an interesting and well-known method to examine the structure of a city's labour force. Due to its relatively widespread adoption in economic development discourses, it is employed in this study as a baseline, or established point of reference, against which comparisons from other work can be made. Although Florida originally designed the method in the context of the American labour market, this study makes use of Spencer and Vinodrai's (2009) work to translate the categories into the Canadian statistical context. They use NOC-S two-digit categories to assign occupational groups into four broad classifications: *creative*; *service*; *trades and manual labour*; and *agricultural and related occupations*.[8] For the purposes of this study, only the first three categories are used in data tabulations as the fourth category (Agricultural) accounts for less than one percent of employment in the highly urbanized environment of the old City of Toronto.

3.3.4.2 'Knowledge Economy' Occupational Grouping

While the 'creative class' method is indeed popular and widely known, as with any attempt to describe and categorize large, heterogeneous populations, it has its limitations. This leaves room for alternative methods of occupational categorization, the use of which can serve to further elucidate our understanding of structural changes in the labour market. This study applies a novel method designed

[8] See Tables 6 and 7 in Appendix A for exact NOC-S two-digit occupational classifications applicable to the creative class and knowledge economy typologies

to blend the best elements of the 'creative class' method with work done specific to the Canadian labour context in order to provide a longitudinally sound, contextually appropriate classification system for the case study at hand.

As mentioned earlier in section Chapter 2, given that employment growth in Canada has been highest in these knowledge-intensive occupations, it follows that a study such as this should place a premium on analytical precision with regard to occupational categories. Beckstead and Vinodrai (2003) offer a method of categorizing high-skill, high-education, and high-income jobs that is both precise and very well suited to the nature of this case study. Their work is used to delimit the first occupational grouping for several reasons. Firstly, the authors explicitly designed their classification of knowledge workers to reflect and suit the Canadian labour market landscape. Moreover, their method was also explicitly designed to be longitudinally comparable across several decades; their study itself examined shifts between 1971 and 1996. Given that this study is operating on a similar time scale, it makes sense to make use of a method with the most comparability over time. Thirdly, the approach to classification employed by Beckstead and Vinodrai is well suited to a study such as this where the focus is not only on occupational restructuring, but also how such shifts play out in terms of income. The authors designed their sorting method to go beyond the usual classifications based on occupational skill and education levels, with more explicit focus on using income as a way to create a concordance between differing datasets over time. While similar to the 'creative occupations' category used in the creative class method, Beckstead and Vinodrai's focus on income allows the knowledge worker method to more readily account for the heterogeneity that can be apparent within broad occupational groupings. The resulting knowledge worker occupational taxonomy is more representative of those who actually work in high-skill, knowledge-intensive jobs than would be apparent in other methods.

However, the method adapted from Beckstead and Vinodrai (2003) only really delineates those occupations that are knowledge-intensive and those that are not; thus, for comparability with the creative class method, we are left with needing a way to define remaining categories of service and labour-oriented occupations. The novel aspect of the alternative knowledge economy method employed in this study stems from the combination of Beckstead and Vinodrai's aforementioned 'knowledge worker' method alongside slightly modified versions of the 'service' and 'trade/manual labour' occupational groupings from the creative class method as defined by Spencer and Vinodrai (2009). Blending together the strongest elements of Beckstead and Vinodrai's (2003) knowledge worker method and Florida's creative class method, the resulting *knowledge economy* method (as it will be known in this study) focuses on the degree to which an occupation contributes to the so-called

'knowledge economy'. Using categorical titles established in similar work exploring the long-term industrial restructuring in Toronto by Vinodrai and Seasons (2012), the blended knowledge economy method classifies occupations into three categories: *knowledge-oriented*; *service-oriented*; and *production-oriented occupations*. The knowledge economy typology is employed in order to maximize attention paid to occupational restructuring in the Canadian labour market specific to the knowledge economy, while maintaining comparability with the more established creative class typology.

Commonality between the creative class and knowledge economy taxonomies has been intentionally maximized, with only slight differences in occupational groupings between the creative and knowledge-oriented occupations, as well as the service and service-oriented occupations. The concordance between the two methods and the common facets shared by each set of categories is described in Table 3.

Table 3: Concordance between Creative Class and Knowledge Economy category titles

Creative Class method	Knowledge Economy method	Common facets
Creative occupations	*Knowledge-oriented occupations*	High-skill, highly-educated, and high-paying; largely professional, managerial, or technical in nature
Service occupations	*Service-oriented occupations*	Occupations relating to the service sector, requiring less skill and education, with lesser pay
Trade and manual labour occupations	*Production-oriented occupations*	Occupations relating to primary industry, may or may not be skilled, but with least need for education, and generally lowest pay

While efforts were made to maximize comparability between the two methods, slight differences exist between the two sets of categories. Three classes of occupations included as part of the 'creative' category are not carried over to the 'knowledge-oriented' category; instead they are transferred into the 'service-oriented' grouping.[9] The classification of these three occupational groups into the 'service-oriented' reflects the primary focus of the 'knowledge-oriented' classification as being towards largely professional, managerial and technical jobs. For example, using the creative class method, McDonald's managers would fall under the 'creative' occupational grouping – hardly an example of what one might think of when considering the creative, knowledge-intensive work that is supposed to typify the 'new economy'. While a manager at McDonald's may indeed be a manager, such a position does not require the same level of education generally called for in other occupational

[9] The three groups moved from 'creative occupations' into 'service-oriented occupations' are: A2 – Mangers in Retail Trade, Food and Accommodation; B1 – Finance and Administration Occupations; F1 – Technical Occupations in Art, Culture, Recreation and Sport

groups consisting of managers, nor is the work typically knowledge-intensive, and nor would the incomes be similar. Given the focus of this method on both income as well as skill and education levels, such occupations are better suited to being designated as 'service-oriented'. These slight inconsistencies are accounted for in the knowledge economy method. Aside from this slight modification, the categorical pairings are effectively the same between the two methods.

Thus, the knowledge economy taxonomy builds on a strong empirical foundation from existing taxonomies, while making minor modifications to best suit the case study at hand. Specific attention has been paid to ensuring the method is relevant to the Canadian labour market context, as well as being analytically useful given the research focus of this study.

3.4 Spatial Analysis Methods

As noted earlier in section 2.2.5, Bunting et al. (2004) point out that a methodological gap exists in the body of knowledge such that they argue there is a need to consider and examine the issue of housing affordability with regards to its spatial nature. The central research focus of this study revolves around questions of an inherently spatial nature, bounded spatially not just by the boundaries of the city, but by the location of development within the city. In applying methods of spatial analysis, this study employs the use of geographic information system (GIS) software to explore the changing socioeconomic characteristics of housing and the labour market in a particular spatial frame of reference over time – namely, lands zoned as mixed-use in the old City of Toronto. The use of GIS software is well suited to the tasks of delineating and describing aggregate data, and representing that data in visual form for comparison across space and time (Steinberg & Steinberg, 2006).

In light of the fact that no data exist specific to the spatial frame in question – lands that are zoned as mixed-use in Toronto – GIS software was used to spatially disaggregate and weight demographic and socioeconomic data based on those zoning boundaries. By using data specific to the dissemination/enumeration area statistical geographic frame, weighted average values could be computed for mixed-use areas, non-mixed use areas, and the old City of Toronto as a whole. Thus, the application of spatial analysis allows for comparisons across time (the study period being 1991-2006) and space, such that the nature of labour market restructuring and housing affordability can be examined not only within the context of mixed-use zoned areas, but in comparison to the rest of the city and CMA as a whole.

3.4.1 Data Collection & Analysis Procedure

Following the aforementioned importance of, and need for, employing spatial analysis methods when examining the issue of housing affordability, Bunting et al. (2004) also note that

methodological replicability and comparability across cases is often lacking in studies that do employ such methods. With this point in mind, the procedural methods of spatial analysis used in this study are not inherently tied to the case study at hand; that is, the same basic methods can be applied to any other Canadian city in which mixed-use development is explicitly codified through zoning, and for which maps of those zoning boundaries are available. Spatial analysis tasks were performed using the free and open-source QGIS software package, while basic statistical analysis was performed using Microsoft Excel. So that the method used in this study can be improved upon and replicated in other work, a detailed step-by-step explanation of the procedures, tools and methods involved is described as follows:[10]

Step 1. Socioeconomic data from the 1991, 1996, 2001 and 2006 *Survey of Labour and Income Dynamics* at the CMA spatial level were collected using CANSIM tables: average annual income by NOC-S 2006 occupational grouping; constant 2011 dollar values were adjusted for inflation in order to match up to Census years

Step 2. Socioeconomic data from the 1991, 1996, 2001 and 2006 *Census of Canada* at the EA/DA and CMA spatial levels were collected using the Canadian Census Analyzer through the CHASS platform, downloaded in CSV format and prepared for processing using Excel

Step 3. The former City of Toronto zoning map (City of Toronto, 2005) was obtained, re-coloured by hand in Adobe Photoshop (Figure 29), georeferenced in ArcMap 10.1 against the UTM NAD83 17N spatial projection standard, then converted to vector shapefile through manual (i.e. hand-drawn) polygonization; the resulting map of mixed-use zones in the old City of Toronto is depicted in Figure 28

Step 4. Geospatial shapefile data representing the Census EA/DA boundaries were filtered in QGIS on the basis of those that fell within the old City of Toronto municipal boundary

Step 5. Using the boundary shapefiles from Step 4, the tabular Census data from Step 2 were filtered for each year using the *Join Table* function in QGIS in order to select only those values for which a corresponding EA/DA existed within the old City of Toronto boundary from Step 3; these filtered data were then exported back to CSV files

[10] For those who prefer a more visual representation, the procedural method is depicted in flowchart form by Figure 49 in Appendix C:

Step 6. Data from Step 1 and Step 5 were combined in Excel to calculate housing affordability values for each NOC-S broad occupational group and average household/individual income at both the EA/DA and CMA level; these calculations were made on the basis of computing the *Shelter Costs to Income Ratio* (STIR), where for each occupational group, $STIR = \frac{(Monthly\ housing\ costs \times 12)}{Annual\ income\ value}$; this gave master tabular data files for each year from which tabulations and maps could be made

Step 7. In order to separate spatial data applicable to mixed-use areas and non mixed-use areas, the boundary files from Step 3 and Step 4 were run through the *Intersect* function in QGIS to produce a new shapefile describing the areas where all given EAs/DAs fell within mixed-use zoning; a similar procedure was applied to the same files but using the Difference function in QGIS in order to produce a second shapefile describing the EA/DA areas that do not fall under mixed-use zoning; for both of these shapefiles, fields were added using the *Field Calculator* to compute the spatial area of every mixed-use intersect and difference polygon, respectively

Step 8. The master tabular data files from Step 6 were filtered using the QGIS *Join* function for both of the mixed-use and non mixed-use shapefiles created in Step 7; these data were exported to CSV files for both spatial sets, resulting in tabular data for each year specific to mixed-use zoned areas, non mixed-use zones areas, as well as city-wide data for all EAs/DAs

Step 9. With the tabular data joined to the mixed-use zones shapefile, maps were created for all variables across all years

Step 10. In order to arrive at final tabular data, weighted averages were computed for each variable in relation to its spatial frame, using the following equations for the mixed-use/non-mixed use and city-wide frames respectively:

Equation 1: Weighted average formula for mixed-use and non-mixed use areas in the old City of Toronto

$$\bar{x} = \frac{\sum_{i=1}^{n}\left[x_i * \left(u_i * \frac{m_i}{d_i}\right)\right]}{\sum_{i=1}^{n}\left(u_i * \frac{m_i}{d_i}\right)}$$

Equation 2: Weighted average formula for the entire old City of Toronto

$$\bar{x} = \frac{\sum_{i=1}^{n}(x_i * u_i)}{\sum_{i=1}^{n} u_i}$$

where $\bar{x}$ is the weighted average of variable x for a given spatial frame; x is the variable in question (e.g. average rent); u is the unit used to weight each value of x (e.g. # of rented dwellings); m is the area of a mixed-use intersect (or non-mixed use) in square metres; d is the area of each DA/EA in square metres; i is the index number for each DA/EA in the set; and n = number of all DAs/EAs in the set.

The above procedural method results in both tabular data that can be used to described, and cartographic visualizations of, the spatial distribution of mixed-use zoning in the old City of Toronto and the changing nature of housing affordability in relation to labour market restructuring within those mixed-use zones.

3.4.2 QGIS Software

Originally, all spatial analysis work was planned to be undertaken using the ESRI ArcMap 10.1 software suite, and indeed almost all steps in the process described in section 3.4.1 were followed using that software, save for map creation. Late in the process a decision was made to migrate the entire workflow from what is ostensibly the industry standard program, ArcMap, to an open-source alternative, QGIS 1.8 (and later 2.0.1). Through a series of test exports it was discovered that QGIS produced higher quality map exports than ArcMap – specifically, ArcMap exports consistently suffered from poor visual fidelity (e.g. aliasing),[11] regardless of whether maps were exported in vector or raster formats. This problem was markedly less noticeable, if not non-existent, in duplicate exports from QGIS using the same shapefiles.

Second, the majority of the data collection and analysis was performed on the Mac OS X platform – for which ArcMap has no native client, thus necessitating the use of virtual machine software (Parallels 8) to run the Windows ArcMap 10.1 client. While this is certainly a useable scenario, it is by no means a preference; virtualizing the GIS client entailed some reduction in performance and increase in hardware resource utilization, while also introducing greater risk of software instability. On the contrary, QGIS 1.8 and 2.0 are cross-platform packages, compiled as native clients for the Mac OS X environment – meaning greater performance, more reliability, and

[11] The occurrence of visual artifacts wherein the visual definition of curved or diagonal lines is markedly reduced, leaving the appearance of jagged lines. See "aliasing" in Wade and Sommer (2006).

increased visual fidelity (thanks to the QGIS rendering engine's usage of OS X internal rendering capabilities).

Third, ArcMap does not reliably interpret tabular data stored in the standard Comma-separated values (CSV) file format; instead, the legacy-oriented nature of the Arc platform means that the storage and manipulation of data largely revolves around the use of the extremely antiquated dBASE file format (DBF). This creates an obstacle to workflow efficiency: DBF files cannot be read in or saved from current versions of Microsoft Excel, thus necessitating an extra step in the workflow wherein data must be converted to and from Excel-readable formats. As much of the analysis involved working with tabular data in repetitive procedures both in and out of Excel, the ability of QGIS to natively and reliably read and write CSV files made it much more efficient and easy to work with the same data without worry.

3.5 Summary

This chapter has described the specific research to be explored and methods used to operationalize the research. This study makes use of the case study methodology, employing both quantitative and qualitative data, in order to explore the research questions. The study is longitudinal in nature, such that data are collected for the period 1991 to 2006. Descriptive statistics relating to housing costs, income, and labour market structure form the core of the analytical effort. Spatial analysis, through the application of GIS software, is also employed in order to place the findings within the spatial context. On the whole, the methods employed in this study are explicitly designed to be replicable such that any Canadian city could be studied and compared using the same methods. The next chapter outlines pertinent details relating to the case study subject, the old City of Toronto.

Chapter 4
Case Study: Toronto, 1991-2006

This chapter serves as a detailed description of the case study area, the old City of Toronto, and sets the geographic and socioeconomic context in which the study occurs. The chapter begins by discussing the rationale for choosing the case, describe key socioeconomic indicators relevant to the study, and end with an overview of the policy and spatial environment in which mixed-use zoning exists in Toronto.

4.1 Case Study Selection

Toronto was selected as the case study example for several reasons. As it is Canada's largest city in both population and economic output, Toronto constitutes a strong example of a relatively large urban economy undergoing simultaneous shifts in both the labour and housing markets. Moreover, the City of Toronto has had a relatively long history of explicit efforts to incorporate mixed-use principles into its zoning framework, and thus represents a clear example of mixed-use development in Canada. From both these points, Toronto can be used as a case study to contribute to the broader body of knowledge regarding the affordability of housing in mixed-use areas.

The timeframe used for the case study – 1991 to 2006 – offers a long enough period to be able to observe broader shifts in both the housing and labour markets (e.g. emphasis on high density residential development, growth of financial services). The selection of this timeframe was also pragmatic: Census and other data for these years were readily available through academic channels and directly comparable across all years – important factors in the feasibility of the research program.

The old City of Toronto was perhaps the obvious choice given the resources available and geographic proximity to the researcher. Toronto is one of few cities that explicitly groups zoning designations together on the basis of mixed-use development[12]. Moreover, the only zoning maps readily available in digital form pertained specifically to the boundary of the old City of Toronto. In practical terms, the geographic proximity between the researcher and site of study meant that there was a pre-existing base of knowledge that could be drawn from in order to build up the research effort without time spent on learning the jurisdictional particularities of another city or province.

[12] That is, Toronto's mixed-use zones are grouped categorically under "Mixed-use Districts", versus the more common approach where a variety of zoning codes might allow mixed-use by design but be grouped in more traditional, separate categories (e.g. Residential)

4.1.1 Old City of Toronto

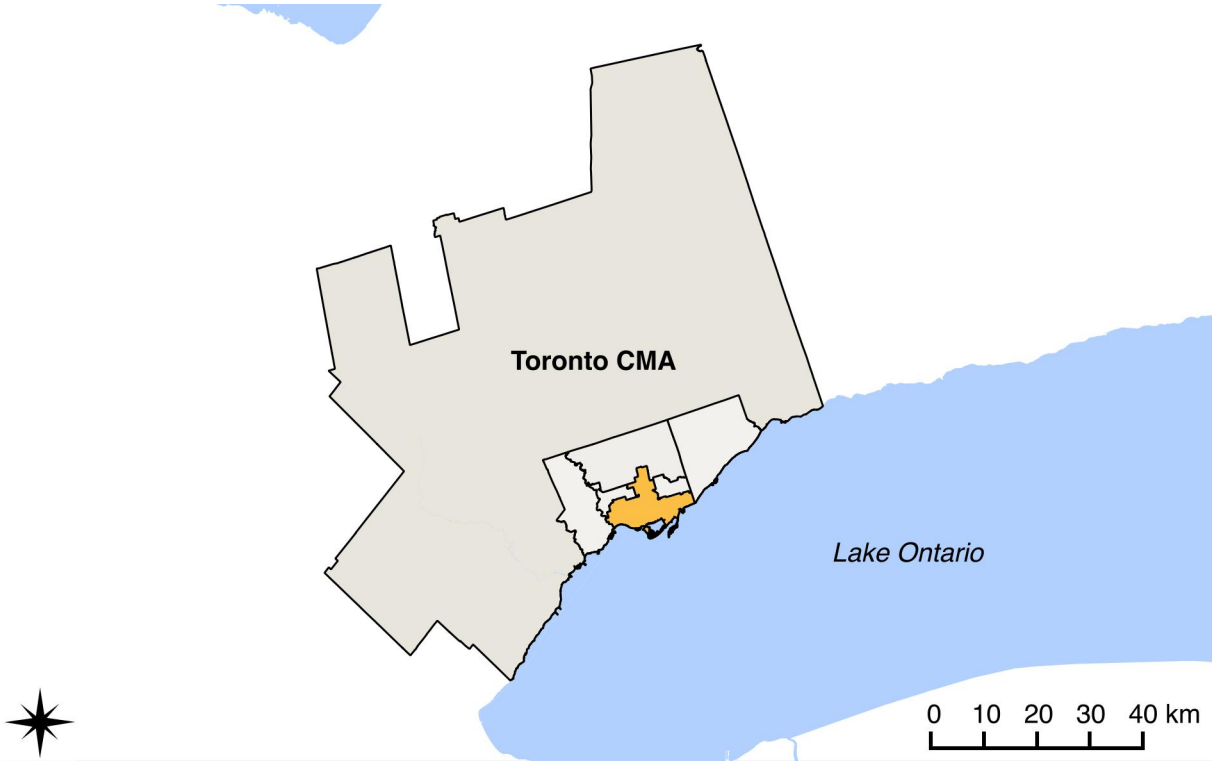
This study is concerned with the geographic boundary pertaining to what is known as the "old City of Toronto". This refers to the municipal boundaries occupied by the City of Toronto up to the end of 1997, as depicted in Figure 1. After January 1st, 1998, this boundary was subsumed into the new, much larger City of Toronto through a process of amalgamation wherein the regional government of Metropolitan Toronto and the six local municipal governments of Toronto, North York, Scarborough, Etobicoke, East York and York were combined into what came to be known as the 'mega city' (Province of Ontario, 1997). For the purposes of clarity, it can be assumed that any reference to 'Toronto' refers to the pre-amalgamation boundary unless otherwise noted.

Figure 1: Former City of Toronto within the amalgamated municipal boundaries

The choice to examine the former municipal boundaries of the old City of Toronto was made primarily because the area has the longest history and highest degree of compact urban development, and thus constitutes the best example of mixed-use zoning and development from among the other constituent areas that make up the current City of Toronto. In methodological terms, using a consistent frame of spatial reference was key in order to produce comparable data across time. Given that the municipal boundaries changed midway through the period of analysis, it made sense to maintain the spatial frame of reference bounded by the old City of Toronto.

The city is the economic and geographic core of the larger CMA, the boundaries of which extend as far north as Lake Simcoe, east to Ajax, south to Oakville, and west to Orangeville, as depicted in Figure 2. As noted earlier in section 3.3.2, the CMA is useful as a statistical unit of comparison given the high degree of economic integration between the central core (Toronto) and the outlying municipalities (Statistics Canada, 2010). Although the analytical focus of the study centres on the nature housing affordability in mixed-use zoned areas within the city proper, the CMA is used as a frame of comparison in order to place the findings of the study within the context of macroeconomic change occurring in the regional labour market.

Figure 2: Boundaries of the old and amalgamated City of Toronto within the larger Toronto CMA



4.2 Economic Profile

The old City of Toronto is a large urban centre, making it a good example from which lessons can be drawn and possibly applied to other Canadian cities of similar size. The old City is relatively mature with regard to population growth, having increased from approximately 634,595 residents in 1991 to approximately 672,840 by 2006, a relatively paltry six percent rate of growth during the study period. The employed labour force has grown modestly in the same period, from 371,285 workers employed and living in the city to 390,850 by 2006, a growth of five percent throughout the period. Housing costs have followed a mirror pattern: average rent decreased by six percent from $1,025 in

1991 to $963 by 2006, while average owner's major payments increased by seven percent from $1,387 to $1,485 between 1991 and 2006. Home ownership has remained significantly more expensive than renting throughout the period, however this cost differential has grown from a thirty-five percent premium in 1991 to an increase of fifty-four percent over average rents by 2006. Income growth has far outpaced any inflation in rents: average household income grew by twenty-two percent from $69,792 in 1991 to $85,283, well ahead of general inflation. Average individual income also grew by thirty-three percent from $39,980 in 1996 to $52,287 by 2006.[13] These values are outlined in Table 4.

Table 4: Economic indicators for the old City of Toronto, 1991-2006

	1991	1996	2001	2006	Percent Change	Annual Growth
Population	634,595	652,390	675,910	672,840	6.0%	0.4%
Labour Force	371,285	352,280	387,555	390,850	5.3%	0.3%
Avg. Rent	$1,025	$909	$964	$963	-6.0%	-0.4%
Avg. Owner's Major Payments	$1,387	$1,332	$1,361	$1,485	7.1%	0.5%
Avg. Household Income	$69,792	$70,105	$86,718	$85,283	22.2%	1.3%
Avg. Individual Income	-	$39,380	$48,452	$52,287	32.8%	2.9%

Note: Red text indicates negative values. All dollar values are denominated in 2005 dollars.
Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d)

4.3 Land Use Policy Environment in Toronto

Land use planning, and zoning policy in particular, must be set within the historical context of pre- and post-amalgamation Toronto. Prior to 1954, the City of Toronto existed as a single-tier municipality responsible for all land use planning within its borders. During the period of strong post-war suburban growth, provincial policymakers decided that certain planning responsibilities and services should be coordinated among the municipalities in the quickly-growing region. Thus, in 1953 the *Metropolitan Toronto Act* federated the municipalities into a two-tier governance structure, enabling the creation of Metro Toronto in 1954 as the senior government responsible for regional affairs, with the City of Toronto remaining as the core municipality (Province of Ontario, 1953). Throughout this period, Metro Toronto was responsible for high-level land use planning, while the City of Toronto was responsible for municipal land use planning within its own borders. Under the two-tier system, official plans and zoning by-laws of the City of Toronto had to conform to policies set by the upper-tier Metro Toronto.

[13] Data not available for 1991; see section 3.3.3 for more detail

Under the auspices of a controversial search for further efficiencies and greater coordination, the two-tier governance structure was replaced in 1998, wherein Metro Toronto was dissolved and the City of Toronto and surrounding boroughs were amalgamated into a single-tier (new) City of Toronto responsible for all land-use planning (Province of Ontario, 1997). Given the longitudinal nature of the study, data for 1991 and 1996 must be considered in light of the pre-amalgamation land use policy environment, whereby policies pursued by both Metro Toronto and the former City of Toronto would have shaped the nature of mixed-use zoning policy. Accordingly, data from 2001 and 2006 must be considered in the context of the post-amalgamated (new) City of Toronto, whereby land use policy was centralized.

While comprehensive zoning by-laws became standard in Toronto by 1946, the sometimes confusing and complicated nature of the city's zoning frameworks is often ascribed to the various amalgamations, annexations, and other structural changes that would shape (and reshape) the city over the decades that followed (Bednar et al., 2010). The Planning Division of the new City began work in 2002 to integrate the varied, and at times disparate, zoning by-laws dating from pre-amalgamation. These efforts culminated in the enactment of a new, harmonized zoning by-law in 2013 which continues to reflect an explicit focus on mixed-use development (City of Toronto, 2013c).

4.4 Mixed-use Zoning in Toronto

Toronto has had a relatively long history of experience with mixed-use development. In general, Canadian planners were early in pushing for mixed-use (Grant, 2002). Beginning in the 1960s, city planners encouraged high-density mixed-use development in proximity to subway stations in the context of what was then a rapidly growing transit network (Filion, 2007). By the 1970s, urban polemicist Jane Jacobs had moved to Toronto at a time when the municipal council was actively supportive of her ideas in favour of mixing land uses (Sewell, 1993). The redevelopment of the St. Lawrence neighbourhood in the mid-1970s is often cited as an example of Jacobs' views on mixed-use development being translated into reality. Throughout the 1970s and 1980s, Toronto city planners sought to accommodate growth in the urban core, putting forth official plans and policy documents that called for mixed-use infill development along transit lines as part of a broader strategy of intensification and reurbanization (Grant, 2002). The City's *Central Area Plan* of 1976 sought to encourage residential and retail development amidst the burgeoning monofunctional office developments in the downtown core, while Metro Toronto's *Metroplan* (official plan) of 1980 further reinforced the focus placed on aligning mixed-use development near transit nodes and corridors,

particularly in the central downtown core and the Yonge/St. Clair and Yonge/Eglinton areas (Filion, 2007; Sewell, 1993).

By the time the City's first major overhaul of the zoning by-law in many decades had occurred in 1986, mixed-use zoning was explicitly codified in Toronto's zoning policies. Similar to the versions leading up to the 2013 overhaul, the 1986 by-law defined mixed-use districts using the *Commercial Residential (CR)* and *QR* zoning designations. Both designations explicitly allowed for a wide variety of mixed commercial, residential, and some institutional land uses (City of Toronto, 1986, sec. 8). Designations within the commercial land use districts also allowed for mixing of uses: the *C1A* and *C1S* zoning designations only allowed apartment houses, while the *C1* designation allowed for almost the entire breadth of residential land uses alongside commercial uses (City of Toronto, 1986, sec. 7). To a lesser extent, certain industrial zoning designations also allowed for single dwelling units to exist as accessory uses on sites that would otherwise be classified as industrial in their primary use (City of Toronto, 1986, sec. 9). This zoning by-law, along with myriad amendments and revisions, defined mixed-use zoning in Toronto until its replacement in 2013 by the harmonized post-amalgamation by-law.

By the 1990s it was clear that as the process of deindustrialization had led to the gradual withdrawal of heavy industry from the core of the city, there was less of need to strictly enforce the separation of land uses within the urban core. The application of the *Regeneration Area (R)* zoning designation to the King/Spadina and King/Parliament neighbourhoods in 1996 permitted the wide array of complementary land uses that have made both neighbourhoods so lively, alongside the more mature examples of the Kensington and Yorkville areas (Bednar et al., 2010). Overall, this history of planning efforts explicitly oriented towards pursuing mixed-use development has resulted in Toronto being noted by the Urban Land Institute (2003) as a prime example of a "newer" city that exhibits a high degree of integration among different land uses. Given the lengthy history of Canadian leadership, and strong policy focus on placed mixed-use development in Toronto, the city constitutes an exemplar for case study research examining mixed-use development.

4.4.1 Spatial Landscape of Mixed-Use Zoning in Toronto

Using the process described in section 3.4.1 and depicted in Figure 28, the geographic breakdown of mixed-use zoning in relation to the land area of the old City of Toronto as of May 2005 is shown in Table 5.

Table 5: Spatial breakdown of Mixed-use zones in the old City of Toronto[14]

Zoning Designation	Area (km^2)	Proportion of Mixed-use area	Proportion of city area
Commercial Residential (CR)	6.1	44%	6%
Mainstreet Commercial Residential (MCR)	5.0	36%	5%
Institutional (Q)	1.2	9%	1%
Reinvestment Area (RA)	1.6	11%	1%
Total	*13.8*	-	*13%*

Source: Computed using zoning map provided in City of Toronto (2005)

By far the largest mixed-use components, *Commercial Residential* (CR) and *Mainstreet Commercial Residential* (MCR) zones account for eighty percent of the mixed-use areas and eleven percent of the City's land area. Just as their titles suggest, these zones are designed to permit and encourage a wide variety of uses, such that very few exceptions are placed on the kinds of development that can occur in these zones. The CR and MCR zones are almost identical in their permitted uses, with few specific differences. All types of housing units are permitted, and a wide array of non-residential (commercial) uses is permitted in both zones (City of Toronto, 2007c, sec. 8). Areas zoned as CR and MCR tend to fall in and around arterial avenues and streets, reflecting the urban nature of the land uses that would have existed in such areas for some time: businesses and shops fronting onto busy city streets, mixed in with apartment-style residential dwellings.

In contrast to the other mixed-use district zoning designations, the *Institutional* (Q) zoning designation accounts for the least amount of land area among the mixed-use zoning types, and is much more restrictive in the types of land uses permitted compared to both CR and MCR designations. The only housing forms allowed in Q zones are those wherein housing is based on shared accommodation, such as university residences or care homes – no private dwellings are permitted. While comparatively fewer non-residential uses are permitted, the Q zoning designation still permits a variety of such uses, with particular focus on the kinds of land uses relevant to public institutions and the operations that support them (City of Toronto, 2007c, sec. 8). The stricter variety of uses permitted under the Q zoning designation reflects the institutional nature of the areas that are zoned as such: the University of Toronto St. George campus, Queen's Park, etc. While it is included in the zoning by-law as a mixed-use district, it is clearly unique because its primary design function is concerned with public institutions and their attendant land use needs.

[14] Values computed assuming a total land area of 106.2 km^2 for the old City of Toronto, and are approximate given the nature of the data source and processing described in section 3.2

The *Reinvestment Area* (R) zoning designation makes up the remaining lands designated as mixed-use in the zoning by-law, and accounts for eleven percent of the mixed-use designated lands. The R designation retains many of the same uses permitted in the CR designation, while adding specific clauses relating to the heritage nature of the properties that may have existed within the designated lands. Land uses permitted in the *Industrial* (I2) and *Industrial Commercial* (IC) zoning designations are also inherited with regard to non-residential uses, such that low-intensity industrial and transit land uses are permitted within the R zoning designation (City of Toronto, 2007c, sec. 7, 9). As such, the permitted land uses in the R designation are varied and oriented towards a mix of complementary commercial, light industrial, and residential activities. Areas zoned under the R designation tend to be large, contiguous plots of land, particularly by the waterfront, with an eye to residential and commercial redevelopment.

4.5 Summary

This chapter has outlined the historical, socioeconomic, and policy details relevant to the case study subject, the old City of Toronto. Toronto constitutes an excellent case study subject with regard to the topic at hand as it is large, mature urban economy with a long history of mixed-use development. The next chapter represents the core of the study, and outlines the detailed findings of the research effort.

Chapter 5
Findings

This chapter examines the descriptive and analytical outputs of the research effort, broken down into several sections. First, general details of the socioeconomic nature of mixed-use zoning in Toronto are described, followed by more specific attributes of housing affordability, and ending with a detailed examination of how these factors relate to structural shifts in the labour market among specific occupational groups.

5.1 Socioeconomic Landscape of Mixed-use areas in Toronto

To begin our examination of the nature of the affordability of housing in mixed-use zones in the old City of Toronto, the chapter first frames the analysis with a set of socioeconomic indicators in order to provide context. The residential market in mixed-use zones is described using four general lenses: income, education, housing type and tenure. Exact values for data mentioned throughout this section are listed in Table 8 (Appendix A).

5.1.1 Income

Average household and individual income measures give an indication of the relative economic prosperity of residents living in mixed-use areas, the rest of the city, and the CMA as a whole over time. As mentioned in section 3.3.3, both values are useful indicators with regard to the nature of the housing market: household income relates to the consumption aspect of the housing market, while individual income is an indicator of the production side of the housing-labour interconnection.

5.1.1.1 Average household income

As depicted in Figure 3, average household income has risen steadily among households in mixed-use zones, growing from $55,521 in 1991 to $81,473 by 2006 in constant dollars. This steady annual growth has outpaced that of non-mixed use zones and the city as a whole by double (2.6% vs. 1.1% and 1.3%, respectively), and is more than five times that of the CMA as a whole (0.5%). Notwithstanding this higher rate of growth, average household income among households in mixed-use zones has consistently remained lower than that of the other spatial frames, which have largely reached parity over the study time frame. This disparity was greatest at the beginning of the study period but has steadily shrunk over time, such that values in mixed-use zones began to edge closer to parity by 2006. Given that housing decisions are thought of as being made by the household as a

consumption unit, the difference in average household income values seems to suggest households in mixed-use zones may have less choice in the housing market. However, it is important to keep in mind that the difference between mixed-use zones and the other spatial frames has gone from being in the tens of thousands down to a discount of approximately five thousand dollars. The slightly lesser values for average household income could be explained by households being smaller, on average, in mixed-use zones where dwellings are smaller. Moreover, the fact that average household income grew strongly to almost reach parity with the rest of the city, while individual incomes more or less maintained parity, points to the likelihood that dual-income household structures became more prevalent in mixed-use areas over the study period.

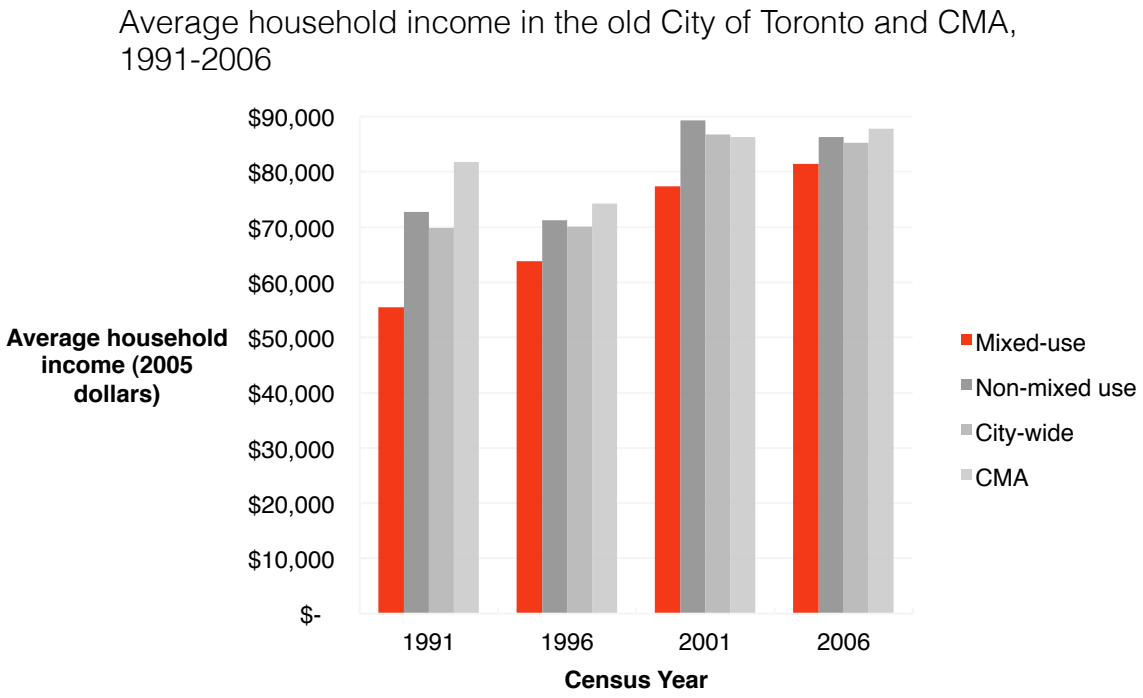


Figure 3: Average household income in the old City of Toronto and CMA, 1991-2006

5.1.1.2 Average individual income

To offer a more complete picture of the socioeconomic landscape, average individual income is also examined for the period 1996 to 2006.[15] As shown in Figure 4, average individual income values are noticeably higher in mixed-use zones than the CMA. Over the period of study average household income grew from $38,465 in 1996 to $51,659 by 2006. Interestingly, the values for mixed-use zones have remained effectively at or within range of parity with those of non-mixed use

[15] As noted in section 3.3.3, average individual income values were not available for 1991

zones and the city as a whole over the period of 1996 to 2006. This pattern is also apparent in the rate of growth: average individual income in mixed-use zones has grown at a rate more than double that of the CMA (3% vs. 1.3% respectively), while effectively keeping pace with rate of growth in non-mixed use zones and the city as a whole (2.9% for both). Thus, on the basis of using average individual income as an indicator of socioeconomic standing, those living in mixed-use zones are keeping pace with the standing of those across the city as a whole.

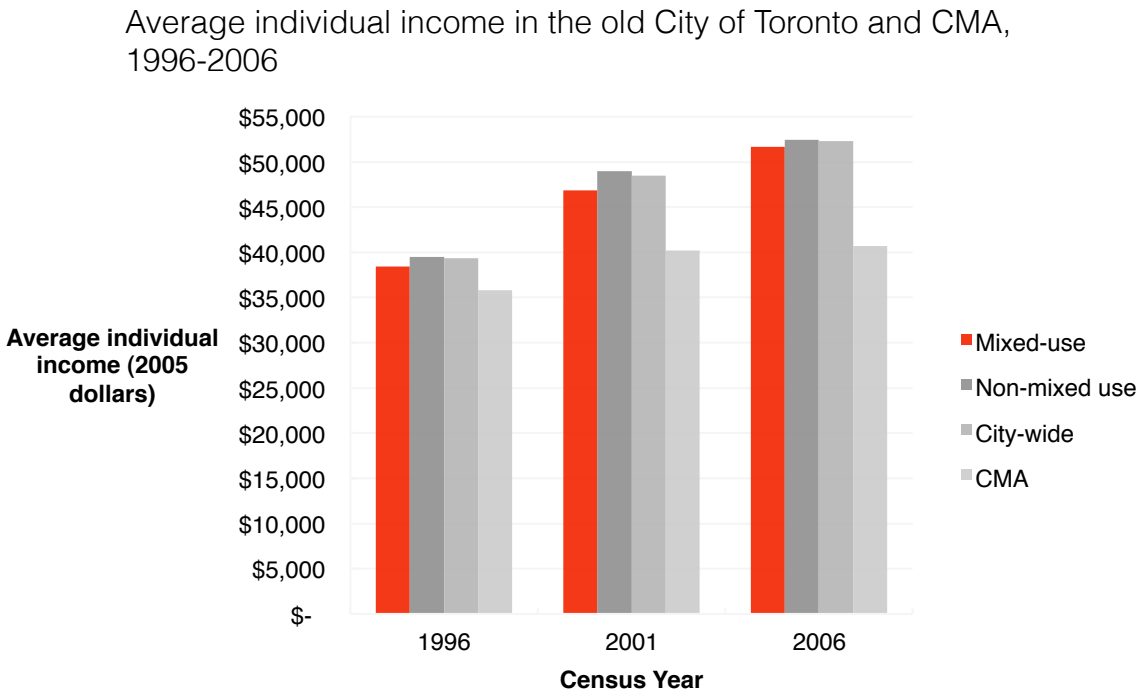


Figure 4: Average individual income in the old City of Toronto and CMA, 1996-2006

5.1.2 Housing Characteristics

Having an understanding of the market context in which housing exists in mixed-use zones is an important facet in any analysis of housing affordability. Indicators such as the size of dwellings and tenure of housing help paint a picture of how housing markets in mixed-use zones are structured.

5.1.2.1 Dwelling Size

There are two main indicators used to understand the size of a given dwelling: average number of rooms and average number of bedrooms per dwelling unit. When housing consumption decisions are made, they are primarily based on the rooming needs of those in the household, thus the number of bedrooms in a given unit is a basic measure of household size. In combination with data on the average number of rooms, these values can serve as indicators of the direction of the housing

market with regard to smaller or larger unit sizes. We can make the reasonable inference that unit size in terms of square footage will likely correlate with the number of bedrooms and rooms – that is, the more bedrooms and rooms, the larger a unit is likely to be in square feet.

As is visible in Figure 5, the average number of rooms for dwellings found in mixed-use zones is slightly lower than all other spatial frames, with a value of 4.3 rooms per dwelling in 2006 compared to approximately 5.2 rooms per dwelling in non-mixed use areas and 6.3 in the CMA. This difference has stayed largely the same over the period of study, however the average rooms per dwelling value has decreased marginally over time in mixed-use zones. Given the approximate values of four rooms per dwelling in mixed-use areas, five in the city as a whole, and six across the CMA, it is clear that unit sizes for dwellings in mixed-use areas are smaller than those in the rest of the city and CMA.

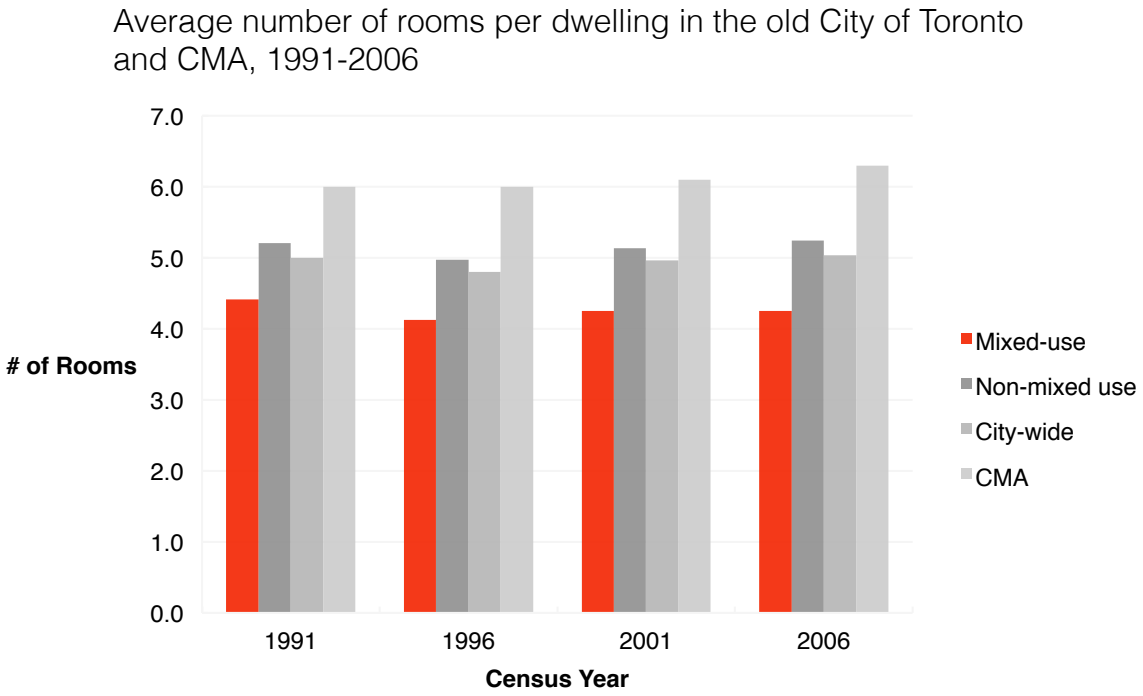


Figure 5: Average number of rooms per dwelling in the old City of Toronto and CMA, 1991-2006

The same pattern is manifested if we examine average number of bedrooms per dwelling. As is shown in Figure 6, dwellings in mixed-use zones have consistently fewer bedrooms per unit than all other spatial frames. In 2006, dwellings in mixed-use zones had an average of 1.5 bedrooms, compared to approximately 2.0 and 1.9 in non-mixed use areas and the city as a whole, respectively, and 2.7 per dwelling in the CMA. Interestingly, whereas the average number of bedrooms has

increased at the CMA level, the opposite is true in mixed-use zones – although the decrease in mixed-use areas is marginal. From this data it can be reasonably inferred that dwellings in mixed-use zones are, on average, smaller than those elsewhere in the city and CMA as a whole. As noted earlier, this finding may offer reasonable grounds for the assumption that households are smaller, on average, in mixed-use areas compared to the rest of the city, however in the absence of the aforementioned data the assumption remains purely that – an educated guess. Regardless, the fact that dwellings are smaller in mixed-use areas has direct implications on pricing and affordability: if average prices are higher in mixed-use areas, this may point to smaller housing being more expensive relative to elsewhere.

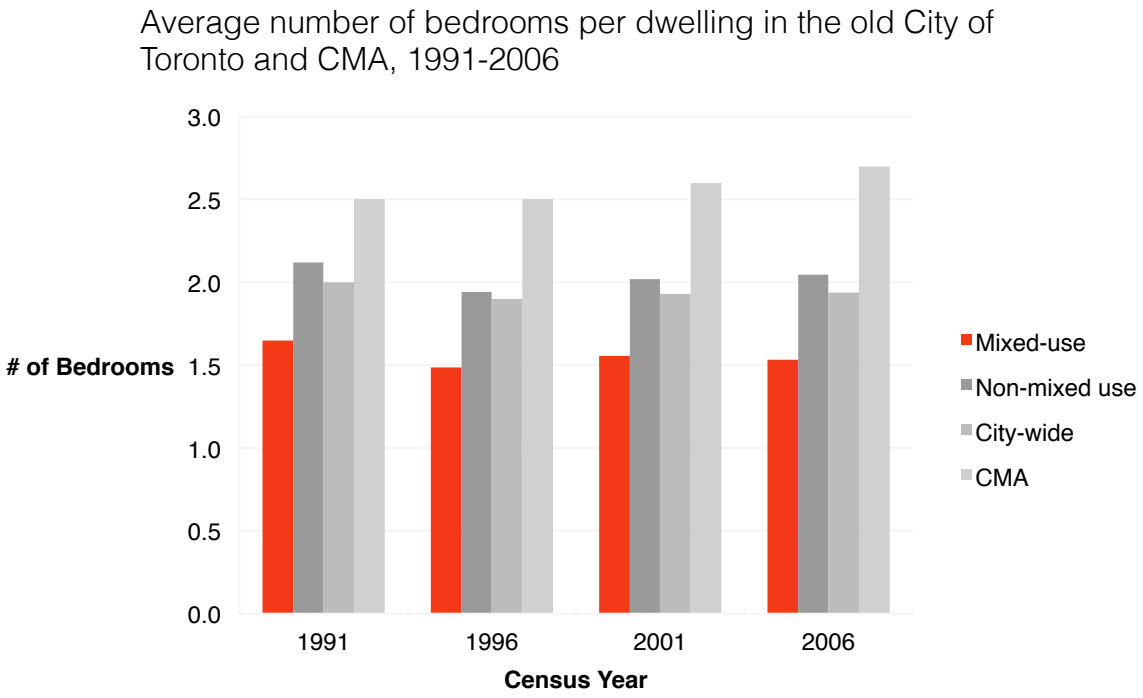


Figure 6: Average number of bedrooms per dwelling in the old City of Toronto and CMA, 1991-2006

5.1.2.2 Housing Tenure

We must also understand the context in which housing is consumed, particularly in terms of the preference for ownership or rental tenure, and the proportion of the housing market under each form of tenure. Since the relative affordability of housing often directly shapes decisions regarding renting or owning housing, it is necessary to examine the proportion of households living under either form of tenure. It is also important to examine the options for housing in a given market in terms of

tenure, as the distribution of dwelling options between rental and ownership tenure will help us understand how the housing market may be changing in response to broader shifts.

Over the study period, the percentage of dwellings in mixed-use areas under ownership tenure increased markedly, from twenty-seven percent in 1991 to forty-two percent by 2006. As seen in Figure 7, rates of ownership in mixed-use areas increased nearer to the end of the study period, although they remain at levels slightly lower than the rest of the city, and well below that of the CMA as a whole. By virtue of this rise in ownership rates, the percentage of dwellings under rental tenure has subsequently decreased in mixed-use areas. At the beginning of the study period in 1991, rental tenure was by far the most common form of housing tenure, accounting for seventy-three percent of all dwellings in mixed-use areas – well above rates in the rest of the city and CMA. By 2006 the gap in tenure rates between mixed-use areas and the rest of the city had begun to close. Overall, one can see that although the rate of housing ownership is increasing, rental is still the primary form of housing tenure in mixed-use areas in Toronto.

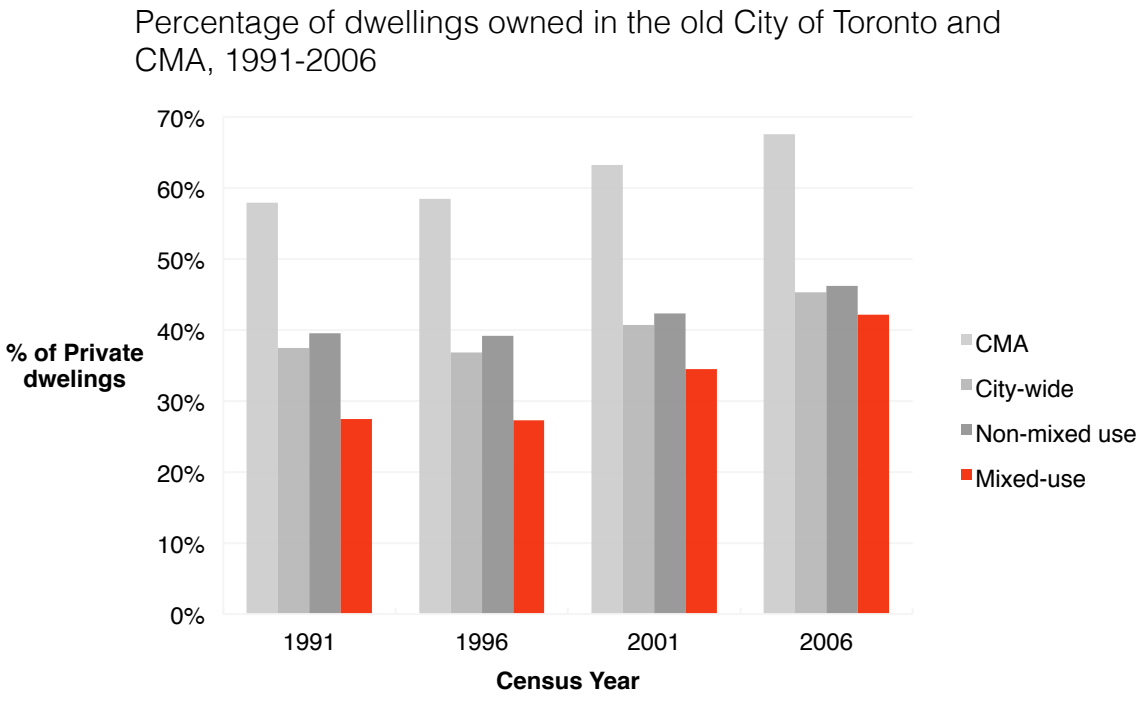


Figure 7: Percentage of dwellings owned in the old City of Toronto and CMA, 1991-2006

However, one must view the aforementioned increase in rates of home ownership within the context of absolute number of units in the housing market. As can be seen in Figure 8, the number of housing units under owned tenure has increased dramatically in mixed-use areas, from approximately

12,811 in 1991 to 27,218 by 2006. This doubling in size of the owned housing market in mixed-use areas far outpaces growth in the rest of the city and CMA as a whole. It is clear that there has been increasingly strong demand for owned housing within mixed-use areas, which coincides with the strong performance of the condominium market in Toronto over the same time period.

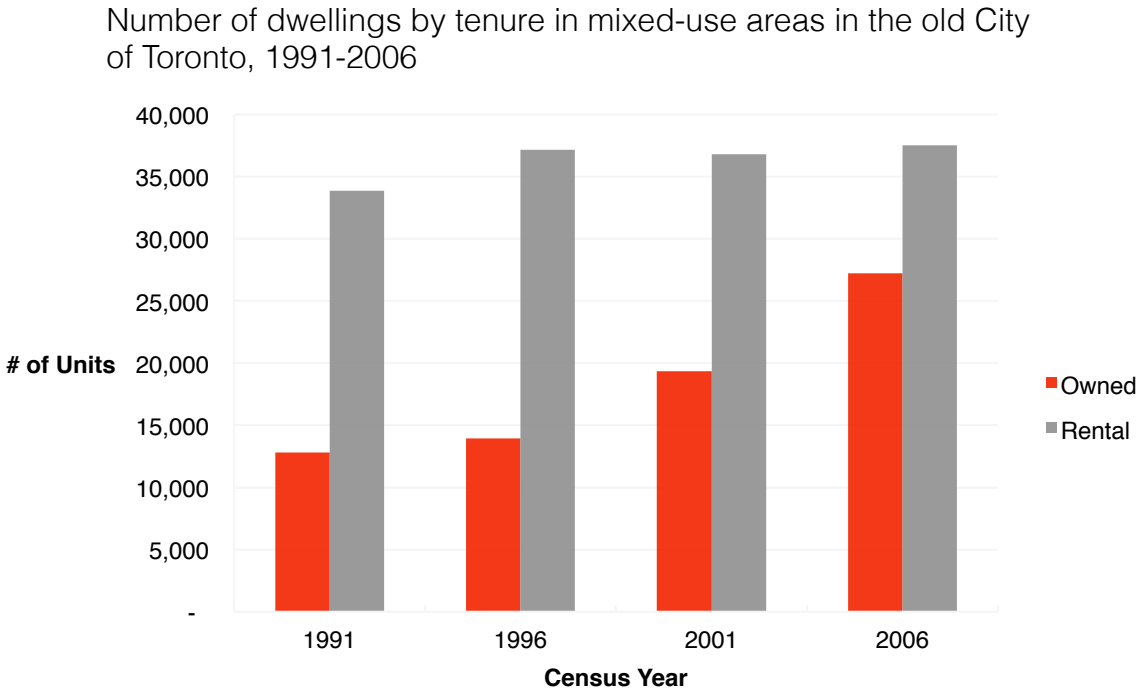


Figure 8: Number of dwellings by tenure in mixed-use areas in the old City of Toronto, 1991-2006

The landscape of the rental market has been markedly different. While the size of the rental market still exceeds that of the owned market in mixed-use areas, the gap between the two began to close over the study period. Moreover, the size of the rental market increased by only eleven percent, from approximately 33,848 units in 1991 to 37,542 units in 2006 – a fraction of the growth observed in the owned housing market.

5.2 Affordability of Mixed-use Areas in Toronto

With an understanding of how the socioeconomic landscape has changed in mixed-use areas over the study period, we can begin examining how housing affordability has changed in general terms. To do so, we return to the same structure of analysis, examining housing affordability in relation to income, housing costs, and housing type and tenure.

5.2.1 Housing Costs

One of the most fundamental indicators used in the context of housing affordability is the actual cost of housing, whether owned or rented. Indeed, the absolute cost of housing is one of the primary factors that will shape the housing consumption choices of a household. Thus, in order to understand how affordability of housing in mixed-use areas may have changed over the study period, several housing cost variables are examined: average owner's major payments, average gross rent, and average dwelling value. Exact constant-dollar values for the housing costs detailed throughout this section are listed in Table 9 (Appendix A).

5.2.1.1 Average owner's major payments

For owned housing, the owner's major payments (OMP) variable constitutes the entirety of the costs associated with the upkeep of a home – mortgage payments, condominium fees (if applicable), property taxes and utility fees.

The beginning of the study period was marked by a sharp decline in average owner's major payments between 1991 and 1996, likely reflective of both the national recession in the early 1990s and the crash of the Toronto housing market in 1989.[16] After bottoming out in 1996, average OMP values began to rebound strongly through the latter half of the study period, reversing entirely the decline of the early 1990s. The average cost of owned housing in mixed-use areas increased slightly between 1991 and 2006, from approximately $1,476 to $1,503, or less than two percent growth for the period. This low rate of growth – well below the rate of consumer price inflation – is similar to the low price inflation seen in the CMA as a whole, yet contrasts starkly in comparison to the price growth seen in non-mixed use areas in the city. As can be seen in Figure 9, the average cost of owning a home was at a slight premium in mixed-use areas in 1991 compared to the other spatial frames, however by 2006 this premium existed only in comparison to the CMA as a whole, as home ownership costs reached relative parity between mixed-use areas and the rest of the city proper. Nevertheless, given that the average unit size of dwellings in mixed-use areas is smaller than the rest of the city while average home ownership costs are effectively the same, it can be inferred that home owners are effectively paying more but get less space in mixed-use areas compared to the rest of the city and CMA.

[16] The precipitous drop in values from 1991 to 1996 deserves some brief discussion as to its validity. In terms of data quality, the way in which the owner's major payments variable was measured did not change over the study period (Statistics Canada, 2010). Instead, it is likely no coincidence that the precipitous drop in average OMP values roughly coincides with the timing of the recession that occurred from the first quarters of 1990 to 1992. Moreover, interest rates rose sharply in the first half of 1995, while economic performance was lacklustre throughout the year, which may explain the sharp difference between the 1991 and 1996 values. See Cross & Bergevin (2012) for further discussion of the instances of recession in the 1990s.

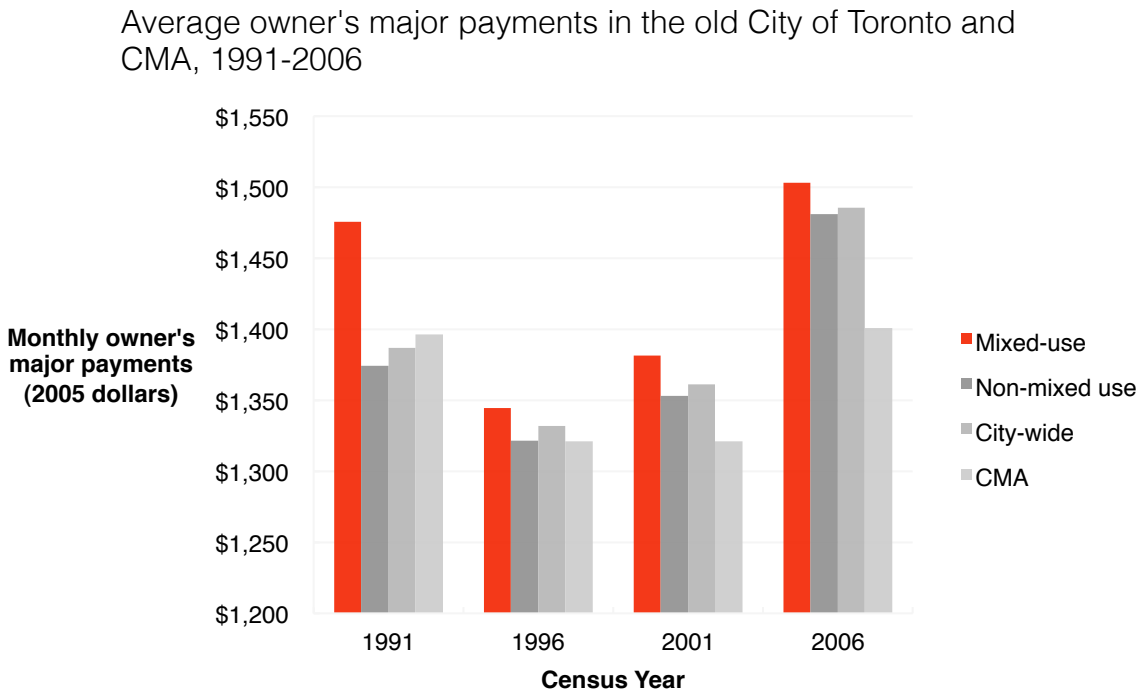


Figure 9: Average owner's major payments in the old City of Toronto and CMA, 1991-2006

5.2.1.2 Average value of dwelling

In the context of examining home ownership costs, it is also important to consider the average value of dwellings. This variable refers to the dollar amount that an owner could expect to receive if they were to put their property up for sale – thus it is an estimate on the part of the property owner (and census respondent), not an exact evaluation of property assessment values. Regardless, it provides a useful window into the estimated market standing of those who own housing.

Similar to average OMP, average dwelling values fell sharply between 1991 and 1996, likely for much the same reasons as mentioned earlier (early 1990s recession and Toronto housing crash in 1989). Average dwelling values rebounded in mixed-use areas over the course of the study period, yet did not fully recover: average values decreased by almost six percent, from approximately $415,482 in 1991 to $391,836 by 2006 as seen in Figure 10. This occurred in the context of average values following the complete opposite pattern in non-mixed use areas, increasing by fifteen percent over the period. Compared to non-mixed use areas, average values in mixed-use areas have been consistently lower, with the discount widening from eight percent in 1991 to twenty-five percent lower average values by 2006. Interestingly, values in mixed-use areas have shifted towards almost being at parity with those in the CMA as a whole. Notably, average dwelling values have declined in mixed-use

areas even while average dwelling sizes (as measured in section 5.1.2.1) have effectively remained static over the study period. The decrease in values could be explained by the notion that units in mixed-use areas have shrunk in terms of square footage (which would not be immediately apparent in measures such as number of rooms and bedrooms). While such data is not specifically reported in the Census (land values per square foot), it is generally understood that in areas where gentrification has occurred, average dwelling values decline in reflection of decreasing average dwelling sizes, even as the price of land on a per-square-foot basis increases rapidly – a phenomenon that would not be immediately apparent as reported in any single Census variable (Walks & Maaranen, 2008). Conclusions as to the relative costs of home ownership are made possible when average dwelling sizes are compared to average housing costs, as examined in section 5.2.1.4. Regardless, there is a key point in this data: while average values may be at twenty-five percent discount in mixed-use areas compared to the rest of the city, the average costs of home ownership as measured in OMP are effectively the same.

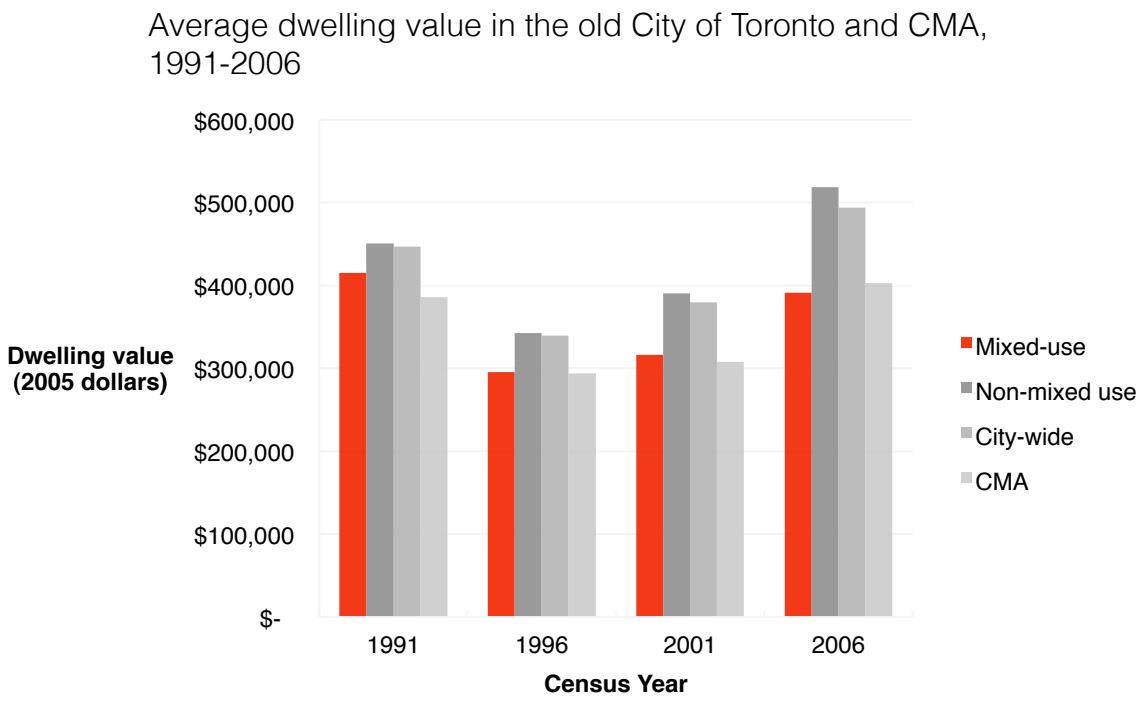


Figure 10: Average dwelling value in the old City of Toronto and CMA, 1991-2006

5.2.1.3 Average Gross Rent

For those in rental housing, the average gross rent variable constitutes the total of monthly rent and any associated utility costs. It is a direct measure of the cost of rental housing. Similar to the pattern observed in average OMP, average gross rent (in constant dollars) in mixed-use areas declined

at the beginning of the study period. Combined with the recession of the early 1990s, the decline between 1991 and 1996 may have been driven in part by provincial rent controls enacted in 1992 and in force until 1998. Following modifications to rent control legislation in 1998 that allowed exemptions for buildings first occupied after 1991 as well as vacant and newly constructed units, rents began to rebound by the end of the study period. Even with this rebound, as seen in Figure 11, average rents decreased marginally by almost four percent through the study period, from $1,096 in 1991 to $1,053 by 2006. Interestingly, compared to mixed-use areas, the rest of the city and CMA as a whole experienced a greater rate of decline in average rents (-6.9% for non-mixed use areas and -7.7% for the CMA). However, unlike average OMP, average rents have consistently been at a slight premium compared to the rest of the city and CMA as a whole: by 2006, rents were approximately twelve percent higher in mixed-use areas than the rest of the city.

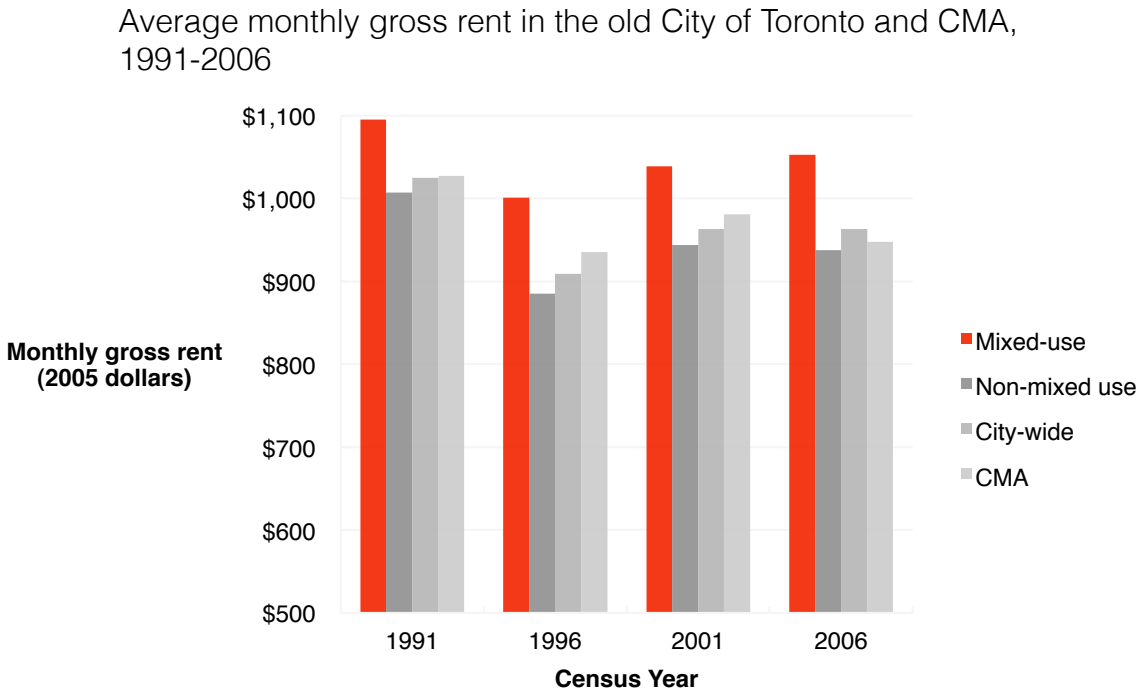


Figure 11: Average monthly gross rent in the old City of Toronto and CMA, 1991-2006

5.2.1.4 Cost of Housing vs. Dwelling Size

While direct measures of housing costs such as average OMP, dwelling value, and gross rent are standard indicators, it is also useful to consider the cost of housing in relation to the primary units of housing consumption: housing costs per room and bedroom. Such derived data are particularly useful because they can allow for comparisons that take into account the differences in dwelling size that may exist between spatial frames. For example, if average rents are the same between two areas

but dwelling units are typically smaller in one spatial frame than they are in the other, then housing would actually be more expensive in the former – yet we would not know relying on average rent alone. Given that dwellings in mixed-use areas are, on average, smaller compared to those in the rest of the city and CMA (as depicted in Figure 5 and Figure 6), we must consider housing costs in relation to dwelling size. Similar to the method used by Moos (2012), housing costs are divided by number of rooms and bedrooms so as to use measures that match the context in which most will decide how much housing they need, namely number of rooms and bedrooms in a given unit.

It is clear from the patterns depicted in Figure 12 that owned housing is at a premium in mixed-use areas when costs are considered on a per-room basis. Inflation-adjusted costs per room increased only slightly – less than six percent - in mixed-use areas over the study period, compared to just over seven percent in the rest of the city, and a decrease in the CMA as a whole. However, ownership costs per bedroom are at a premium compared to all other spatial frames: $353 per room in mixed-use areas in 2006, versus $283 in the rest of the city, and $222 for the CMA. This cost premium has lessened slightly over non-mixed use areas over the study period, dropping from twenty-seven percent in 1991 to twenty-five percent by 2006, although it has widened compared to the CMA, growing from forty-four percent to fifty-nine percent in the same period.

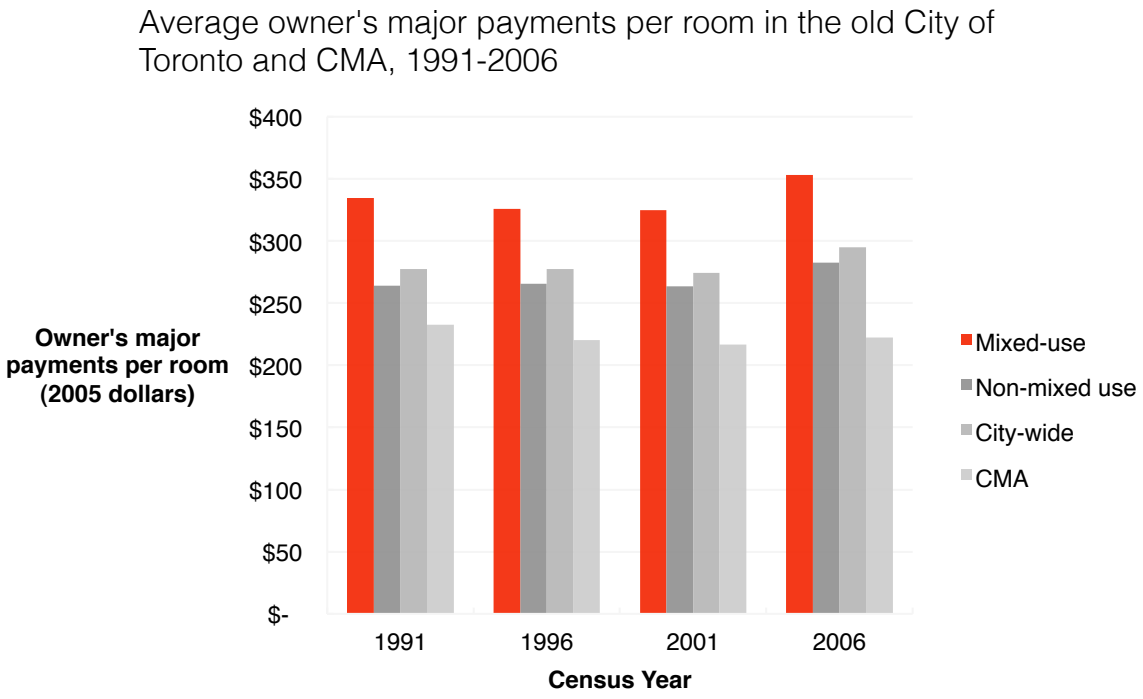


Figure 12: Average owner's major payments per room in the old City of Toronto and CMA, 1991-2006

Similar, though more pronounced, patterns of cost premiums are exhibited in relation to average rents per room. As depicted in Figure 13, inflation-adjusted rental costs per room have effectively remained just under $250 per room in mixed-use areas over the study period, in contrast to declines in all other spatial frames. Relative to this pattern of decline elsewhere, the rental cost premium per bedroom in mixed-use areas has widened over time compared to the other spatial frames, growing from twenty-eight percent over non-mixed use areas in 1991 to thirty-eighty percent by 2006, and from forty-five percent over the CMA as whole in 1991 to sixty-four percent by 2006. Overall, while absolute costs remain the same, rental costs per bedroom have only become more expensive compared to dwellings in the rest of the city and CMA over the study period.

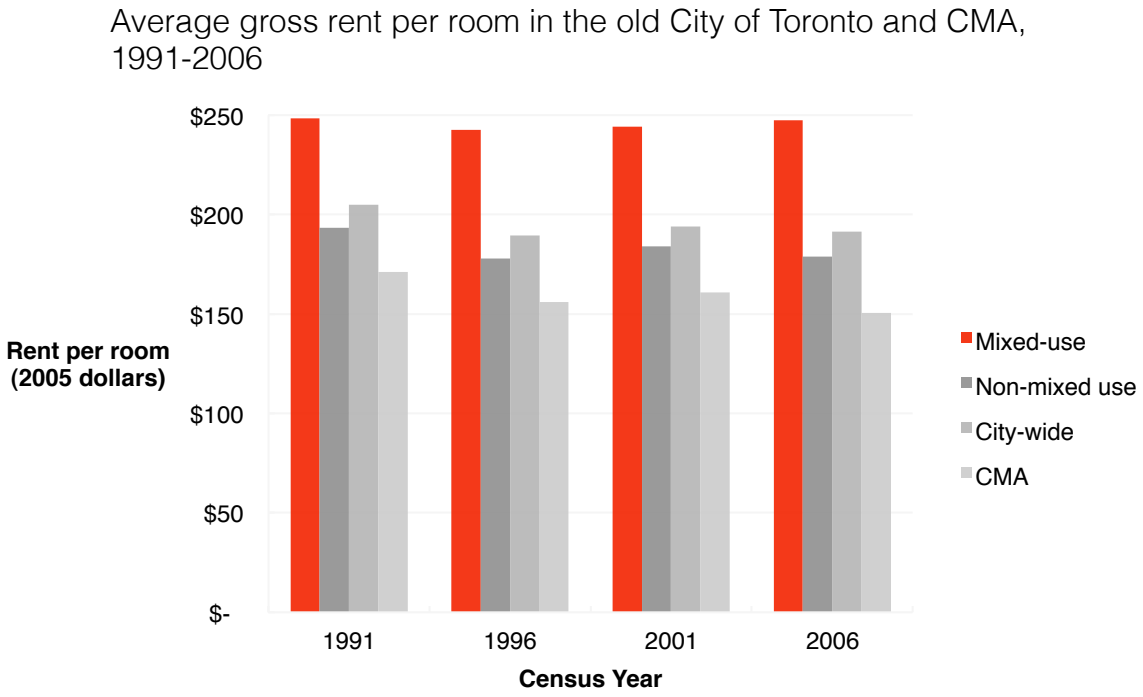


Figure 13: Average gross rent per room in the old City of Toronto and CMA, 1991-2006

When broken down into average owner's major payments per bedroom, there is a clear and consistent premium associated with owned housing in mixed-use areas. Over the study period, average OMP per bedroom has increased almost ten percent in mixed-use areas, similar to the rate of price growth in non-mixed use areas, though in reverse of the price decline seen in the CMA as a whole. As depicted in Figure 14, at a value of approximately $982 per bedroom in mixed-use areas compared to $724 per bedroom in the rest of the city, owned housing in mixed-use areas commands a

substantial price premium. While the price premium between mixed-use and non-mixed use areas has lessened slightly over the study period, it amounted to a price differential of thirty-five percent in 2006; compared to the CMA as a whole, the price premium for mixed-use areas has been widening substantially, growing from sixty percent in 1991 to eighty-nine percent by 2006. Using the metric of housing costs per bedroom, it would appear that owned housing commands a substantial price premium in mixed-use areas over any other spatial frame throughout the study period.

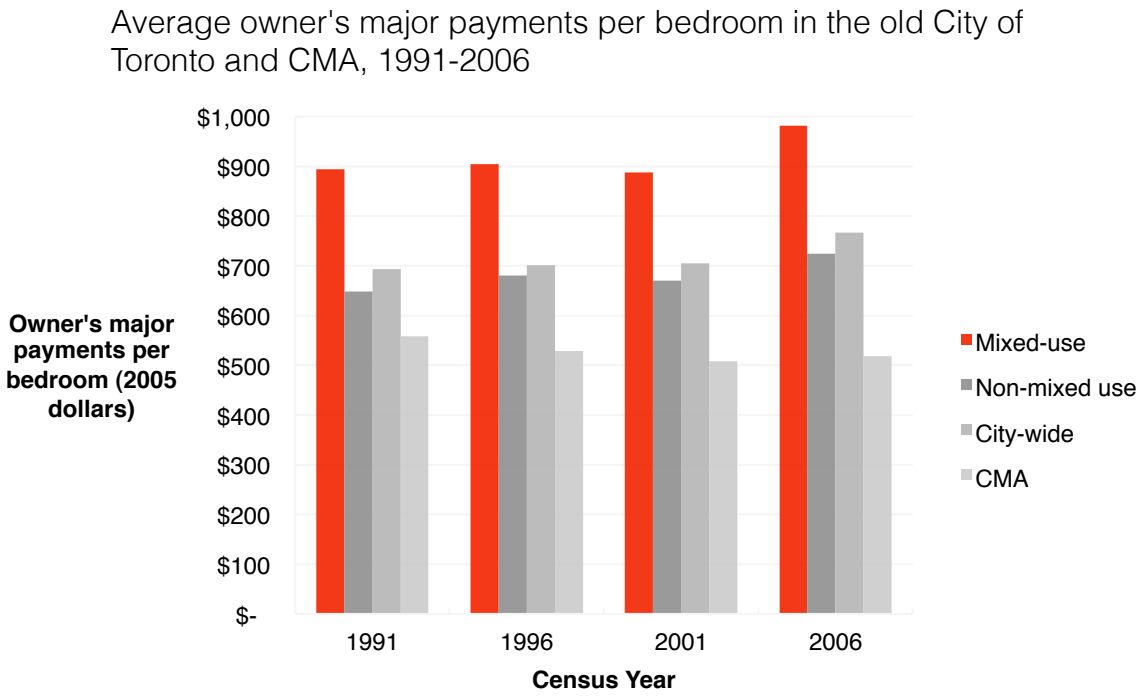


Figure 14: Average owner's major payments per bedroom in the old City of Toronto and CMA, 1991-2006

Examining the same derived values of average gross rent per bedroom shows that a similar, more pronounced price premium exists among rental housing in mixed-use areas. As seen in Figure 15, price values for rented housing are much less than the values for owned housing – as would be expected, given average rents being lower than average OMP. Growth in the inflation-adjusted values for rents has been much less than owned housing, with rents per bedroom increasing only slightly less than four percent in mixed-use areas over the study period; interestingly, rents per bedroom have declined in the rest of the city and CMA as a whole. However, there is a substantial price premium in terms of average rents per bedroom in mixed-use areas, and it has grown over the study period: compared to non-mixed use areas, rents per bedroom were forty percent higher in mixed-use areas in 1991, with the premium increasing to fifty percent by 2006. Similar to the pattern observed in owned

housing, the price premium for rental costs per bedroom in mixed-use areas over the CMA as a whole has increased substantially, from sixty-two percent in 1991 to ninety-six percent by 2006.

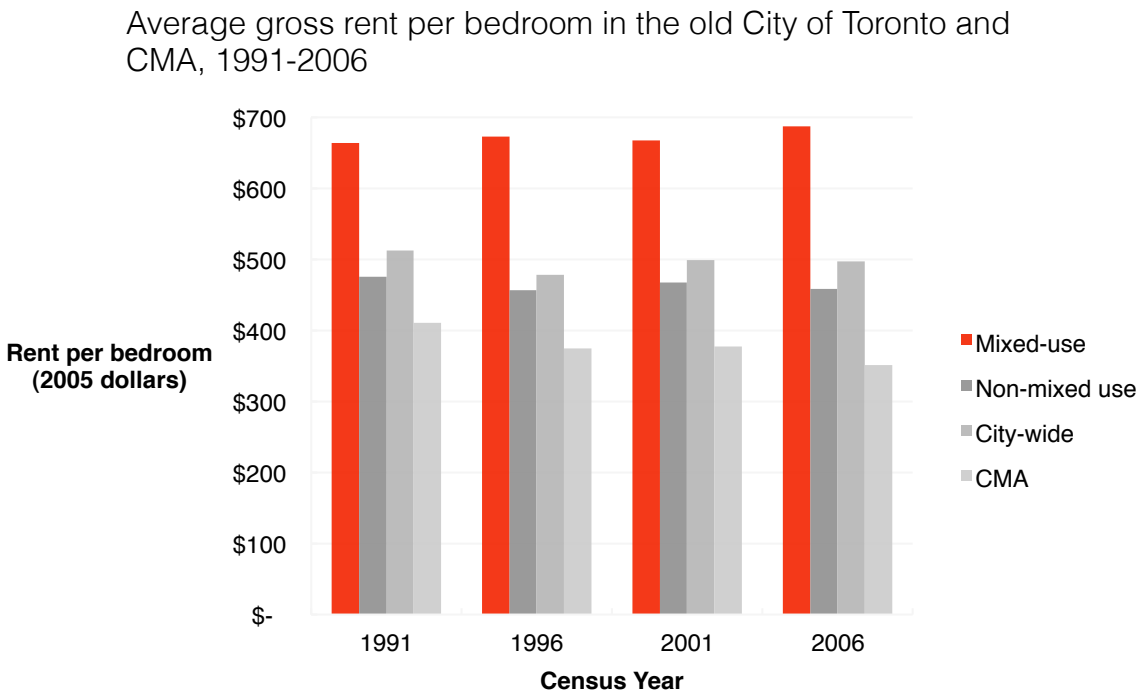


Figure 15: Average gross rent per bedroom in the old City of Toronto and CMA, 1991-2006

5.2.1.5 Cost of Living in Mixed-use Areas: Owning vs. Renting

Given the data presented in sections 5.2.1.1 - 5.2.1.4, it can be seen that housing in mixed-use areas has indeed commanded a price premium in the old City of Toronto, regardless of tenure, over the study period. However, striking differences in price premiums become apparent when the cost of housing in mixed-use areas is examined in relation to housing tenure. Values for the premiums discussed in this section are listed in Table 10 (Appendix A).

Owned housing in mixed-use areas is at a slight to moderate price premium compared to elsewhere in the city and CMA as a whole. Average owner's major payments for dwellings in mixed-use areas have seen little inflation-adjusted price growth over the study period. While a seven percent price premium on average OMP was present at the beginning of the study period, OMP values have since effectively reached parity compared to non-mixed use areas, though the premium remains over values in the CMA as a whole. However, the importance of context is apparent when examining average dwelling values: while dwelling values in mixed-use areas were at a discount of eight percent in 1991, this discount widened to twenty-five percent by 2006 over non-mixed use areas; values

similarly dropped from a premium of eight percent in 1991 to a discount of three percent over CMA values by the end of the period. While average dwelling values may be less in mixed-use areas, dwelling units are also smaller than elsewhere in the city or CMA. Thus, when dwelling size is considered in the context of housing costs, the premium for owned housing in mixed-use areas reappears: average OMP values per room were twenty-five percent higher than those in non-mixed use areas and fifty-nine percent higher than the CMA in 2006, while average OMP values per bedroom were thirty-five and eighty-nine percent higher, respectively. It can be concluded that homebuyers are willing to pay more to get less space in mixed-use areas compared to the rest of the city and CMA as a whole.

Rented housing in mixed-use areas is at a slight to substantial price premium compared to elsewhere in the city and CMA as a whole. Average gross rents for dwellings in mixed-use areas have experienced slight decline in price over the study period, consistent with price patterns in the rest of the city and CMA. Contrary to owned housing, the premium for rental housing in mixed-use areas has increased over the study period: from nine percent over non-mixed use areas in 1991 to twelve percent by 2006; and from seven percent over the CMA as a whole in 1991 to eleven percent by the end of the study period. Just as with owned housing, it is important to factor dwelling size into the understanding of price premiums for rental housing in mixed-use areas. When dwelling size is considered in the context of housing costs, the premium for rental housing in mixed-use areas becomes far more pronounced: compared to non-mixed use areas, average gross rent values per room grew from a twenty-eight percent premium in 1991 to a thirty-eight percent premium by 2006; compared to the CMA as a whole, price premiums increased from forty-five percent to sixty-four percent over the same period.

The same pattern of growing premiums is apparent in terms of rental costs per bedroom: rental premiums in mixed-use areas grew from forty percent in 1991 to fifty percent by 2006 compared to prices in non-mixed use areas, and from sixty-two percent to ninety-six percent over the same time period compared to the CMA as a whole. These substantial price premiums reinforce the notion that those looking for rental housing in mixed-use areas are paying more to get less dwelling space relative to elsewhere in the city and CMA. Importantly, although average rents are less than average OMP, the reality that rental housing costs more in mixed-use areas than elsewhere has serious implications for the place of mixed-use zoning as a policy tool in relation to the problem of housing affordability. As noted earlier, access to the rental housing market is seen as an important part of the housing affordability equation: rental housing is often less expensive than owned housing, and more accessible to lower income groups. Moreover, the rental housing market is often considered

to be a stepping stone along the housing spectrum towards ownership tenure. Thus, the substantial price premiums for rental housing in mixed-use areas may present a very real obstacle for households looking to secure housing in mixed-use areas. If rental housing costs more in mixed-use areas, are the returns from the benefits and amenities associated with such development outweighing the costs with regard to housing affordability? To begin to consider such questions, we must move from examining indicators of housing costs to indicators of housing affordability.

5.2.2 Housing Affordability

The crux of this study rests on the degree to which housing is affordable in mixed-use areas in comparison to non-mixed use areas in the old City of Toronto and the CMA as a whole, and whether this degree of affordability has changed over the study period. As described earlier, this study makes use of the industry standard *shelter costs to income ratio* (STIR) indicator to delineate degrees of housing affordability, such that housing is said to be "affordable" if housing costs do not exceed thirty percent of household income.[17]

It must be pointed out that while the STIR standard of thirty percent is the benchmark against which housing affordability is measured in technical terms, spending more than thirty percent of household income on housing costs will not have the same real-world impact on all households. As discussed earlier, that housing may be "unaffordable" in technical terms does not necessarily imply a serious financial burden to some households: a household with a total income of $150,000 spending more than thirty percent of household income on housing costs will feel very different financial impacts than would a household with a total income of $50,000. Indeed, as noted earlier, many households willingly choose housing that puts them beyond the thirty percent affordability cut-off even when cheaper, suitable housing is available in a given market (Engeland et al., 2008). Even if this is the case, examining the degree to which households fall under the affordable or unaffordable technical categories tells us a great deal about how the housing market may be changing.

5.2.2.1 Affordability by Tenure

Given that the choice between home ownership and rental housing is often a function of the financial standing of a given household, it makes sense to begin our examination of housing affordability by considering the proportion of households in each category spending more than thirty percent of household income on housing costs. As the housing market in mixed-use areas has restructured towards an increasing prevalence of owned housing, this shift may have important

[17] See sections 2.2 and 3.3.1 for further descriptions

implications for housing affordability in those areas. Exact values for data mentioned throughout this section are listed in Table 11 (Appendix A).

Just as the proportion of the market under ownership tenure has grown substantially over the study period (Figure 7), so too has the proportion of those owners falling under the unaffordable housing costs category. As depicted in Figure 16, this growth has been most pronounced in mixed-use areas, increasingly slightly from twenty-nine percent of all owned housing in 1996 to thirty-two percent by 2006. While the increase in proportion of owner households falling into the unaffordable range occurred in lockstep across all spatial frames, it remained more prevalent within mixed-use areas: one in three owner households were spending more than thirty percent of household income on housing costs in mixed-use areas in 2006, compared to approximately one in four in the rest of the city and CMA as a whole. Clearly, even though the housing market in mixed-use areas has increasingly moved towards favouring ownership tenure, this shift has occurred in the context of worsening housing affordability.

In the context of only slight inflation-adjusted increases in average ownership costs, set against a backdrop of average household and individual incomes having increased slightly ahead of the rate of inflation, it is interesting that the proportion of owners falling under the unaffordable category continues to grow. Falling interest rates through the 1990s and early 2000s may have incentivized greater borrowing in the form of mortgages, inflating housing prices and thus pushing more owner households into the 'unaffordable' category (assuming incomes did not keep up), however this explanation is complicated by the dip and rebound in the values between 2001 and 2006.[18] Overall, this measure alone would seem to indicate that owner households in mixed-use areas have been consistently more likely to experience housing affordability stress compared to those in the rest of the city.

[18] Prime lending rates in Canada averaged approximately 14.2% in 1990, 8.6% in 1995, 7.2% in 2000 and 4.4% in 2005 ("Canada Prime Lending Rate," 2014)

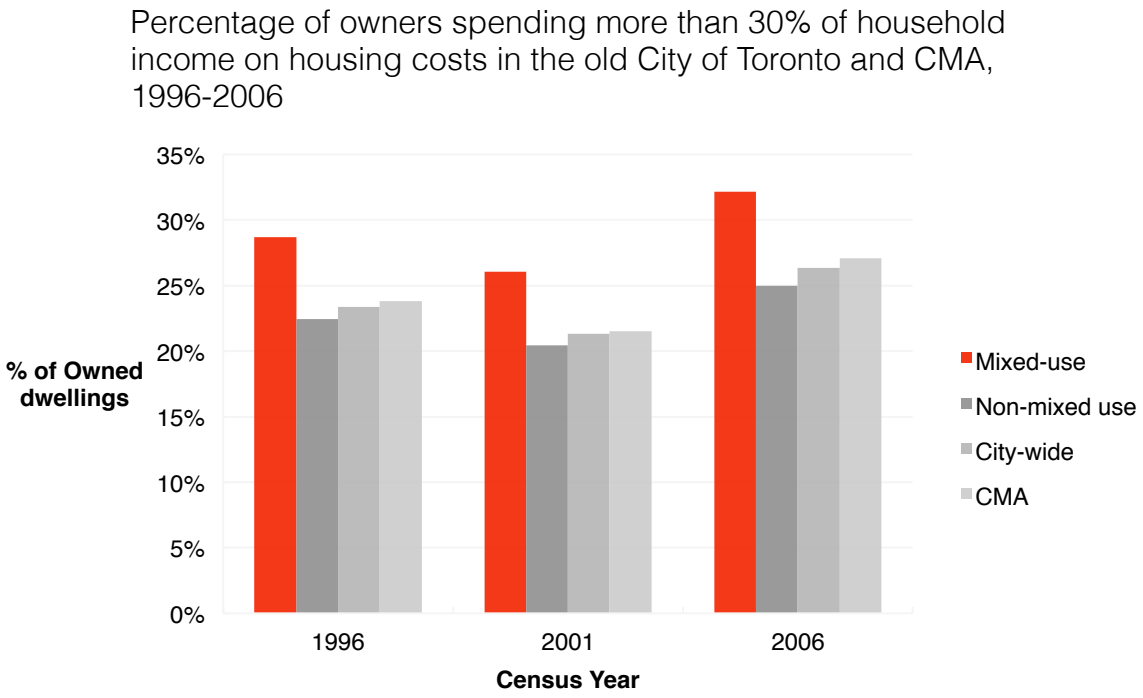


Figure 16: Percentage of owners spending more than 30% of household income on housing costs in the old City of Toronto and CMA, 1996-2006

Those living in rental tenure are increasingly found within the unaffordable housing category. Even though rental housing has seen its share of the housing market drop in mixed-use areas, the proportion of those in rental housing spending more than thirty percent of household income on housing costs has grown. In mixed-use areas as of 2006, almost half of all households living in rental housing fell under the unaffordable housing category – up from forty-three percent of the rental market in that category in 1996, as depicted in Figure 17. Unlike the owned housing market, where the growth in the proportion of those spending more than thirty percent on housing costs was more pronounced within mixed-use areas than elsewhere, the substantial growth in this group within the rental market has been virtually mirrored both in the rest of the city and the CMA as a whole.

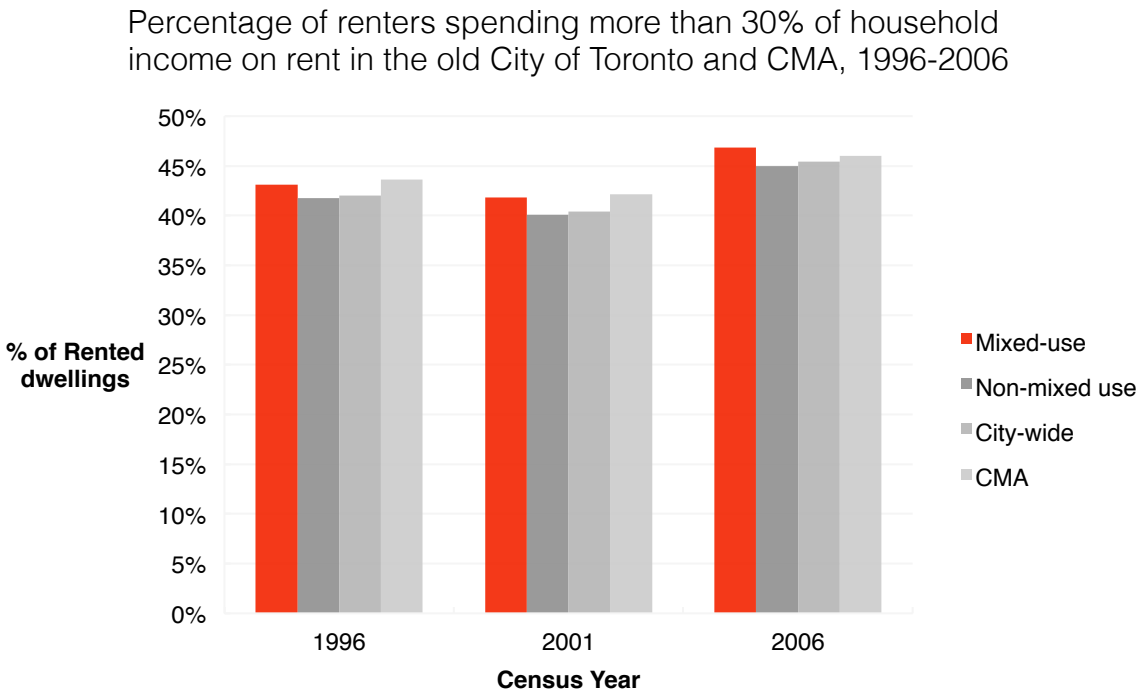


Figure 17: Percentage of renters spending more than 30% of household income on housing costs in the old City of Toronto and CMA, 1996-2006

The increase in apparent affordability pressures in the rental market has occurred in the context of decreasing inflation-adjusted average rents, yet alongside a slight increase in rental housing costs per bedroom. Much like the ownership tenure category, even though average household and individual incomes have kept pace with the rate of inflation, the affordability landscape of those in rental housing has worsened between 1996 and 2006. On the face of this measure alone, it would appear that although the difference is marginal, rental households in mixed-use areas are more likely to experience housing affordability stress than households in the rest of the city and CMA. To that end, just as in the rest of the city, rental housing affordability has become increasingly problematic in mixed-use areas.

5.2.2.2 Affordability by Income

A general picture of the affordability landscape can also be offered by examining the degree of housing affordability in a given spatial frame over time in relation to average incomes. By looking at the STIR values for average housing costs in relation to average household and individual income, we add to our understanding of the context in which shifts in the labour market may be playing out in terms of affordability in the housing market. Exact values for the housing expenditure ratios detailed throughout this section are listed in Table 11 (Appendix A).

For the average owner household, housing affordability has improved. Households in mixed-use areas making the average household income with average housing costs would have fallen into the unaffordable category in 1991, spending thirty-two percent of their income on housing. By 2006 such households would have been well within the affordable range, spending only twenty-two percent of household income on housing. As depicted in Figure 18, such improvements to the degree of affordability have been much more pronounced in mixed-use areas than the rest of the city or CMA as a whole, as such households would have always been well within the affordable range in the latter spatial frames.

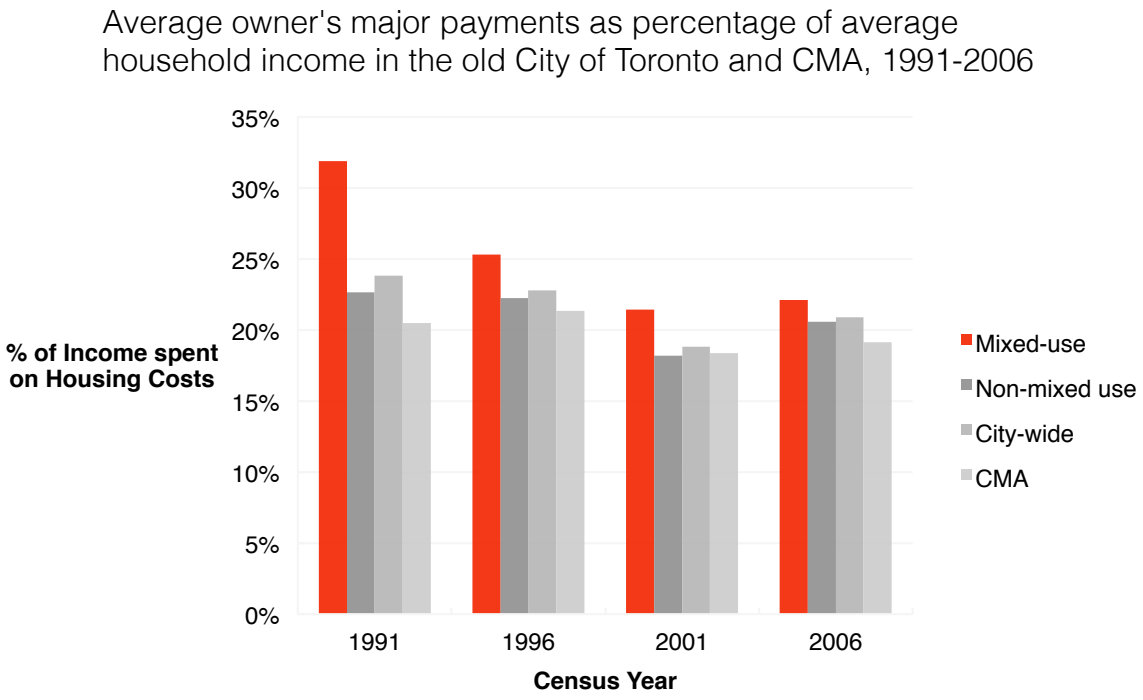


Figure 18: Average owner's major payments as percentage of average household income in the old City of Toronto and CMA, 1991-2006

Households making the average individual income have seen similar improvements to the degree of owned housing affordability, though such households still fell into the unaffordable category throughout the study period. As housing costs remain the same but values for average individual incomes are generally much less than household income, it is not surprising to see such outcomes. Given that average individual incomes were effectively at parity throughout the study period across spatial frames, nor is it surprising to see similar values for percentage of individual income spent on housing. As depicted in Figure 19, while households bringing in the average individual income (e.g. single person households) are in an increasingly better position with regard to

the affordability of average owned housing, such households still fall above the thirty-percent affordability marker.

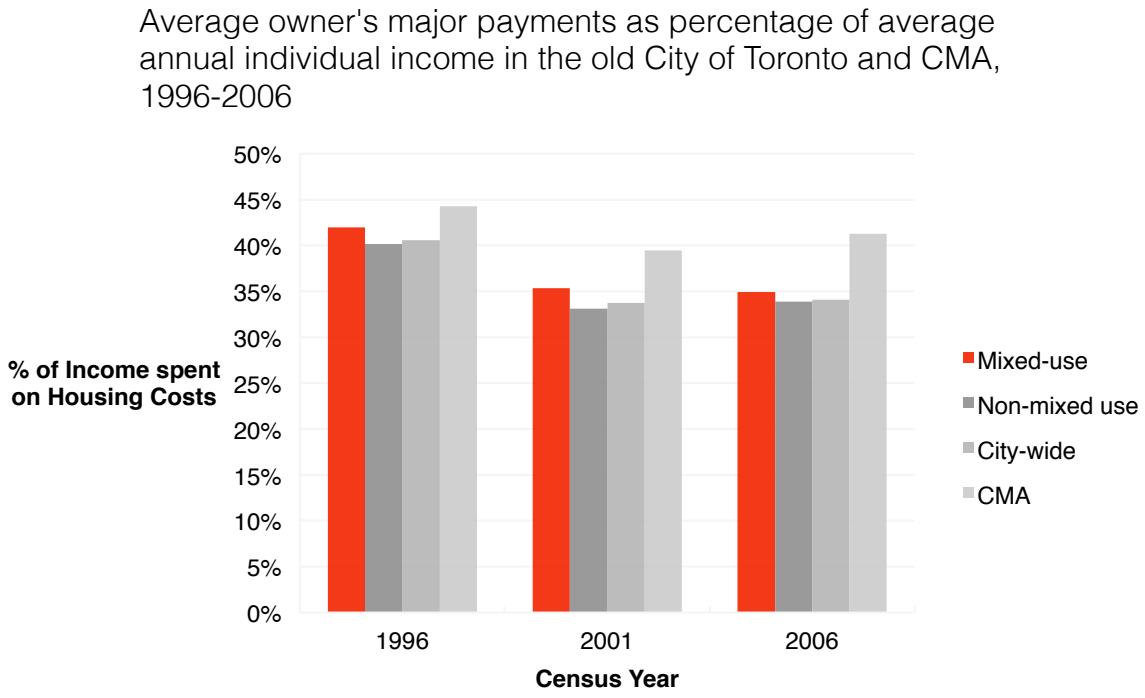


Figure 19: Average owner's major payments as percentage of average annual individual income in the old City of Toronto and CMA, 1996-2006

Rental affordability for average households has followed a similar pattern of improvement. Households in mixed-use areas making the average household income and paying average rents would have seen the proportion of their household income spent on housing drop from twenty-four percent in 1991 to only sixteen percent by 2006 – well within the range of affordability. As depicted in Figure 20, while all spatial frames consistently fell into the affordable category, those in mixed-use areas would have spent the largest proportion of their income on average rental housing costs compared to the rest of the city and the CMA as a whole.

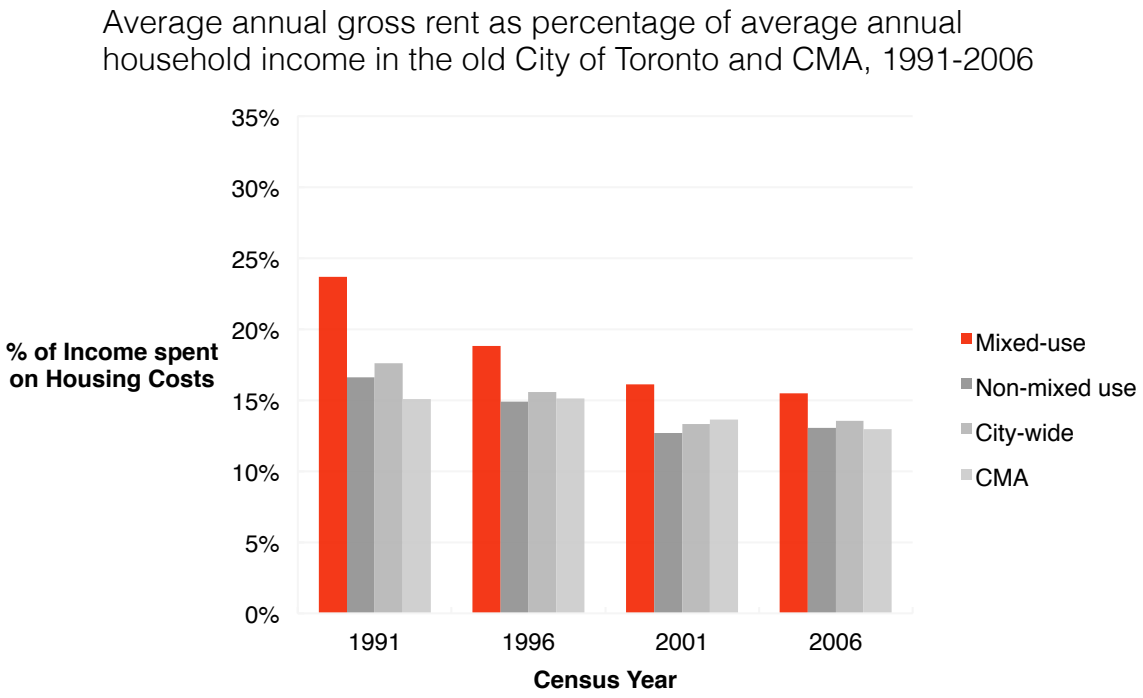


Figure 20: Average annual gross rent as percentage of average annual household income in the old City of Toronto and CMA, 1991-2006

Households in mixed-use areas making the average individual income and paying average rents would have gone from being in the unaffordable to affordable category over the study period, as the proportion of household income spent on housing costs would have dropped from thirty-one percent to twenty-four percent between 1996 and 2006. As depicted in Figure 21, rental housing affordability for those making the average individual income has improved across all spatial frames. Not unlike the pattern apparent in the owned housing market, while STIR values were higher in mixed-use areas compared to the rest of the city, average rental housing for those making the average individual income was actually more affordable than in the CMA as a whole, yet still worse than in the rest of the city proper.

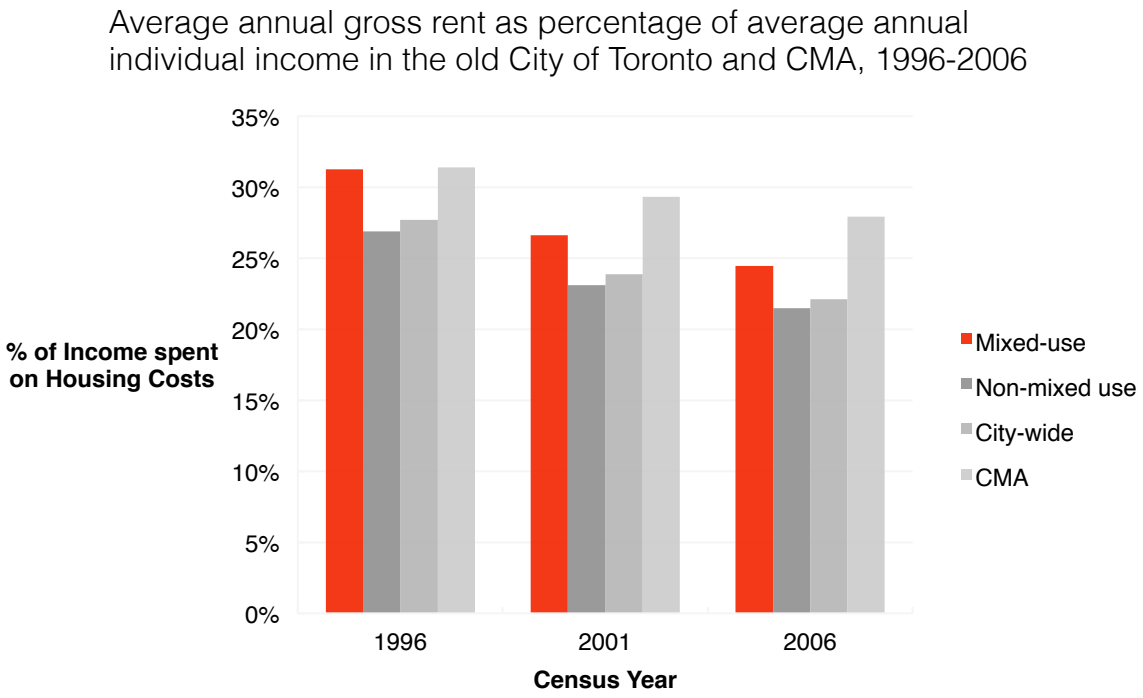


Figure 21: Average annual gross rent as percentage of average annual individual income in the old City of Toronto and CMA, 1996-2006

5.3 Occupational Change & Economic Restructuring in Mixed-Use Areas

Before we can examine the affordability of housing in mixed-use areas in relation to specific occupational groups, we must first understand the nature and structure of the workforce in these areas. Given the links between labour market restructuring and the housing market described in section 2.4, delineating the structure of the workforce in terms of the types of workers that live in a given area provides key contextual data needed to understand the broader shifts that may be changing the housing market. The more we know about changes that may be occurring within the labour force, the better we can understand how the housing market may be changing. We start by first measuring the degree to which the workforce is educated, then move to examining the structure of the workforce with regard to occupational classes.

5.3.1 Education

As the discussion revolves around the interconnections between labour and housing markets and the structural shifts therein, it is useful to consider a basic socioeconomic indicator: education levels. Labour markets have shifted in response to, and driven, the need for higher education levels among the workforce (Beckstead & Vinodrai, 2003). In the context of socioeconomic restructuring

within a post-Fordist, neoliberal environment, those with access to higher education are increasingly likely to do well in the labour market, while those without access are increasingly likely to do worse (Moos, 2013a). Since one's ability to pay for adequate housing is directly linked to their position in the labour market (and thus their earning potential), shifts in the level of educational attainment may have implications for how the housing market operates. One of the most direct ways we can measure such socioeconomic shifts is by examining the proportion of the population bearing a Bachelor's degree or greater. These shifts are depicted in Figure 22 (exact values are listed in Table 13, Appendix A).

Figure 22: Percentage of population with Bachelor's degree or greater in the old City of Toronto and CMA, 1991-2006

As would be expected, the percentage of school-aged population with at least a Bachelor's degree has increased across all spatial frames. In mixed-use zones, the percentage of the population having obtained such post-secondary education increased from thirty percent in 1991 to forty-six percent by 2006. Those living in mixed-use zones have consistently been more educated than elsewhere, particularly so compared to the CMA as a whole. While this pattern of higher education still rings true compared to non-mixed use areas and the city as a whole, the difference is much less: forty-six percent in mixed-use zones and thirty-eight percent in non-mixed use zones in 2006. This pattern of greater levels of education in mixed-use zones may indicate a greater propensity for the

forces of gentrification to have manifested in those areas with regard to the urban form and the direction taken by the local housing market.

5.3.2 Workforce Structure

Workers of all types are attracted to the variety of jobs offered in a large urban economy such as Toronto. Across the Toronto CMA, the job market has grown at an annualized rate of 2.4% per year between 1996 and 2006. This growth has taken different forms across the city: job growth has been highest in mixed-use areas, where the number of jobs has grown at an annualized rate of 2.5% per year, compared to just 0.7% per year for the rest of the city.[19] Moreover, broad shifts in the national economy have played out at the local scale, such that certain types of jobs – creative, knowledge-based - have become increasingly prevalent while others – goods-producing - have declined (Vinodrai, 2010). These broad shifts are apparent in a more pronounced fashion than elsewhere in the city. In order to understand these patterns of structural change, two methods of occupational categorization are employed. Exact values for the share of workforce and numbers employed by occupational class are listed in Tables 14 and 15 in Appendix A.

5.3.2.1 Knowledge Economy

Using the 'knowledge economy' occupational taxonomy described in section 3.3.4.2, it is clear that the workforce of the old City of Toronto is becoming more knowledge-intensive. As depicted in Figure 23, this trend is most pronounced within mixed-use zones. While knowledge-oriented occupations accounted for forty percent of the workforce living in mixed-use areas in 1996, their share of the workforce grew to half by 2006. This amounts to slightly higher proportions than in the other spatial frames, where knowledge-oriented occupations accounted for forty-three percent of the workforce elsewhere in the city, and only one-third across the CMA as a whole. The differential between mixed-use areas and all other spatial frames has also increased slightly over the period of 1996 to 2006. Compound annualized growth was also highest among these occupations and in mixed-use areas, with the number of workers classified as knowledge-oriented increasing at a rate of 4.8% per year – well above the overall rate of 2.5% growth of all workers living in mixed-use areas.

[19] See sources cited for Table 15

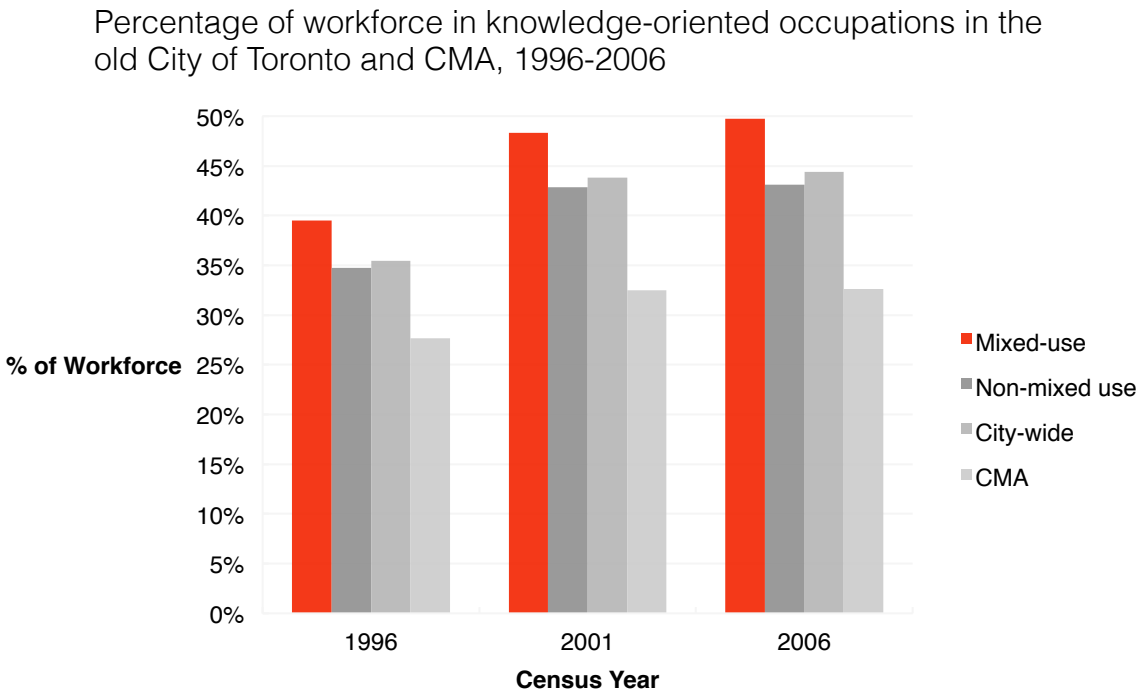


Figure 23: Percentage of workforce in knowledge-oriented occupations in the old City of Toronto and CMA, 1996-2006

Although the Canadian economy has generally moved towards service-oriented production regimes, service-oriented occupations are not necessarily those that have benefitted from job growth. In mixed-use areas, where those in service-oriented occupations once accounted for nearly half of the workforce in 1996, such occupations shrank in their share of the workforce to account for forty-two percent by 2006. As depicted in Figure 24, similar declines in the proportion of the workforce have occurred in non-mixed use areas in the rest of the city and the CMA as a whole. Although mixed-use areas have the lowest proportion of those in service-oriented occupations compared with the other spatial frames, there is no significant deviation in the proportion of the workforce accounted for by service-oriented occupations across the set of spatial frames. Interestingly, the absolute number of workers in this category has actually increased marginally at an annualized rate of 0.9% in mixed-use areas and 1.5% in the CMA as a whole, yet declined by 0.5% per year in non-mixed use areas in the rest of the city. While service-oriented occupations seem to lose their share of the workforce in lockstep with increases in the share held by knowledge-oriented occupations, they remain an important facet of the workforce across all spatial frames.

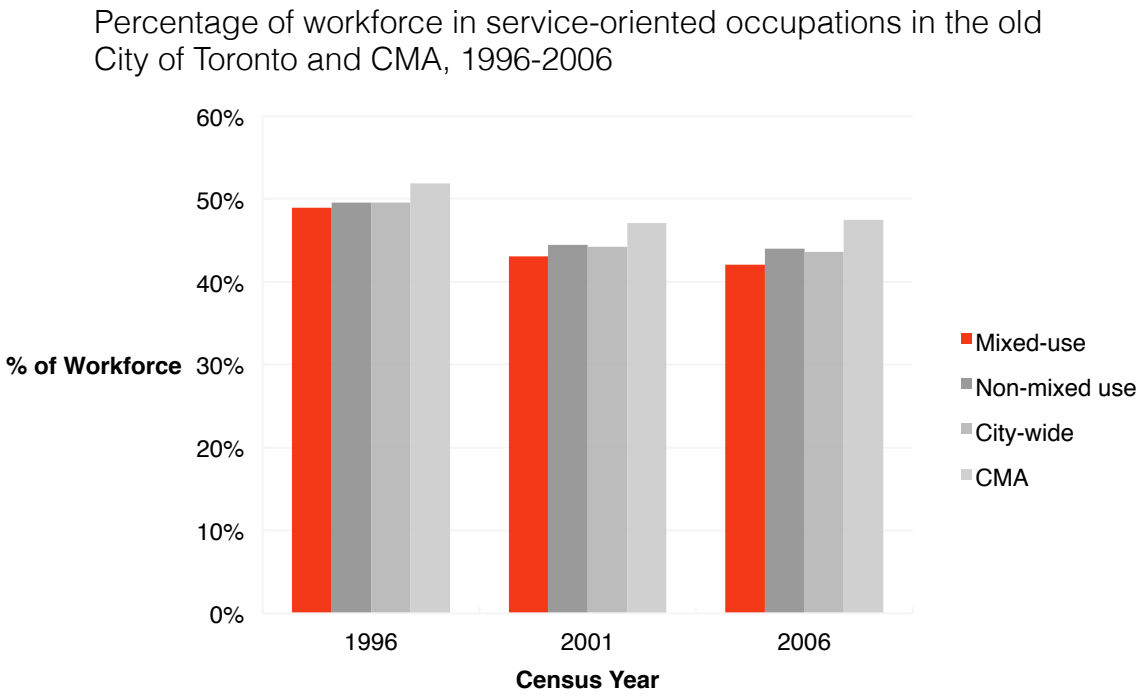


Figure 24: Percentage of workforce in service-oriented occupations in the old City of Toronto and CMA, 1996-2006

Production-oriented occupations account for the smallest proportion of the workforce living in mixed-use areas. This is unsurprising given the near-complete process of deindustrialization that has occurred in Canadian cities over the past several decades (Vinodrai, 2010). While this process has played out in all spatial frames, it is most apparent in mixed-use areas. As can be seen in Figure 25, production-oriented occupations shrank in their share of the workforce living in mixed-use areas from nine percent in 1996 to only seven percent by 2006. This compares with a similar pattern noticed in the rest of the city, where the share dropped from fourteen percent to ten percent in the same period. Annualized decline in number of workers was sharpest in non-mixed use areas, where the number of workers in production-oriented occupations decreased at a rate of two percent per year compared to 0.9% per year in mixed-use areas. It is interesting to note that the same occupations witnessed annualized growth of 2.1% across the CMA as a whole, possibly indicating that those in production-oriented jobs may have left the city proper for more suburban locations. Regardless, workers in production-oriented occupations are not only least likely to be found in mixed-use areas, but

increasingly so.

Figure 25: Percentage of workforce in production-oriented occupations in the old City of Toronto and CMA, 1996-2006

5.3.2.2 Creative Class

When the 'creative class' occupational taxonomy is used as described in section 3.3.4.1, the patterns that emerge are much the same as the 'knowledge economy' method. As noted earlier, the creative class method employs a broader definition of what constitutes 'creative' occupations, thus this category is seen to have higher proportionate share of the workforce than the knowledge-oriented occupational grouping. Regardless of the methodological differences, it is clear that the creative occupations are increasingly dominant in terms of share of the workforce living in mixed-use areas, as depicted in Figure 26. Such occupations accounted for fifty-eight percent of the workforce in mixed-use areas by 2006, up from forty-eight percent in 1996. The dominance of creative occupations is most pronounced in mixed-use areas, although they still account for more than half of the workforce living in the rest of the city, and thirty-nine percent in the CMA as a whole. Annualized growth has been strongest among these occupations in mixed-use areas, growing at a rate of 4.5% per year compared to the overall labour market average of 2.5% per year over the period.

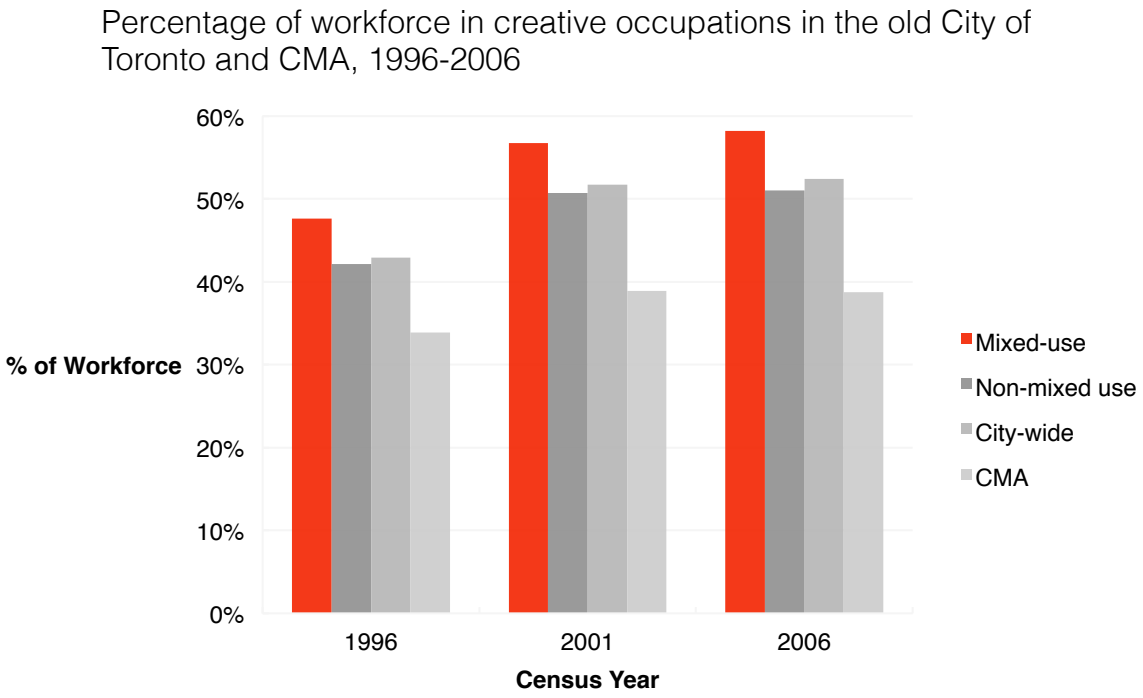


Figure 26: Percentage of workforce in creative occupations in the old City of Toronto and CMA, 1996-2006

As depicted in Figure 27, the pattern of decline in share of workforce among service occupations is much the same as in the 'knowledge economy' method. However, methodological differences between the two mean that the service occupational category account for less types of workers than its twin category in the knowledge economy method. Nevertheless, although service occupations account for similar proportions of the workforce across spatial scales, they hold the least share within mixed-use areas compared to other areas. These occupations have seen their share of the workforce decline over the period, dropping from forty-one percent of the workforce in 1996 to thirty-four percent by 2006 among those living in mixed-use areas, compared to thirty-six and forty-one percent in non-mixed use areas and the CMA as a whole, respectively. Not unlike what was apparent using the knowledge economy method, service occupations saw their share of the workforce decline while the number of workers actually increased in mixed-use areas, albeit at a slower rate of just 0.5% per year through the period. In the rest of the city, the number of service workers decreased at a rate of 0.9% per year, yet grew at a rate of 1.3% per year in the CMA as a whole.

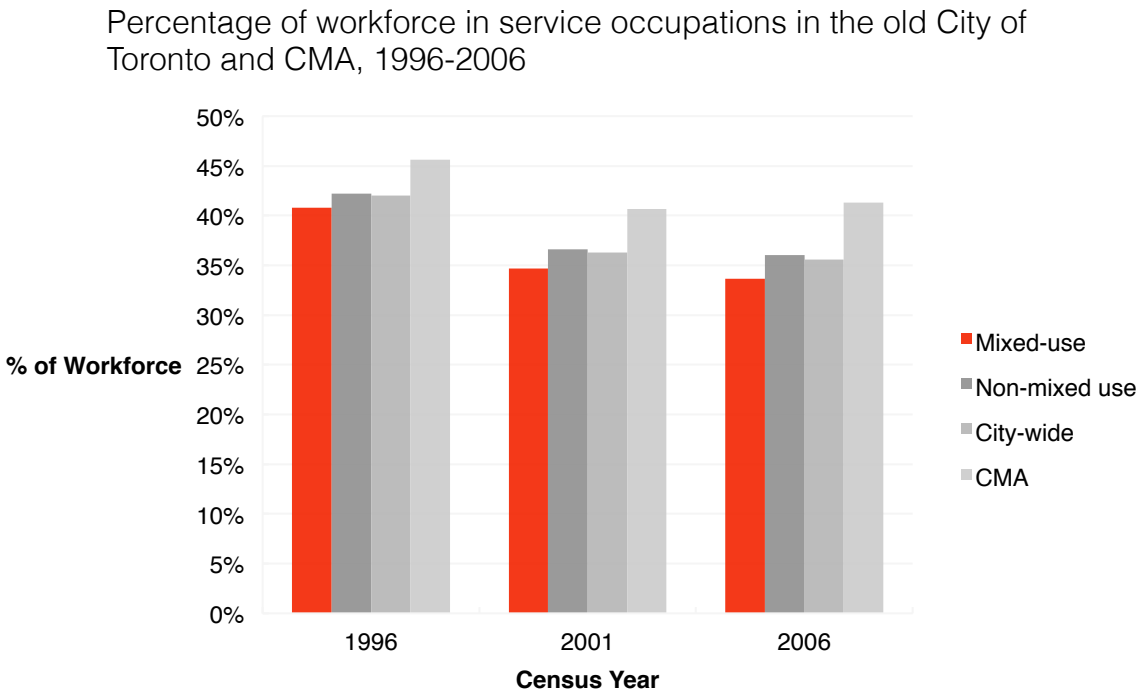


Figure 27: Percentage of workforce in service occupations in the old City of Toronto and CMA, 1996-2006

The pattern of decline relevant to the trades and manual labour occupational category mirrors that of the production-oriented category used in the knowledge economy method, as both categories make use of the exact same taxonomical groupings. For the sake of brevity, statistical values and figures will not be repeated in this section because those cited in section 5.3.2.1 apply equally here. In brief, trades and manual labour occupations account for the smallest share of the workforce living in mixed-use areas, as well as the least proportionate values in comparison to the rest of the city and CMA as a whole.

Regardless of which of the two methods is used, certain patterns of labour market restructuring are evident. Between 1996 and 2006, the labour market of Toronto increasingly shifted away from service-oriented occupations towards high-skill, knowledge-oriented jobs. Such types of workers are now the dominant group at all spatial scales, but especially so within mixed-use areas. Educated, relatively highly paid, upwardly mobile professionals are more likely to be found in mixed-use areas than anywhere else in the city. This shift has largely come at the expense of service-oriented occupations. Workers in such occupational groups are, while still accounting for the second largest facet of the workforce, are increasingly less likely to live in mixed-use areas. Production-oriented occupations have also seen decline, though they have amounted to a small portion of the workforce

living in mixed-use areas through the study period. The implications of these structural shifts in the labour market are considered in terms of housing affordability in next section.

5.4 Housing Affordability in a Changing Labour Market

In the context of a changing labour market, where there are classes of workers that can be seen as 'winners' and 'losers' in terms of pay and job opportunities, understanding the way in which such shifts may be manifesting in the housing market is key. As noted earlier in general terms, the forces of macroeconomic restructuring experienced in many countries over the last several decades have benefited those in the corporate, managerial, professional and advanced service sectors, while formerly well-paid, stable production-oriented jobs have been replaced by low-waged, insecure employment in the unskilled and semi-unskilled service-oriented sectors (Bunting et al., 2004, p. 363). But what does this mean in relation to the housing market? This section details the changing nature of housing affordability in mixed-use areas in relation to specific occupational groups. The results demonstrate that in the context of mixed-use zoning, certain types of workers are benefitting from increased housing affordability, while others are seeing their position in the housing market weaken. Accordingly, the nine occupational groups have been categorized as winners or losers.

The following sections describe a measure of housing affordability relative to both average housing costs and average income by occupation. These derived statistics use the average individual income of a given occupational group at the CMA level in relation to the average owner's major payments or gross rent in a given spatial frame, which is then expressed as a percentage ratio of housing costs to income. If the value meets or exceeds thirty percent (the STIR cut-off), housing is considered to be unaffordable.[20] Values were computed for each of the nine occupational groups listed in Table 2, for both owned and rental housing. Table 16 (Appendix A) lists the exact values for the housing expenditure-to-income ratios for each of the nine occupational groups studied.

5.4.1 Affordability Winners

Winners in the context of housing affordability are those occupational groups whose affordability position (as calculated by taking the average cost of housing as a percentage of the group's average income) both improved and finished the study period within or near the affordability cut-off of thirty-percent. Predictably, many of the types of jobs that fall into the occupational groups listed in this category are those that require formal education and are typified by a high degree of knowledge-intensity.

[20] See sections 2.2.2 and 3.3.2 for more details, respectively

5.4.1.1 Management occupations

Those in *management occupations* have fared the best of any occupational group with regard to housing affordability. Across all spatial frames, the group started the period in the 'affordable' bracket in terms of both owned and rental housing, and its affordability position has slightly improved through the period under both forms of tenure. For owned housing in a mixed-use area, the average individual management worker would have paid twenty-six percent of his income towards housing costs in 1991, a figure which steadily decreased to only twenty percent by 2006. For rental housing, the values are similar: nineteen percent of income would have gone towards housing costs in 1991, decreasing to only fourteen percent by 2006. These two sets of values remained at parity or marginally above the STIR values in the other spatial frames. It is apparent that those in the management occupations have fared very well throughout the aforementioned process of labour market restructuring, and have a great deal of flexibility in choosing housing. Workers in such occupations may be increasingly likely to choose to live in mixed-use areas, as their share of the workforce in those areas increased from twelve percent in 1996 to fourteen percent by 2006.

5.4.1.2 Business occupations

Workers in *business occupations* have made the most substantial gains of any occupational group in their relative housing affordability position. The group started off well inside the 'unaffordable' bracket across all spatial frames at the beginning of the period, and while it remains slightly within that bracket in terms of home ownership, it ended up in the 'affordable' bracket in terms of rental housing by 2001. The gains made in terms of affordability are notable: the average business worker would have paid fifty-five percent of their income to own housing in a mixed-use area in 1991, dropping to thirty-four percent by 2006; for rental housing, this decreased from forty-one percent to twenty-four percent in the same period. However, even though the affordability position of the average worker in this occupational group has improved substantially, this class of worker saw its share of the workforce living in mixed-use areas decrease slightly from twenty-two percent in 1996 to twenty percent by 2006. Regardless, the housing options of those in business occupations have certainly improved markedly with regard to the affordability of mixed-use areas.

5.4.1.3 Technical occupations

The housing affordability position of those in *technical occupations* has improved only marginally, but remains largely favourable. The group remained in the 'unaffordable' bracket with regard to owned housing through the period, but still experienced marginal gains in relative affordability: percentage income spent on owned housing fell from thirty-two percent in 1991 to right

on the thirty percent STIR cut-off by 2006. Given that these values fell so close around the cut-off, it can be said that those in technical occupations have maintained a relatively neutral position in the owned housing market in mixed-use areas. The group's position was more favourable in the rental housing market, such that a worker in a technical occupation renting in a mixed-use area went from paying twenty-four percent of individual income on rent in 1991 down to twenty-one percent by 2006. Compared to the rest of the city, the rental premium on mixed-use development is apparent in the slightly greater values for percentage income spent on rental housing in mixed-use areas. Just as the rental affordability position of these workers has improved over the period, the group's share of the workforce living in mixed-use areas has also increased, from six percent in 1996 to nine percent in 2006. In the midst of broader labour market restructuring, those in technical occupations have been able and willing to benefit from living in mixed-use areas.

5.4.1.4 Health occupations

Those in *health occupations* are the slightest of 'winners', seeing only marginal improvements in their affordability position over the length of the study. For those seeking owned housing in mixed-use areas, the average wage earner in the health occupational group would have gone from spending thirty-five percent of individual income in 1991 down to thirty-two percent by 2006. This marginal improvement obscures the trend within the study period: in 2001, the same worker would have paid only twenty-three percent of income on housing costs – well within the 'affordable' bracket – yet market forces saw this affordability gain eroded by the end of the period. A similar pattern exists with regard to rental tenure, where affordability steadily increased through 2001 but began to regress again by 2006. However, those in health occupations have maintained a favourable position within the rental market, going from spending twenty-six percent of income on rent in 1991 to only twenty-three percent by 2006. Regardless of the relative affordability position in owned and rented housing, the share of workers living in mixed-use areas falling under the health occupational grouping has remained the same at five percent between 1996 and 2006.

5.4.2 Affordability Losers

Losers are those occupational groups whose affordability position worsened over the study period, or improved but stayed well beyond the affordability cut-off of thirty percent income spent on housing. While the majority of the jobs that would be found within the occupational groups in this category are typified by routine work that is less knowledge-intensive than those in the previous category, this pattern does not apply as neatly as might be assumed.

5.4.2.1 Social, Edu., Gov't occupations

Workers in *Social, Edu. Govt. occupations* are perhaps the greatest losers in terms of their relative affordability position in mixed-use areas. Their position in the owned housing market deteriorated markedly throughout the study period, such that average housing costs went from 'affordable' to 'unaffordable' by the end of the period. Within this deterioration was a pattern of fluctuation: values fluctuated around the STIR affordability cut-off every other census year. Regardless, those in the public sector group saw their affordability position erode from spending twenty-eight percent of average income on housing costs in 1991 to thirty-eight percent by 2006. A similar pattern of deterioration occurred in the context of the rental market, though the affordability position of public sector occupations remained in the 'affordable' category throughout the period. Nevertheless, the group saw its position erode from spending only twenty-one percent of average income on rent to spending twenty-six percent by 2006, the worst erosion of rental affordability of any occupational group. This worsening of affordability across both forms of tenure is juxtaposed against the fact that those in public sector occupations are increasingly choosing to live in mixed-use areas, with their share of the workforce growing from ten percent in 1996 to fourteen percent by 2006, the fourth largest group share in that spatial frame.

5.4.2.2 Trades occupations

The *trades occupations* group also witnessed eroding affordability, and is the only other occupational group to have lost ground in both the owner and rental market. While the decline in ownership affordability was slight over the study period, the manufacturing group was consistently well within the 'unaffordable' bracket in mixed-use areas. Between 1991 an 2006, those wishing to enter the owner market in mixed-use areas would have spent forty-seven percent of their average income on housing costs, increasing to fifty-three percent by the end of the period. Although the affordability position of manufacturing occupations was much better in the rental market, the group still lost ground. Whereas average rental costs in mixed-use areas would have accounted for thirty-five percent of average income in 1991, this increased marginally to thirty-seven percent by 2006. Given the fact that manufacturing occupations were never in the 'affordable' bracket to begin with and only lost ground over the study period, it is not surprising that they account for a decreasing share of the workforce living in mixed-use areas.

5.4.2.3 Cultural occupations

The *cultural occupations* group has the honour of being the only grouping to experience noticeable improvements in housing affordability, yet remained in the 'unaffordable' bracket at the

beginning and end of the study period. Cultural occupations experienced noticeable improvements to both owner and rental housing affordability, second only to business occupations, yet still experience serious affordability pressures. Similar to the pattern noticeable among health occupations, the ownership affordability position of the cultural occupations group was on a very positive track up to 2001, after which the track reversed and affordability declined sharply. Ownership affordability has nevertheless improved, although not in practical terms: whereas average housing costs would have accounted for sixty-nine percent of income in 1991, this fell to fifty-eight percent by 2006. Such high proportions of income spent on housing imply that the average cost of home ownership in mixed-use areas was simply out of reach for those making the average income of the cultural occupations group. While the rental affordability position of the cultural occupations group was better, it was still very much 'unaffordable': average rental costs of housing in mixed-use areas would have accounted for fifty-one percent of income in 1991, falling to forty percent by 2006. These pressures would seem to indicate that renting would likely be the only viable option for those falling under the average income of cultural occupations. Even though housing is very much unaffordable for this group, its share of the workforce living in mixed-use areas increased marginally to ten percent by 2006, indicating that the group is not necessarily being shut out of those areas on the basis of housing costs alone.

5.4.2.4 Sales and service occupations

Several occupational groups fall into the dubious category of having experienced marginal improvements to, or at least no erosion of, housing affordability, yet also remaining entirely within the 'unaffordable' bracket throughout the study period. *Sales and service occupations* experienced the worst affordability pressures of any group throughout the period. Home ownership in mixed-use areas would be a pipe dream for this group: beginning the period with a relative affordability ratio of seventy-two percent income spent on average housing costs in 1991, the group managed to close out the period at seventy-one percent by 2006. Much the same pattern was exhibited in the rental market, such that average rental housing costs in mixed-use areas would have accounted for fifty-three percent of income in 1991, but had improved marginally to account for "only" fifty percent by 2006. These severe affordability constraints are juxtaposed against the fact that sales and service occupations accounted for the second largest single share of the workforce living in mixed-use areas, albeit the share declined slightly from twenty-two percent in 1996 to eighteen percent by 2006. It must be noted that the occupational group is broad enough that these affordability constraints would not apply to the entire grouping evenly. Indeed, the group includes a range: from police officers to janitors. However, it does include many of the low paying, low-skill service occupations that exist to the benefit of everyone else – the cashiers, cleaners, and cooks working in the businesses that often

exist within the context of mixed-use development. It may be that a sizeable proportion of those falling into this category may be examples of those for whom there is little choice but to live near work, even if it is entirely unaffordable.

5.4.2.5 Manufacturing occupations

Manufacturing occupations constitute the second example of having experienced marginal improvements to affordability while still being largely unaffordable. Home ownership affordability began to improve slightly through the 1990s, but by 2006 the position had swung back to a high degree of affordability pressure. These occupations began the period at the position of spending sixty percent of average income on owned housing costs in mixed-use areas, dipping to a low of fifty-two percent in 2001, ending up at fifty-nine percent by 2006. Such high levels beyond the STIR cut-off imply that the prospects for home ownership in mixed-use areas would be severely constrained. Rental affordability followed a similar yet more subdued pattern of marginal improvements, beginning the period at the level of forty-four percent average income spent on rent in 1991, dipping to forty-one percent by 2006. While these levels are much more reasonable, they still imply that even renting in mixed-use areas would present some difficulty for many of those falling under the manufacturing occupational grouping. Given these pressures, it is not surprising that manufacturing occupations account for the smallest share of the workforce in mixed-use areas, with that share shrinking from four percent in 1996 to only two percent by 2006. Whether it is because of cost pressures or limited proximity to work, those in manufacturing occupations are not likely to be benefitting from mixed-use development.

5.4.3 Spatial Shifts

The aforementioned shifts in the affordability of housing in mixed-use areas in relation to occupation become more apparent when visualized in spatial terms. In essence, the maps referred to in this section serve to give visual reference to how the structure of the housing market in Toronto's mixed-use areas has changed over the study period, offering a picture of where workers making the average income in a given occupational category could afford to live, assuming average housing costs.

The cartographic visualizations referred to in this section depict the percentage of average income for each occupational group that would be needed to cover the average housing costs in a given area. The measure of affordability revolves around the *STIR* standard value mentioned earlier: if housing costs exceed thirty percent of income, housing is said to be unaffordable. However, the *degree* of affordability also matters, thus the maps differentiate between various degrees of

affordability using a series of eight numeric classes as employed by Statistics Canada in their reporting of the data. This allows us to easily see which parts of the city, and in particular which mixed-use areas, are affordable to which occupational groups, and just how affordable they really are. For reference, the formal boundaries of the neighbourhoods mentioned in the maps that follow are depicted in Figure 30.

5.4.3.1 Managerial occupations

As mentioned earlier, those in the *Managerial* occupation category have not only fared well in the housing market, but have done increasingly well over time. As depicted in Figure 31, owned housing was largely affordable throughout much of the mixed-use areas in 1991. Areas of unaffordable housing were largely found in neighbourhoods near the downtown core (Waterfront; Moss Park; Church-Yonge corridor; the Annex; Cabbagetown), and Midtown neighbourhoods (Mount Pleasant West; Yong/Eglinton). By 2006, almost every mixed-use area in the city fell within the affordable categories, save for small pockets of unaffordable areas in the Annex, University, Moss Park, Yonge/Eglinton and Mount Pleasant West neighbourhoods.

The distribution of rental affordability followed a similar pattern through the study period, with much of the city well within the affordable range in 1991 as depicted in Figure 32. However, rental housing in mixed-use areas in the downtown core was generally much more affordable than owned housing. Not unlike the aforementioned pattern, by 2006 rental housing in mixed-use areas was widely affordable to those making the average income in the *Managerial* category: not a single mixed-use district fell into the unaffordable categories of average rental costs.

5.4.3.2 Business occupations

In spatial terms, much of the mixed-use areas in the city have become more affordable for those in *Business* occupations. While there was a somewhat varied distribution of affordability categories for owned housing in mixed-use areas in 1991, much of the housing along arterial routes fell well within the unaffordable categories, as depicted in Figure 33. Within the downtown core, areas such as the University and Waterfront neighbourhoods had pockets of affordable owned housing, while much of the rest of the core was very unaffordable. By 2006 the landscape had changed towards increasing affordability, though much of the city's mixed-use areas fell within either slightly affordable or slightly unaffordable categories. Still, towards the Annex and towards the Waterfront, affordable owned housing would have been difficult to obtain.

More pronounced shifts were apparent in the affordability landscape of rental housing in mixed-use areas. Whereas the vast majority of the mixed-use areas across the city fell within the

unaffordable categories, affordable rental housing was available in the University, Bay Street corridor, and Kensington/Chinatown neighbourhoods. By 2006 a marked shift had occurred: much of the mixed-use areas in the city fell within the affordable categories, as depicted in Figure 34, with the only pockets of unaffordable areas being found within parts of the downtown core. Given the rise of the service-oriented sectors of the economy and the location of such jobs within the city, those in *Business* occupations have certainly seen their rental housing position strengthen over the study period.

5.4.3.3 Technical occupations

For those in the *Technical* occupation group, the distribution of affordability for owned housing was spatially and categorically varied in 1991; that is, housing in mixed-use areas fell into all categories of affordability throughout the city – from affordable to very unaffordable. Pockets of least affordability were mostly present in and around the downtown core and north along Yonge street, as depicted in Figure 35. This varied affordability landscape had shifted by 2006 to resemble a much more bipolar distribution, with most areas falling just under or just above the affordability line. This is exemplified by the Waterfront neighbourhood in the downtown core, which shifted from a mix of very affordable and very unaffordable areas to a fairly even distribution of slightly unaffordable housing costs. At the same time, neighbourhoods at the northern end of Yonge street became more affordable.

Rental housing exhibited a similar mix of housing affordability, though followed a more direct trajectory towards increasing affordability for those in the *Technical* occupation category. While much of the city was affordable in terms of rental costs in 1991, pockets of unaffordable housing were largely centred within the downtown core and Annex neighbourhood, as depicted in Figure 36. By 2006 almost all mixed-use areas became affordable, save for pockets of slight inaffordability in the Annex, Bay Street corridor, parts of the Waterfront, and in small pockets along Yonge street.

5.4.3.4 Health occupations

Although the housing position for those in *Health* occupations has improved throughout the study period on the aggregate, the landscape of housing affordability in spatial terms has changed in more subtle ways. With regard to owned housing in mixed-use areas, there was a broad range of affordable and unaffordable areas in 1991. As depicted in Figure 37, parts of the downtown core were very affordable (for example, the University and the north of the Waterfront areas), while others were very unaffordable, with a mix in between throughout the rest of the city. Similar to the landscape

applicable to *Business* occupations, by 2006 owned housing in mixed-use areas had become more affordable yet in spatial terms, most such areas were distributed as either slightly affordable or slightly unaffordable. However, much of the northern stretch of Yonge street became less affordable – areas close to transit.

The more striking spatial change occurred in the context of rental housing, such that the position for those in *Health* occupations improved markedly within the downtown core, as depicted in Figure 38. While most of the mixed-use areas in the city were already affordable in 1991, pockets of unaffordable rental housing were apparent in the downtown core and along the Yonge street corridor. By 2006, almost all mixed-use areas in the city fell within the affordable categories, save for parts of the downtown core.

5.4.3.5 Social, Edu., Gov't occupations

The spatial distribution of housing affordability for those in *Social, Edu. Govt.* occupations saw the most pronounced shift during the study period. In 1991, the landscape of owned housing affordability was such that there was a broad range and mix of affordable and unaffordable areas throughout the city. Given that occupations falling into this group were traditionally considered well-paying, it is not surprising to see that much of the mixed-use areas in the city were affordable, as depicted in Figure 39. Pockets of unaffordable areas were spread throughout the city, though concentred in the downtown core neighbourhoods. Drastic changes occurred by 2006: owned housing in mixed-use areas suddenly became largely unaffordable throughout the city, save for patches of affordability in the Bay Street corridor and outside the downtown core.

Rental housing took a slightly different trajectory, though still towards decreasing affordability, as depicted in Figure 40. Rental housing in 1991 was largely affordable throughout the city, save for pockets of slight inaffordability in the Waterfront and Moss Park areas, with the Annex being marked by highly unaffordable housing. By 2006, while much of the rest of the city had stayed affordable, the downtown core became much less affordable, especially in the Waterfront neighbourhood.

5.4.3.6 Cultural occupations

The spatial landscape of housing affordability for those in *Cultural* occupations seeking to live in mixed-use areas has deteriorated markedly. While owned housing was largely unaffordable in most mixed-use areas in 1991, pockets of affordability could be found within the downtown core, particularly in the northern end of the Waterfront neighbourhood and in the University area. By 2006, almost all of the mixed-use areas in the city shifted to the status of being very unaffordable.

Affordability particularly worsened within the downtown core, as depicted in Figure 41. The deteriorating affordability of owned housing in the city's mixed-use areas for those in *Cultural* occupations aligns with outcomes seen in the gentrification literature, whereby the first-stage 'pioneers' – often professionals in the arts and media – are inevitably priced out of the inner city neighbourhoods they helped to gentrify (Ley, 1996).

The reverse trend seemed to occur in the context of rental housing. While the vast majority of mixed-use areas in the city were well within the unaffordable categories in 1991, particularly in the downtown core, several areas transitioned to affordable status by 2006. Improvements occurred mainly in the Waterfront neighbourhoods, and eastward outside the downtown core, as depicted in Figure 42.

5.4.3.7 Sales and service occupations

Predictably, the affordability landscape of housing in mixed-use areas for those in *Sales and service* occupations only worsened throughout the study period. As depicted in Figure 43, owned housing was largely highly unaffordable throughout the city, save for odd pockets of slightly affordable housing in the north end of the Waterfront neighbourhood, and within the University and Bay Street corridor areas. By 2006 not a single mixed-use area fell into the affordable categories, with the city exhibiting an evenly-spread distribution of deeply unaffordable areas.

Oddly, the affordability landscape of rental housing in mixed-use areas was largely worse than owned housing. In 1991, as depicted in Figure 44, virtually all mixed-use areas fell into the unaffordable categories, with most deeply unaffordable. The only affordable rental areas were found in small pockets within the Kensington/Chinatown and Church/Yonge street neighbourhoods. While the landscape seemed to improve slight by 2006, with several areas becoming slightly more affordable (though still entirely unaffordable), the vast majority of mixed-use areas in the city remained well within the unaffordable categories.

5.4.3.8 Trades occupations

The housing affordability landscape for those in *Trades* occupations seeking housing in mixed-use areas has remained varied throughout the study period, but has shifted towards increasing affordability stress. As depicted in Figure 45, owned housing in 1991 ranged from very unaffordable, particularly in the downtown core, to areas of a very high degree of affordability, particularly in the University/north Waterfront neighbourhoods. However, by 2006 this broad variety had shifted to coalesce around a spectrum of slight affordability to moderate unaffordability. Much of the shift

towards unaffordable status occurred within the downtown core, where once-affordable areas became very unaffordable.

This pattern was largely mirrored in the rental housing landscape. The mixed-use areas with affordable rental housing options that existed in the downtown core and in the northern parts of Yonge street in 1991 largely disappeared by 2006, as depicted in Figure 46. Instead, areas in Moss Park and further east of the downtown core became more affordable, following the trend seen in other occupational groups.

5.4.3.9 Manufacturing occupations

Similar to those in *Social, Edu. Govt.* occupations, the affordability landscape for those in *Manufacturing* occupations seeking housing in mixed-use areas has deteriorated markedly. The distribution of owned housing affordability in 1991, while tending towards the unaffordable in many parts of the city, retained large pockets of affordability in the downtown core. By 2006, if the jobs held by such workers were to be located within the city, affordable owned housing would have been problematic as virtually the entire city turned towards the markedly unaffordable categories. This is particularly evident in the downtown core, where areas that were very affordable in 1991 shifted to become very unaffordable by 2006, as depicted in Figure 47.

Similar to the pattern noticed amongst *Sales and service* occupations, the rental affordability landscape of those in *Manufacturing* occupations was worse than those seeking owned housing. Compared to the existence of pockets of affordability within the downtown core, the vast majority of the city was completely unaffordable, save for pockets of slight affordability in the University and Kensington/Chinatown neighbourhoods. By 2006, this trend had remained much the same, yet its distribution had changed in spatial terms: while much of the city remained unaffordable, as depicted in Figure 48, the pockets of slight affordability had shifted eastward, popping up in the Waterfront and along the Danforth.

5.5 Summary

This chapter has offered a detailed examination of the changing nature of housing, housing affordability, and the structure of the workforce in mixed-use areas in the old City of Toronto. Much of the data and analysis described in this chapter constitute new contributions to the body of academic knowledge. Key findings relate to: the price of housing, such that when adjusted for dwelling size, sizeable price premiums for housing in mixed-use areas have grown over the study period, particularly among rental dwellings; growing affordability pressures, which are typically greatest in mixed-use areas; structural changes in the workforce, such as the increasing share of knowledge-

oriented occupations, which are most prevalent in mixed-use areas; and the combined effect of these structural changes, such that certain occupational classes are increasingly able to afford housing in mixed-use areas, while other classes have seen their position in the housing market degrade. The implications of these findings are discussed in the next chapter.

Chapter 6
Conclusion

The first section of the conclusion summarizes the entirety of the findings in relation to the original research questions. As the core concepts of the study are often addressed in the context of public policy, the study findings are discussed in terms of the implications they may have in the policy landscape. These implications are then translated into a series of broad recommendations relevant to how mixed-use development and housing affordability should be conceptualized by those working in academia, professional practice, and public policy. The study concludes with a discussion of its methodological and practical limitations, and an offering of possible avenues for further research.

6.1 Summary of Findings

This study has sought to address a series of central research questions and objectives in an examination of the landscape of mixed-use development in Toronto, structural shifts in the city's labour market, and how the results of these shifts have played out with regard to the affordability of housing in mixed-use areas, both generally, and relative to specific occupational classes. The results of the research in each of these exploratory areas are summarized in the following sections.

6.1.1 Mixed-use Zoning in Toronto

The City of Toronto, both in its former pre-amalgamation and current post-amalgamation instances, has had a relatively long history of formally allowing and planning for the mixing of land uses through the application of explicit mixed-use zoning bylaws. This approach dates as far back as the 1960s, when transit development of the growing subway system was intended to align with high-density, mixed-use developments near subway stations. Political developments in the 1970s and 1980s led to the application of mixed-use principles in several neighbourhood redevelopment projects in the city. By 1986, mixed-use zoning categories were formally included in the comprehensive zoning bylaw. Throughout the 1990s and 2000s, mixed-use zoning was increasingly applied in revitalization efforts within the urban core. Today, mixed-use zoning continues to be a core part of Toronto's approach to land use development, demonstrated in the continued inclusion of mixed-use zoning categories in the latest zoning bylaw passed in 2013.

As of 2005, lands zoned under the various mixed-use categories accounted for approximately thirteen percent of the land area of the old City of Toronto. Much of this zoning is centred in the downtown core, with peripheral arms stretching out along north/south and east/west arterial streets.

While there are several categories of zoning that allow for mixed land uses, there is an explicit focus in the City's planning efforts on the mixing of commercial and residential land uses, such that the majority of lands zoned as mixed-use fall under categories that promote these two complementary land uses.

6.1.2 Housing Affordability and Mixed-use Zoning in Toronto

To explore the nature of the affordability of housing in mixed-use zones in the old City of Toronto, this study examined the average cost of housing and how those costs relate to average incomes. Several trends are apparent across the study period.

While there has been a shift away from the traditional dominance of rental tenure across all spatial scales, this shift has been most pronounced within mixed-use areas. Rental tenure accounted for almost three-quarters of all dwellings in mixed-use areas in 1991 – a much greater share than the rest of the city - however this market share dropped to slightly less than sixty percent by 2006, aligning more closely with the composition of the city's housing market as a whole. This shift away from rental tenure towards home ownership is apparent in the housing stock: between 1991 and 2006, the number of owned dwellings grew by 112% in mixed-use areas compared to twenty-seven percent in the rest of the city. The number of rental units increased by only eleven percent in mixed-use areas. Since rental tenure has traditionally been associated with more affordable housing, this striking shift towards owned housing may signal increasing affordability pressures in mixed-use areas.

Housing costs have changed in subtle ways across the study period, such that there exists a price premium for housing in mixed-use areas compared to elsewhere. At face value, housing is only slightly more expensive in mixed-use areas compared to the rest of the city. Owned housing costs (as measured by average owner's major payments) grew at a slower rate in mixed-use areas, and the price premium in mixed-use areas decreased relative to the rest of the city such that owned housing costs effectively reached parity by 2006. On the other hand, while average gross rent decreased in absolute terms across all spatial scales, the premium for rental costs in mixed-use areas grew to twelve percent above rents in the rest of the city by 2006. These values, however, do not tell the entire story.

When considering housing costs, one must consider the *amount* of housing to be consumed in relation to its price (Moos, 2012). Over the study period, there has been a marginal trend towards smaller average dwelling sizes across all spatial scales. However, housing sizes are clearly smaller, on average, in mixed-use areas: in 2006, the average dwelling in a mixed-use area had 4.3 rooms and 1.5 bedrooms, compared to values of 5.2 and 2.0, respectively, in the rest of the city. When average housing costs are computed on a price-per-room/bedroom basis, a substantial price premium becomes

apparent among dwellings in mixed-use areas. For owned housing this premium has decreased over time, though by 2006 average owner's major payments amongst dwellings in mixed-use areas were twenty-five percent higher per room, and thirty-five percent higher per bedroom, than the rest of the city. This price premium is even more substantial among rental housing: as of 2006, average gross rent was thirty-eight percent higher per room, and a striking *fifty-percent higher* per bedroom than in the rest of the city. Moreover, the premium for rental housing increased over the study period. These results may be a reflection of the aforementioned shift towards ownership tenure, and resulting constriction of rental supply.

These pricing trends are reflected in measures of the share of the housing market that fall under the technical definition of 'unaffordable' housing. While the proportion of households that fall into that category has increased slightly across all spatial scales over the study period, the trend towards unaffordable status is most pronounced within mixed-use areas. As of 2006, thirty-two percent of owner households in mixed-use areas exceeded the affordability cut-off, compared to twenty-five percent in the rest of the city. The trajectory of rental affordability in mixed-use areas has been much more closely aligned with that of the rest of the city: forty-seven percent of rental households exceeded the affordability cut-off, compared to forty-five percent in the rest of the city. Thus, while renters continue to experience a relatively high degree of housing affordability stress, it would appear home owners in mixed-use areas are increasingly susceptible to similar affordability pressures.

Yet, as mentioned earlier, the affordability of housing in mixed-use areas has changed in subtle ways over the study period, and conclusions depend on the measures used. When average housing costs are compared to average incomes, the resulting housing expenditure-to-income ratios indicate that housing in mixed-use areas has become slightly more affordable, yet remains slightly less affordable than the rest of the city. Overall, owned housing has become almost as affordable as the rest of the city, if comparing average owned housing costs to average incomes. For those making the average household income in mixed-use areas, owned housing in such areas exceeded the affordability cut-off in 1991, yet was well below the cut-off by 2006. Using the average individual income, owned housing became more affordable over the study period, but remained beyond the affordability cut-off. On the other hand, average rental housing costs as a percentage of average incomes in mixed-use areas remain slightly less affordable than the rest of the city. For those making the average household income in mixed-use areas, rental housing became more affordable, and remained well under the affordability cut-off. For those making average individual income in mixed-use areas, rental housing went from slightly exceeding to falling slightly under the affordability cut-

off by the end of the study period. These measures, however, relate only to the average – they necessarily only describe the affordability of housing with regard to someone making the average given income, consuming the average price of housing across a spatial frame of reference.

When the various sets of broad measures are taken together, it becomes apparent that while housing in mixed-use areas was more expensive than elsewhere in the city, the level of these premiums was not exactly mirrored in measures of housing affordability. Nevertheless, there is evidence of both higher prices and slightly less affordability of housing in mixed-use areas compared to the rest of the city. Housing affordability outcomes vary not only in spatial terms, but also between tenure and income groups, thus our understanding of the aforementioned trends will be augmented by exploring how these trends have occurred within the context of broad labour market restructuring.

6.1.3 Restructuring Labour Markets in Toronto

As the structure and orientation of the broader Canadian economy shifted in response to the processes of deindustrialization and reorientation towards services-producing industries throughout the latter half of the 20th century, Toronto was reshaped in both spatial and economic terms. The spatial echoes of deindustrialization and rise of the so-called knowledge economy have been particularly pronounced in Toronto, and are apparent throughout the study period. The City of Toronto took advantage of these shifts and the resulting land use implications by reorienting land use policy towards redevelopment and revitalization of formerly productive lands in the urban core. Much of these efforts were centred on the application of mixed-use zoning, which has led to a reconfiguration of the urban core: developments in mixed-use areas have brought a lively, upwardly mobile residential population back into the urban core. At the same time, these shifts are apparent in the structure and composition of the workforce in Toronto, and as mentioned earlier, such shifts will inherently feed back into, and shape outcomes in, the housing market. Many of these shifts have been most pronounced within mixed-use areas.

Overall, the labour force of the old City of Toronto exhibited an increasing degree of educational attainment over the course of the study period. Across the city as a whole, the proportion of the population holding a university degree or greater increased from twenty-six percent in 1996 to forty percent by 2006. This trend towards a more educated workforce was most pronounced in mixed-use areas, which were and remain the most educated parts of the city: while almost a third of those living in mixed-use areas had at least a Bachelor's degree in 1991, this figure rose to forty-six percent by 2006.

Alongside an increasingly educated workforce, it should be no surprise that Toronto's labour market increasingly shifted towards growth in knowledge-intensive work. The two occupational taxonomies employed in this study to measure shifts in the occupational structure of the workforce rendered similar results. Using the *knowledge economy* method, knowledge-oriented occupations grew in their share of the city's workforce from 35.5% in 1996 to 44.4% by 2006; similarly, employing the *creative class* method renders a growth in share held by creative occupations from forty-three percent to 52.4%, respectively. However, these occupations are more likely to be found in mixed-use areas than anywhere else, with knowledge-oriented occupations accounting for 49.8% of the workforce in 2006 (58.2% if using the creative class occupational group). Moreover, growth in knowledge-intensive labour has been strongest in mixed-use areas, with knowledge-oriented occupations growing at an annual rate of 4.8% compared to 2.9% in the rest of the city (4.5% and 2.6% using the creative class grouping, respectively). It is clear that Toronto's labour force has restructured throughout the study period towards a knowledge-intensive orientation, and that such shifts have been most readily apparent in mixed-use areas.

Shifts in the socioeconomic makeup of the workforce in mixed-use areas over the study period are unsurprising when viewed within the context of the literature on gentrification in Canadian cities. The pronounced shift towards knowledge-intensive occupations and increasingly high levels of education of those living in mixed-use areas relative to the rest of the city seem to be reflective of Ley's (1986, 1996) new middle class. By the same token, mixed-use areas are also partially reflective of Hulchanski's (2010) first-tier neighbourhoods in terms of education levels, workforce structure and increased housing costs relative to the rest of the city. The findings of this study are divergent from Hulchanski's 'three cities' work in that average incomes in mixed-use areas were no higher than the rest of the city, although this may be reflective of the phenomenon Ley (1996) describes wherein income values tend to lag behind concurrent increases in levels of education and growth in the knowledge-intensive share of the workforce. Nevertheless, the apparent links between the landscape of gentrification and that of mixed-use development deserve more analysis in further work.

6.1.4 Housing Affordability in Mixed-use Zones in a Restructuring Labour Market

Given that the broader restructuring of Toronto's labour market over the study period has been most pronounced in mixed-use areas, while recalling the growing understanding of how such shifts link recursively back into the housing market, it is important to consider the way housing affordability may have changed in relation to specific occupational groups. Inevitably, these structural shifts in the labour market and broader economy have created winners and losers in the housing

market; that is, some groups have benefited, while others have seen their position in the housing market weaken with regard to affordability.

Winners in the context of housing affordability are those occupational groups whose affordability position (as calculated by taking the average cost of housing as a percentage of the group's average income) both improved and finished the study period within or near the affordability cut-off of thirty-percent. Predictably, those in *Managerial occupations* fared the best regardless of housing tenure: the group's housing position improved and was well within affordable range in both owned and rental housing categories. The affordability position of the *Business occupations* group improved dramatically, wherein owned housing in mixed-use areas shifted from being very unaffordable to just shy of the affordability cut-off, and from unaffordable to affordable in rental housing. Those in the *Technical* and *Health occupations* groups fared similarly to each other, such that their affordability positions improved slightly in both owned and rental housing, ending the study period just shy of the affordability cut-off in the former category, and well within the affordable range in the latter.

At the same time, most occupational groups were not party to the benefits of mixed-use areas. Losers are those occupational groups whose affordability position worsened, or improved but stayed well beyond the affordability cut-off of thirty percent income spent on housing. Surprisingly, the *Social, Edu. Govt. occupations* group fared poorly: the group's position worsened in both owned and rental housing, transitioning into the unaffordable category in the former, but staying under the affordability cut-off in the latter tenure category. The *Trades occupations* group was the only group to lose ground in terms of its affordability position in both owned and rental housing categories, moving deeper into unaffordability in owned housing, while only slightly losing ground in the rental category. The *Cultural* and *Sales and service* groups improved in terms of their affordability positions in both owned and rental housing, but remained well outside the affordability cut-off in both tenure categories. The affordability position of the *Manufacturing occupations* group improved only marginally, such that owned housing in mixed-use areas remained very unaffordable, while rental housing remained well outside the affordability cut-off.

In one sense, these results are not surprising: in terms of the overall affordability positions, the 'winning' occupational groups tend to be more closely aligned with the types of work that would fall under the finer-grained knowledge-oriented or creative class occupational groupings. Likewise, the occupational groups in the 'losing' categories tend to align with the service and production-oriented occupational groupings. There is, however, a notable exception: while the average rental accommodation in mixed-use areas is still affordable for those in the *Social, Edu. Govt. occupations*

group, the average owned accommodation is no longer affordable. While this speaks to the variety and range of occupations within the group (e.g. it includes both professors and social workers), it also points to the way in which jobs that have historically been considered 'good' may be becoming priced out of the housing market in mixed-use areas. This may not be so surprising if those in the *Social, Edu. Govt.* occupational group are considered in the context of Rose's (1984) 'marginal gentrifiers': that is, the deteriorating affordability position of this group may be reflective of those in white-collar jobs who have been "proletarianized" through the processes of labour market restructuring such that they have experienced downward social mobility relative to the generation prior. Similarly, those in manufacturing jobs, which were historically considered to be at the core of the middle class, are clearly not party to the benefits of housing in mixed-use areas in Toronto. Thus, overall, it would appear that the benefits of mixed-use developments may be accruing to certain occupational classes by virtue of broader forces of economic restructuring.

However, this bird's eye view is just that – a broad view of the landscape in general. A finer-grained spatial examination of how the affordability landscape of housing in mixed-use areas is necessary in order to understand how the city itself has changed in response to these macroeconomic shifts. The mapping component of this study offers a series of visual answers to the questions of where a given occupational class could afford to live, and how that landscape may have changed over time.

With regard to owned housing in mixed-use areas, the maps show that the affordability landscape largely reflects the standings of the winners and losers mentioned earlier; that is, the 'winners' largely saw the affordability landscape stay similar in size or grow in breadth of affordable housing options. Those in the 'losers' category largely saw the affordability landscape shrink in terms of the number of mixed-use areas that would be affordable to them. For rental housing, the situation is different: the affordability landscape largely remained similar between the beginning and end of the study period in terms of how many mixed-use areas fell under the affordable category of rental housing. However, there was a clear winner above all other groups: the *Managerial occupations* group, for which both owned and rental housing became affordable in virtually all of the city's mixed-use areas.

There are also many fine-grained subtleties that reflect changes in the spatial distribution of affordable housing in mixed-use areas. By and large, housing in mixed-use areas became less affordable in the downtown core, such that affordable mixed-use areas were increasingly found outward along arterial roads, largely towards the East end of the city. It is no surprise that as the Waterfront neighbourhood was redeveloped over the study period, it became increasingly less

affordable to most occupational groups. Overall, the maps seem to paint a picture consistent with general notions common in the literature: the core of the city – the lively and amenity-rich areas mixed-use areas where people can live, work, and play in close proximity – is increasingly unaffordable to most occupational groups.

6.2 Policy Implications

Mixed-use development is considered part of the planning 'canon' in terms of both theory and practice: the notion of mixing land uses is generally regarded as both a policy goal and a strategy of land use development. This is especially true in comparison to the historical, pre-war view of urban planning, which sought to strictly segregate land uses in what is now seen as a misguided attempt to create more liveable cities. To the contrary, current accepted thinking suggests that a variety of complementary land uses is a key component in designing liveable cities, and thus leads to increased quality of life. The popularity of mixed-use zoning in planning practice is apparent in the case study subject: Toronto is an example of a city that could be considered an early adopter of mixed-use zoning policies, given the fact that such principles have been present in the city's land development strategies since the late 1960s.

However, even though the principles of mixed-use development have reached canonical status in both theory and practice, the concept is not often considered in light of its effects on the housing market. Relatively little empirical work has been done to test economic outcomes relating to the affordability of housing in mixed-use areas. This is peculiar, as housing affordability itself is an issue often studied and framed by planning academics and practitioners alike as a problem for which urban planning can provide solutions. The current state of thinking in academic and practice settings points to a desire to advance both mixed-use development *and* increased affordability of housing at the same time. In the case of Toronto, both goals are evident in the design and implementation of the city's land development policy framework.

Assuming we are pursuing both these goals through rationally-designed policy, what do we know about housing affordability in mixed-use areas? Even though previous empirical work is limited to case studies, the extant data indicate that land is more expensive in mixed-use areas compared to areas with monofunctional land uses. This study extends the body of research to include a Canadian case study, and demonstrates that housing in mixed-use areas in Toronto is both more expensive and less affordable than in the rest of the city. In the midst of broader labour market restructuring, certain occupational groups are increasingly able to reap the benefits of living in mixed-use areas, while

other groups are increasingly excluded from the housing market in mixed-use areas due to affordability pressures.

Therein lies a fundamental tension between the two policy goals: planners want to increase quality of life through design by creating more liveable, mixed-use developments, yet at the same time we also want to prevent or alleviate housing affordability problems. On the face of it, mixed-use development would seem to create the conditions contrary to the latter goal of affordable housing: since people are willing to pay more to live in areas typified by the features that define the concept of mixed-use development - areas that are amenity-rich, liveable, and proximate to the functions of daily life - it makes sense that housing would be more expensive in mixed-use areas.

On the other hand, policies intended to address the issue of housing affordability can be, and often are, designed to counteract such outcomes through the use of incentives or requirements in zoning by-laws wherein developments must include some given amount of affordable housing, or contribute to some other corollary social need in the city. However, the impact of such policies can be limited if they are solely concerned with the creation or maintenance of a stock of "affordable housing" – that is, housing affordable to low-income groups. Such efforts rarely have any bearing on the broader issue of the degree to which housing is affordable across the general population. Yet in the context of a restructuring labour market, housing in mixed-use areas is increasingly unaffordable to portions of society that we would not likely consider when designing policy to address the issue of affordable housing. For example, the average member of the *Social, Edu. Govt. occupations* group would not likely be considered "low-income" in the context of policies pertaining to affordable housing, yet the results of this study demonstrate that they would likely have difficulty finding affordable housing in Toronto's mixed-use areas.

In the case of Toronto, the results of the study seem to indicate a reality where mixed-use development is *not for everyone*. The benefits of mixed-use development – proximity to amenities, and ostensibly a greater quality of life – are open only to those who can afford to live in such areas. Partly due to labour market restructuring, it would seem that certain occupational classes have found themselves in a better position to afford that kind of housing, while other occupational classes have found themselves in a losing position. In other words, the benefits of mixed-use development in Toronto are increasingly likely to accrue to the types of workers that can afford to live where they want, while those who stand to benefit the most from amenities such as proximity to work, transit, and services - workers in less profitable service-oriented occupations - are increasingly priced out of the central, mixed-use locations.

When the disconnect between the policy goals of mixed-use development and housing affordability are considered in the conceptual context of neoliberal governance or the entrepreneurial city, wherein municipal governance has ostensibly been driven by the need to meet market demands through policy, it is no surprise that the two policy goals can coexist while seemingly being at odds in reality. In such a context, mixed-use zoning policies align with the market demands of upwardly mobile professional classes seeking to live in the urban core and enjoy all its attendant benefits. At the same time, municipal leaders are made happy by the successful revitalization efforts intended to attract such workers – and the higher property taxes they will pay – through mixed-use (re)development.

In this sense, the fact that housing in mixed-use areas seems to be more expensive and less affordable than elsewhere need not necessarily be a *bad thing*. Indeed, one's perception of whether such outcomes are bad or good depends heavily on personal ideological stances. More importantly, the information in this study is better used to judge the effectiveness of our land development policies with regard to the implicit and explicit objectives that those policies are intended to achieve. In other words, an evaluation of the appropriate role that mixed-use zoning can play as a policy instrument in a broader portfolio of land development strategies depends on what we mean to achieve. Thus, planners and policymakers must be clear about what they intend to achieve through the application of mixed-use zoning, while academics must be realistic about the likely affordability outcomes for housing in mixed-use areas.

6.3 Recommendations

This study is not intended to be a definitive policy analysis of the merits of mixed-use zoning. It is an exploration of how the nature of housing affordability in mixed-use areas has changed over time within the broader context of macroeconomic restructuring - facets that have not been readily studied in a Canadian setting. The findings are meant to contribute to the broader housing discourse by laying the groundwork for further analyses. However, several conclusions can be drawn from the results in order to provide broad recommendations regarding the application, implementation, and conceptualization of mixed-use zoning in policy, practice, and theory.

6.3.1 For Theory

The theory of mixed-use development must necessarily be tied to empirical observations regarding outcomes in the real world. In pedagogical terms, the link between theory and empirical data must be especially strong in professional fields such as urban planning, where there is an expectation that research informs teaching, and teaching in turn informs practice (which is ostensibly

oriented at serving the public good). The findings of this study further elucidate the role that mixed-use zoning can play in the revitalization of a city, but also the links between mixed-use development and processes of gentrification and sociospatial polarization. The principles of mixed-use development do not constitute a panacea, and it is precisely because they are so popular in both practice and pedagogy that they must be more clearly articulated as having both negative and positive implications in the housing market.

This study also serves to highlight an apparent tension in the academic side of urban planning: mixed-use development is taught and understood as canonical theory, yet all the while the is a dearth of empirical knowledge testing its outcomes in terms of affordability in the housing market. This is especially true in the Canadian context, where very little work has been done to explore the nature of housing affordability in mixed-use areas. Perhaps because the Jacobian dogma of urban planning is so ideologically pervasive within academic circles (especially in Canada), the objective practice of mixed-use zoning is not often questioned. Yet if urban planning is fundamentally concerned with increasing quality of life through the rational design of our cities, we must have as much information as possible in order to make appropriate decisions. Moreover, the viability of urban planning as a profession necessarily depends on a strong link between theory, evidence, and practice. To that end, academic planners need to do more empirical work in studying housing affordability in mixed-use areas, especially within the context of restructuring labour markets, and actively connect the findings back to how the theory of mixed-use development is taught.

6.3.2 For Practitioners

As much as the concept of mixing complementary land uses has been successful in revitalization efforts in many cities, the application of mixed-use principles in practice needs to be undertaken with a realistic view of just who benefits from that kind of development. The benefits of mixed-use zoning and the housing developments that occur therein do not accrue to everyone – instead, they accrue to the people who can afford to live in those areas. As the results of the study indicate, in the context of Toronto, average housing costs in mixed-use areas are less affordable than the those in the rest of the city. This in itself is no reason to shy away from applying mixed-use principles in broader land development strategies. It does, however, mean that practicing planners need to explicitly recognize that while there are definite circumstances in which mixed-use zoning is appropriate, the concept is not without drawbacks. In other words, since the conversation about mixed-use development in planning circles so often revolves around the desire to create "more liveable" cities, planners need to explicitly recognize the fact that "more liveable" likely entails *more*

expensive, and in the context of those who lose out in the midst of labour market restructuring, *less affordable*.

This goes hand in hand with existing standards of professional practice that apply across Canada, wherein the primary responsibility of a practicing professional planner is to serve the public interest. The execution of that responsibility is defined as involving both the provision of "full, clear and accurate information on planning matters to decision-makers" and an acknowledgement of the consequences that such decisions can have with regard to the broader public interest (Canadian Institute of Planners, 2004). Arguably, planners cannot fulfill their primary responsibility to serve the broader public interest if advocating for mixed-use development without explicitly recognizing the equity implications that can arise with regard to housing affordability. This need not imply that planners should not advocate for mixed-use development, but simply that planners must do so in a manner that explicitly recognizes the many advantages alongside the growing understanding of potential downsides. This is especially true when providing professional opinions upon which public policy is formed.

6.3.3 For Policymakers

Since the regulation of land occurs within the context of a broader political framework, those who are at the levers of political power have a considerable degree of influence in the shaping of our cities. It is in this context that mixed-use zoning constitutes an instrument of public policy. The degree to which that instrument is effective or appropriate is entirely dependent on the nature of the policy goals to which it is applied. To that end, policymakers must be clear with regard to what it is they intend to achieve through the promotion of mixed-use development, while also maintaining an understanding of possible unintended consequences. While the findings of the study indicate that housing affordability outcomes have generally worsened in Toronto's mixed-use areas, viable policy options do exist (such as targeted density bonusing benefits) to couple development in mixed-use areas with improved affordability outcomes – and Toronto's policymakers would be wise to do so.

As mentioned earlier, Toronto's policymakers wrestle with an inherent tension between two common policy goals: on the one hand, the City has endeavoured to revitalize areas of the urban core through the promotion of a more livable urban form, partly in hopes of attracting upwardly mobile professional class of workers; on the other hand, the City has been mandated – through increasingly nebulous policy directives from the province - to manage the development of land such that the city's residents have access to affordable housing across all segments of the housing market. At face value, these goals seem to be opposites: the more livable a city is made, the more expensive housing is likely to be as people are willing to pay more to live in proximity to amenities and services, which would

likely work against affordability goals. Achieving the latter has been made more complicated over the last several decades given the rejection by senior levels of government of the roles they traditionally played in the housing space. This divestiture of responsibility has left cities like Toronto with constrained resources and limited powers to actually achieve whatever affordability goals may be set by the province. At the same time, macroeconomic shifts and restructuring in the labour market have meant that some classes of workers have seen their positions in the housing market strengthen, while others have weakened. These broad changes, though largely outside the City's immediate sphere of influence, have had a direct impact on the landscape of Toronto's housing market.

Where does mixed-use zoning fit in relation to these seemingly contrary policy goals? As with any policy tool, the answer necessarily depends on the goals to be achieved. If the goal is to reshape and revitalize the urban core of the city in ways that might attract the kind of upwardly mobile professional classes so often sought in economic development circles, then the application of mixed-use zoning is evidently a valuable component in achieving that kind of goal. In the midst of labour market restructuring, the results of the study clearly show that workers in knowledge-oriented or creative class occupations are more likely to be found in mixed-use areas than elsewhere in the city. Average household incomes among those living in mixed-use areas grew more than twice as quickly than (and nearly reached parity with) those in the rest of the city, pointing to an economically revitalized urban core. Even though empirical evidence brings into question the role that the provision of amenities may play in attracting upwardly mobile workers to the urban core (Moos & Skaburskis, 2010), there is demand for the type of lifestyle made possible through mixed-use development. In the context of Toronto's land development strategy, mixed-use zoning has played a key role in the revitalization of the city's increasing livable urban core.

However, housing affordability outcomes in Toronto's mixed-use areas have been questionable at best. Although mixed-use developments are often conceptualized in terms of a mix of housing tenures and types, access to affordable rental housing has become increasingly difficult in Toronto's mixed-use areas. At first glance, it would appear that efforts to maintain the existing stock of rental housing have been successful in mixed-use areas; in fact, the stock of rental units actually grew, making up for losses in the rest of the city. Since rental housing is often the most affordable option, this might appear to be a good sign. At the same time, while average rental housing costs stayed roughly the same in constant dollars, rental housing became more expensive relative to the rest of the city. These points - the marginal gains in the supply of rental housing, the substantial price premium, and the fact that the price gap has widened – when taken together, imply that rental housing in mixed-use areas is becoming less affordable, and as a result, less accessible compared to the rest of

the city. Owned housing has also become less affordable, as the largest proportion of owner households spending beyond the thirty percent income cut-off is found in mixed-use areas. While still smaller than the comparable figure for rental households, the fact that the proportion of owner households falling outside the affordable housing cut-off is growing implies that the general affordability position of homeowners has worsened in mixed-use areas. Meanwhile, the rate of growth in the supply of owned units in mixed-use areas far outstripped that of the rest of the city, such that the owner-renter balance is almost at parity with the city as a whole. If this growth continues such that homeownership becomes the dominant form of housing tenure in mixed-use areas, overall housing affordability would be unlikely to improve given that owned housing is generally priced at or above market rates. These outcomes are not surprising: in the absence of overt regulatory controls, as long as people are willing and able to pay more to live in areas that offer proximate live/work/play arrangements, housing in mixed-use areas will continue to be higher priced and less affordable than the rest of the city.

For policymakers, the results of this study force an uncomfortable question: who will be able to afford to live in mixed-use areas? This is the crux of the apparent disjuncture between the goals of revitalization and affordability. On the one hand, developers and landowners in the housing market will naturally move to meet the kinds of high-end demand that often typify mixed-use areas. However, in the context of labour market restructuring and the resulting socioeconomic polarization, there is both an economic impetus for, and societal interest in, managing growth in these areas such that the rest of the market – including the moderate and low-income segments – are also supplied with housing. Aside from any particular ideological stance regarding how markets should operate and the role of the state therein, policymakers (and constituents alike) must recognize that if we want to live in mixed-use areas typified by proximity to all sorts of amenities and services, the low-skill, low-wage service workers that *provide* those services must be included in the mixed-use housing landscape. To that end, policymakers should adopt a more pragmatic approach wherein existing housing policy tools are more proactively coupled with mixed-use zoning to strike a balance between market-driven housing demand and improved affordability outcomes.

This need for balance and considerations of the policy options available to bring it about are informed by work relating to the viability of planning for socioeconomic mix within residential developments. A prescient point was made by a respondent in Rose's (2004) survey of residents in a gentrifying neighbourhood in Montreal on the prospect of planning for social mix: in order to make

an omelette, one has to break a few eggs.[21] The omelette, in this case, is the goal of a Toronto that is more livable, prosperous and equitable. In order to achieve this goal, policymakers will need to be willing to accept that redevelopment will likely entail some groups being priced out of existing housing markets, while at the same time being willing to stand firm against unequivocal NIMBYism relating to measures intended to expand or increase access to affordable housing within those markets. At the same time, measures intended to promote social mix can easily be rendered ineffective or even produce contrary results if not properly designed and implemented, as may often be the case (August, Freeman, & Blomley, 2014). Thus, if mixed-use development is to benefit broader sections of society, policy efforts to engender more balanced market outcomes need to be carefully crafted and firmly supported as a matter of public policy.

Pragmatic policymakers and practicing planners alike would do well to consider the affordability of housing in a broader sense. Traditional policy options relating to the affordability of housing generally conceptualize the issue as being one of poverty and pertaining to low-income groups, thus policy efforts focus on the provision of social or non-market housing. These efforts are absolutely necessary, but they are only part of the affordability landscape. Realistically, affordability problems will likely always exist at the lowest end of the income spectrum, as least as long as poverty itself is a problem. But when affordability stress begins to spread up the income chain – as has been the case in Toronto's mixed-use areas, such that those in so-called "good" jobs (e.g. those in the *Social, Edu., Gov't* occupation group) have seen their affordability position worsen – housing affordability starts to have broader implications for society. The issue shifts from being largely about poverty and social equity to an issue of general economic health. Ongoing macroeconomic restructuring has reshaped the economic and spatial structure of our cities, with growth in the best jobs centred squarely in urban areas. But if living in the urban core increasingly means living under greater affordability stress - even for people in so-called 'good' jobs - we will need to rethink how our policy frameworks manage the housing space. Planners should shift the conversation from the traditional, simplistic view of housing affordability as being an issue of providing housing for low-income groups, and instead broaden it to explicitly consider the affordability of housing for *everyone*. This would allow policymakers to frame the issue of housing affordability in a broader, more politically-viable context.

At the same time, the issue of housing affordability has two sides to the equation: demand (ability to pay for housing) and supply (price and availability of suitable housing). The results of this

[21] Translated from the French *"On ne fait pas d'omelette sans casser d'oeuf"*

study point to the double-edged nature of the problem: housing is not only more expensive in mixed-use areas, but has also become less affordable for certain occupational classes in relation to their income in the midst of labour market restructuring. Thus, policy measures intended to address the issue of housing affordability in mixed-use areas need to take both sides of the equation into account. Where do planners and urban policymakers fit in? On the face of it, those involved in the regulation and management of urban land have little direct influence over the income (demand) side of the equation; that is, planners have little say over who is paid what. However, planners and urban policymakers must be aware of the role that labour market restructuring plays in shaping housing affordability outcomes, and adjust their primary levers of control (the supply side) accordingly.

Since planners and urban policymakers are more often concerned with supply-side mechanisms meant to address the price and availability of affordable housing, a pragmatic approach to the problem implies taking a realistic view of what the City of Toronto is capable of with regards to balancing revitalization and housing affordability in mixed-use areas. Several points should be kept in mind. First, the City has been and continues to be (re)shaped by prevailing market conditions and broader forces of socioeconomic restructuring; it must be understood that the City is a boat in a much larger economic sea, subject to currents and macroeconomic weather it cannot control. Second, due to the subordinate nature of municipal governance in Ontario, the City has a limited set of policy instruments with which it can actively shape the housing market. Most importantly, the prospect of any bountiful increase in public funds to be put towards programmes such as housing subsidies or social housing is slim. With these points in mind, several policy options can be considered.

Measures intended to expand or maintain the stock of affordable housing could include the implementation of affordable housing trusts. The concept has been applied by several American jurisdictions with the intent of creating a stable base of funding for affordable housing projects. Instead of relying on the unstable nature of municipal and provincial budget cycles, Shapcott (2014) proposes the creation of a municipal trust fund structure as a vehicle through which funding for affordable housing is sourced from more stable sources, such as taxes, levies or municipal bonds. The trust would then disburse funds in a more regular, stable fashion in order to support the expansion or maintenance of the stock of affordable housing. However, the reliance of this policy tool on the creation of new revenue streams and/or the shuffling of existing fiscal priorities in an environment of fiscal restraint casts some doubt on its political viability at the current juncture.

Reforms to the provincial regulations regarding rent controls have often been cited as a seemingly simple fix to the issue of escalating housing costs, with repeated calls made for ‘loopholes’ to be closed (Pigg, 2013). Broadening rent controls to apply to buildings constructed after 1991 and to

condominium units under tenant occupancy could have a direct impact on the affordability of housing in mixed-use areas, as much of the residential development in these areas has been in the form of new-build apartments, and in particular, condo projects. However, controls regulating the degree to which rent can be increased on a year-to-year basis would not necessarily address a crucial part of the equation: if housing in mixed-use areas is at a premium for its locational aspects, it will likely still cost more than housing in the rest of the city.

Inclusionary zoning could be one of the tools with which mixed-use zoning could be coupled in order to balance market-driven development and improved affordability outcomes, wherein zoning and development approvals could be explicitly tied to housing affordability outcomes. Currently, Toronto has no provisions relating to the generalized application of inclusionary zoning policies. The City's Official Plan includes stipulations whereby development of large residential sites must include provisions relating to affordable housing, however this applies only to sites in excess of five hectares (City of Toronto, 2010, sec. 3.2.1); realistically, contiguous sites of that size would be difficult to procure within the boundaries of the old City of Toronto, thus these provisions are unlikely to have much impact on the affordability of housing in the area studied. Despite provincial directives in both the *Provincial Policy Statement* and Places to Grow framework requiring municipalities to ensure access to affordable housing (Ministry of Municipal Affairs and Housing, 2005; Ministry of Infrastructure, 2013), expert legal opinion differs as to whether the City of Toronto actually has the powers to employ mandatory forms of inclusionary zoning in order to reach specific housing affordability targets.[22] Nevertheless, since the City's powers are granted via the provincial *Planning Act*, amendments could be made by the province to explicitly enable such policy options; while attempts have been made to do so in the recent past, none have yet been successful.[23] Therefore, given aversion to the expense and resource expenditure associated with the Ontario Municipal Board hearings that would likely result if the City were to unilaterally implement inclusionary zoning, and barring any provincial amendments to the *Planning Act*, inclusionary zoning remains a difficult policy option to implement in the immediate short-term. Nevertheless, inclusionary zoning could be an effective tool in addressing the supply side of the housing affordability problem and would fit well within existing framework of housing policy goals at both the provincial and municipal level, thus it should not be dismissed.

[22] Differences of opinion seem to stem from a lack of test cases in reference to prevailing legal precedent in Ontario whereby municipal land use planning statutes were found to be applicable only in the regulation of specific *uses* of land, but not its specific *users*; see Gladki and Pomeroy (2007, pp. 15–16)

[23] During the first session of the 40th provincial legislature, MPP Cheri DiNovo tabled a private member's bill - for the fourth time - to explicitly enable municipalities to use inclusionary zoning to achieve affordability targets, however it is unlikely to go beyond first reading; see DiNovo (2013)

Since the pragmatic policymaker works with the tools available, density bonusing agreements through section 37 of the *Planning Act* constitute the most viable method of coupling mixed-use zoning to improved housing affordability outcomes. Since it has been shown that housing costs are higher and affordability outcomes are worse in mixed-use areas, section 37 agreements for developments in those areas should be targeted squarely on seeking benefits that improve affordability outcomes. Instead of cash contributions, the City should be aggressively demanding material benefits such as the provision of rental units and stipulations for varying types of housing (e.g. 2-3 bedroom units to enable families to live in the core). Moving away from cash contributions to the provision of material benefits on the part of developers may reduce the legal risk that the City may feel exposed to if cash contributions are challenged on the basis of being a tax on development.[24] Moreover, if benefits are built into developments, they come online as the project does, instead of having to wait for the City to collect and disburse funds – a facet of the section 37 framework that has been problematic in the past (Moore, 2013). Most importantly, reorienting the focus of section 37 agreements away from capital improvements towards improving affordability outcomes removes the primary cause of perverse outcomes that can result from the former, whereby housing prices may actually be pushed upwards as the public realm around a development is improved. A more balanced approach would explicitly recognize these perverse outcomes, and tie any capital improvements to proportionate improvements in affordability. Overall, the City has already moved to broaden the types of explicit benefits relating to affordable housing that can be sought through section 37 agreements, most recently spelling out support for affordable home ownership in condominium projects (City of Toronto, 2013a, 2013b); however, it remains to be seen whether councillors will actually pursue such benefits. At the end of the day, section 37 agreements – though they are the primary method through which the City can tie development in mixed-use areas to improved housing affordability outcomes – only apply in circumstances where developers are seeking to develop beyond the density and/or height constraints imposed by zoning regulations. Inevitably, even though most mixed-use areas are found in the urban core where land is at a premium, not all developments will be subject to this regulatory tool, thus broader solutions are needed. Although section 37 agreements are not a catch-all solution, they are the most viable option currently available to policymakers and should be aggressively applied to couple development in mixed-use areas to improved affordability outcomes.

The findings of this study point to a problematic – but not insoluble - disconnect between development policies in mixed-use areas and housing affordability outcomes in the old City of

[24] Historically, the City has concluded that any city-wide, standard formula for obtaining section 37 benefits would likely be challenged in court, thus they prefer to negotiate on an ad-hoc basis under the assumption that demands for specific benefits in the local area of development avoid any such legal exposure; see City of Toronto (2007b, sec. 2.5)

Toronto. While thorough considerations as to the political viability of various policy options and goals are beyond the scope of this study, Toronto's policymakers do have viable, pragmatic policy options available which would enable more balanced growth and improvements to housing affordability. This should be a political no-brainer: most everyone wins if the city is made more livable through the application mixed-use zoning if those principles are applied in concert with realistic efforts to manage the affordability of housing. In order to achieve an effective coupling of these policy goals, there is a definite need for more and better data in order to inform our understanding of housing affordability in mixed-use areas from the perspective of public policy. We cannot expect to achieve the dual policy goals of more liveable, affordable cities if we do not have a good sense of the consequences – intended and unintended - associated with the policy tools we apply. Studies such as this make a humble contribution to efforts to advance the body of knowledge from which better policy, and better cities, can be made.

6.4 Study Limitations

No study is perfect; that is, any methodological approach necessarily carries with it a series of situational or inherent limitations and constraints. For instance, the choice of the case study method employing a single case study subject implies that the results of the study may lack generalizability to other temporal or spatial frames. In practical terms, research is often constrained by the availability and/or quality of data used to make conclusions. The constraints and limitations present in this study primarily stem from issues of data availability and resulting loss of precision in spatial analysis.

6.4.1 Data Availability

Oftentimes, the availability of data (or lack thereof) constitutes one of the most fundamental constraints and limitations of any study. Although all of the data used in this study came from Statistics Canada (a public agency), much of it was available only through the CHASS platform. Since funding was not available to pursue custom tabulation orders direct from Statistics Canada, several challenges stemming from limited data availability cropped up.

First, all income data used in the study were expressed as average values as these figures were consistently available. The use of median values to express the central tendency of the individual, household, and occupational income data would have been preferred over average values given the tendency of income data to be skewed (Neuman, 1997). However, median values were not available through CHASS for the individual income variables at the DA/EA level for 1991 or 1996, nor were they available for the household income variable for 1996. Moreover, median values pertaining to income by occupational grouping were not available for any years. This meant that the

affordability ratios in Table 16 could not be computed, which would have substantially limited the usefulness of analysis. Thus, the decision was made to use average values for individual, household and occupational income data in order to retain a consistent comparison across time and spatial frames.

Second, data pertaining to 2011 was not readily available until after data collection and processing was completed. Given the economic crisis of 2008-2009 – which was partially reflective of broader shifts in the structural nature of the labour and housing markets – data pertaining to 2011 would have offered a more illuminating picture of how housing affordability has changed in mixed-use areas in Toronto. Such data would have come from the successor to the long-form Census, known as the *National Household Survey*. However, data from the 2011 NHS specific to the DA geographic level was not released to the CHASS platform at the same time as the rest of the dataset; Statistics Canada delayed release of DA-level data until the end of November 2013, apparently due to further quality checks necessary on the data. Notwithstanding the caution that must be applied to comparisons of NHS data to previous Census products (due to the voluntary nature of the NHS), the global non-response rate figure for Toronto as a whole was 26.5% - well below the suppression threshold of fifty percent, and in keeping with that of the province and country as a whole (Statistics Canada, 2013); thus, 2011 NHS data may have still been useful in the context of this study. However, specific data limitations apply to the 2011 NHS: values for labour force employed are only available through CHASS in single-digit NOCS groupings, thus 2011 values could not be used in the workforce structure analysis presented in section 5.3.2.

Finer-grained data would have allowed for stronger conclusions to be made in relation to the labour market aspect of housing affordability. In comparing average income by occupation to housing costs to determine affordability winners and losers, the study makes use of average income data for occupational groupings at the NOCS single-digit level of specificity – the broadest level of categorization. This meant that for each of the eight occupational groups (see Table 2), the average income values pertained to a relatively broad spectrum of workers, even though each group is constructed to be internally categorical: for example, “Managers” would include both high-paid executives and the managers of a McDonald’s. Thus, while data pertaining to the housing market was fine-grained, the same level of specificity could not be applied to conclusions about the labour market. The precision of the affordability winners and losers analysis could be greatly improved if income data were publicly available at the four-digit level of NOCS groupings; this would allow for analysis of housing affordability changes relative to specific occupations, as well as the construction of weighted average incomes for the creative class/knowledge economy occupational categories.

There is also a spatial aspect to the limitations of available data. This study revolves around the use of fine-grained data at the dissemination/enumeration area geographic level in order to infer values applicable to those areas that fall under mixed-use zoning. Thus, the best data is that which refers specifically to those fine-grained spatial frames. However, data specific to these spatial frames was not always available for all variables. Income data pertaining to specific occupational groups was not available through the Census using the CHASS platform; instead, the CANSIM database of socioeconomic variables had to be used. The *Survey of Labour and Income Dynamics* constituted the only dataset that made use of a consistent occupational grouping system (NOCS 2006) and constant-dollar amounts for the income values across 1991-2006.[25] However, the main limitation of the SLID income data stemmed from the fact that the values for average income by occupation pertained to the CMA geographic frame, as opposed to values specific to the dissemination/enumeration area boundaries. While data for average income by occupation would have been preferable using the DA/EA boundaries, values pertaining to the CMA as a whole represent a meaningfully useful approximation of the income landscape for workers in Toronto given the high degree of economic integration that the CMA geographic frame is designed to represent.[26]

Lack of access to usable zoning boundary maps proved to be one of the most fundamental constraints to the study. Defining the areas zoned as mixed-use necessarily depends on zoning maps – information that is traditionally publicly accessible. Given the longitudinal nature of the study, the best analysis would have stemmed from matching each census year of the case study period with the zoning landscape at that time. Unfortunately, the only land use map available dated from 2005; although historical maps *should* have been available in print form as supplements to the city's previous official plans, the copies kept by the University of Waterloo were missing all relevant map appendices – despite their controlled status as government documents.[27] This lack of historical zoning boundary data meant that any changes to the distribution of land falling under mixed-use zoning could not be tracked over time. More importantly, it constrained the ability to draw longitudinal conclusions specifically referring to the lands zoned as mixed-use; instead, conclusions could only be made about the changing nature of those lands that fell under mixed-use zoning as of 2005. In effect,

[25] Some data was available from the Labour Force Survey using the ODESI platform, however occupations were not grouped in a consistent manner (values for 2001 and 2006 were grouped by NOCS 2006 categories, while values for 1991 and 1996 were grouped by the SOC91 system) and values pertained to hourly wages, not total income.

[26] Even if data had been available for the census subdivision (CSD) frame, which refers to the municipal boundaries of a given city, this would not have provided a consistent spatial frame of reference as the boundaries of the City of Toronto changed during the process of amalgamation in 1998. See section 4.1.1 for details.

[27] While, in theory, zoning maps included in the Appendix of City of Toronto (1986) could have been used to delineate zoning boundaries, this would have entailed stitching together, digitizing, georeferencing and interpreting several hundred pages of black and white photocopied street-level maps – a task which would have fallen outside the time constraints of the study.

the study could only look back in time under the working assumption that the areas zoned as mixed-use in the 2005 zoning map had already fallen into those zoning categories at or near the beginning of the study period.

Even if usable zoning maps were readily available for all years in the study period, zoning maps are just that: maps delineating the spatial distribution of land categorized by zoning policies. In this sense, just because an area is zoned as mixed-use, this does not necessarily mean that the built form present on those lands actually constitutes mixed-use development. Not only is there a lag between land being zoned and development taking place, there is also the chance that no such development takes place at all, leaving the lands vacant or in a state of prior zoned use. Regardless, this study avoids these inconsistencies by explicitly referring only to those areas *zoned* as mixed-use, which offers a reasonable proxy for mixed-use development from which analytically useful inferences can be drawn.

6.4.2 Spatial Precision

Lack of spatial precision proved to be another methodological limitation. Given that the method described in section 3.4.1 relies on the use of GIS to disaggregate data based on whether an area falls under mixed-use zoning or not, the accuracy of the zoning maps directly shapes the accuracy of the final data. Even though zoning information is an inherently *public* matter, accurate electronic zoning maps pertaining to the old City of Toronto are not readily available.[28] Unfortunately, the 2005 zoning map provided by the City of Toronto's planning department to the University of Waterloo was encoded as a raster image file lacking any spatial references, and thus could not be directly interpreted using GIS. Boundaries for the relevant zones had to be digitized *by hand* and spatially geo-referenced as closely as possible in order to be used in the processing stage. The lack of accurate spatial data on the part of the City and the resulting necessity of these efforts added an inherent and inexorable degree of error to the spatial precision of the resulting digital zoning boundaries, inevitably translating into some degree of error during the spatial weighting process. However, since particular care was taken during the digitization process, the end result still amounts to a very reasonable approximation of the spatial distribution of mixed-use zoning in Toronto.

Similarly, inconsistency in the spatial files describing the boundaries of the statistical geographic frames presented an additional, albeit slight, degree of spatial imprecision. Files for 1991 enumeration area boundaries were only available in "Digital Boundary" format, meaning cartographic

[28] The City does make a vector map of the current zoning layout available through a proprietary online interface (meaning the source data cannot be accessed), and while electronic copies of the files used to produce historical zoning maps should exist, staff indicated that such maps and files could not be released publicly.

features are represented as simplified polygons such that groups of small geographic features can become amalgamated into one or more larger, simpler polygons. Given that the method employed in the study computes weighted values on the combined basis of land area intersecting mixed-use zoning and sample population units, this could cause certain geographic features to be disproportionately weighted against all others. This occurred with regard to the Toronto Islands, which were represented as a single gigantic polygon instead of the many smaller geographic features, thus distorting the proportionate areal value of the relevant enumeration area frame relative to all others. However, given that the Islands were covered by a single EA, any distortionary effect was extremely minimal relative to the thousands of other EAs in the tabulation.

One of the most fundamental limitations of the method used in this study is rooted in the fact that there is no publicly available source of socioeconomic data that is spatially tied to mixed-use zones. The method used in this study has been designed to impute data values based on spatial weighting, where the land are that falls under mixed-use zoning is weighted against the available statistical geographic frames. Although dissemination/enumeration areas are the smallest geographic units for which relevant socioeconomic data is publicly released by Statistics Canada, this method carries with it a certain level of spatial imprecision: even though lands zoned as mixed-use accounted for approximately thirteen percent of the total land area of the old City of Toronto, selecting the DAs/EAs that are intersected by those zones amounts to selecting up to fifty-eight percent of the old City's land area. In a perfect world, some smaller geographic data frame could have meant less non-relevant land use overlap, and thus more precision in computing values relevant to mixed-use areas. However, given the working assumption that dissemination/enumeration area frames are spatially designed to be relatively homogenous in socioeconomic terms, the spatial weighting process described in section does allow for a reasonable approximation of the spatial distribution of data values.

6.5 Opportunities for Further Research

Several potential avenues of further research were identified throughout the course of this study. As with any exploratory effort, it would seem that this study has barely scratched the surface of a topic ripe for productive, meaningful research relevant to both the academics and practitioners.

As noted in the previous section, much of the limitations of this study relate to access to publicly-available data (or lack thereof). Certain improvements could be made to the accuracy of the data simply through having a budget for data collection. While all the data used were sourced from public datasets made available to academic institutions, certain data with greater levels of spatial

detail were only available from Statistics Canada through custom paid orders. In particular, more useful output could be achieved if income data were ordered using two-digit occupational categories at the enumeration/dissemination area geographic level. This would likely entail a modest cost to a researcher with funding to allocate to data collection.

Other limitations, and thus opportunities for further research, are dependent on the acquisition of data that may or may not be publicly available. If spatially accurate copies of the historical zoning maps used to delineate mixed-use areas could be found, the spatial analysis of historical data would be open to chronological study; that is, one could accurately track changes in the spatial layout of mixed-use areas over time, thus increasing the accuracy of the data. Accuracy could be further increased greatly if such maps were available in a spatially-referenced digital format, removing the need for (and inherent error introduced by) georeferencing the maps by hand. While City of Toronto staff indicated such files were not available, this may not be the case in other cities.

Further extensions of the methodological concepts introduced in this study might involve the use of residential sales data instead of the Census. For example, useful commercial data may take the form of a database wherein a sample of individual dwelling sale prices and/or rents are tracked by street address. Such a dataset could be filtered against the zoning maps using GIS software, resulting in much more accurate weighted averages for housing costs. However, such a dataset would need to be consistently collected over time, and may not bear the gold-seal statistical quality with which Census data are associated. More importantly, it is unclear whether such a dataset exists at all.

Most importantly, this study could easily be replicated in the context of other Canadian cities. Since the data collection approach employed makes use of the Census and other standard government data sources, data would be available for any Canadian city. The primary question of viability would then turn to determinations of how mixed-use development is handled in the particular municipal zoning laws. However, certain examples stand out: Vancouver makes its zoning maps publicly available in digital format, thus the existing method could be applied in almost exactly the same fashion to that case subject. Moreover, if further time and resources allowed, the obvious opportunity would be to select multiple cities as case study subjects, adding a comparative element of analysis, thus broadening the implications and relevance of the findings. Given the dearth of empirical knowledge regarding the affordability of housing in mixed-use areas, Canadian researchers could stand to lead the way in the study of these topics by starting with examining our own cities.

Appendix A: Tables

Table 6: Occupational groupings for Creative Class typology

Creative Class groupings	***NOC-S 2001 Occupational Groups***
Creative occupations	*A0 – Senior Management* *A1 – Specialist Managers* *A2 – Managers in Retail Trade, Food and Accommodation* *A3 – Other Managers* *B0 – Professional Occupations in Business and Finance* *B1 – Finance and Insurance Administrative Occupations* *C0 – Professional Occupations in Natural and Applied Sciences* *C1 – Technical Occupations Related to Natural and Applied Sciences* *D0 – Professional occupations in Health* *D1 – Nurse Supervisors and Registered Nurses* *D2 – Technical and Related Occupations in Health* *E0 – Judges, Lawyers, Psychologists, Social Workers, Ministers of Religion, and Policy and Program Officers* *E1 – Teachers and Professors* *F0 – Professional Occupations in Art and Culture*
Service occupations	*B2 – Secretaries* *B3 – Administrative and Regulatory Occupations* *B4 – Clerical Supervisors* *B5 – Clerical Occupations* *D3 – Assisting Occupations in Support of Health Services* *E2 – Paralegals, Social Services Workers and Occupations in Education and Religion* *F1 – Technical Occupations in Art, Culture, Recreation and Sport* *G0 – Sales and Service Supervisors* *G1 – Wholesale, Technical, Insurance, Real Estate Sales Specialists, and Retail, Wholesale and Grain Buyers* *G2 – Retail Salespersons and Sales Clerks* *G3 – Cashiers* *G4 – Chefs and Cooks* *G5 – Occupations in Food and Beverage Service* *G6 – Occupations in Protective Services* *G7 – Occupations in Travel and Accommodation Including Attendants in Recreation and Sport* *G8 – Childcare and Home Support Workers* *G9 – Sales and Service Occupations*
Trades and manual labour occupations	*H0 – Contractors and Supervisors in Trades and Transportation* *H1 – Construction Trades* *H2 – Stationary Engineers, Power Station Operators and Electrical Trades and Telecommunications Occupations* *H3 – Machinists, Metal Forming, Shaping and Erecting Occupations* *H4 – Mechanics* *H5 – Other Trades* *H6 – Heavy Equipment and Crane Operators Including Drillers* *H7 – Transportation Equipment Operators and Related Workers, Excluding Labourers* *H8 – Trades Helpers, Construction and Transportation Labourers and Related Occupations* *J0 – Supervisors in Manufacturing* *J1 – Machine Operators in Manufacturing* *J2 – Assemblers in Manufacturing* *J3 – Labourers in Processing, Manufacturing and Utilities*

Source: Spencer and Vinodrai (2009)

Table 7: Occupational groupings for Knowledge Economy typology

Knowledge Economy Groups	***NOC-S 2001 Occupational Groups***
Knowledge-oriented	*A0 – Senior Management* *A1 – Specialist Managers* *A3 – Other Managers* *B0 – Professional Occupations in Business and Finance* *C0 – Professional Occupations in Natural and Applied Sciences* *C1 – Technical Occupations Related to Natural and Applied Sciences* *D0 – Professional occupations in Health* *D1 – Nurse Supervisors and Registered Nurses* *D2 – Technical and Related Occupations in Health* *E0 – Judges, Lawyers, Psychologists, Social Workers, Ministers of Religion, and Policy and Program Officers* *E1 – Teachers and Professors* *F0 – Professional Occupations in Art and Culture*
Service-oriented	*A2 – Managers in Retail Trade, Food and Accommodation* *B1 – Finance and Insurance Administrative Occupations* *B2 – Secretaries* *B3 – Administrative and Regulatory Occupations* *B4 – Clerical Supervisors* *B5 – Clerical Occupations* *D3 – Assisting Occupations in Support of Health Services* *E2 – Paralegals, Social Services Workers and Occupations in Education and Religion* *F1 – Technical Occupations in Art, Culture, Recreation and Sport* *G0 – Sales and Service Supervisors* *G1 – Wholesale, Technical, Insurance, Real Estate Sales Specialists, and Retail, Wholesale and Grain Buyers* *G2 – Retail Salespersons and Sales Clerks* *G3 – Cashiers* *G4 – Chefs and Cooks* *G5 – Occupations in Food and Beverage Service* *G6 – Occupations in Protective Services* *G7 – Occupations in Travel and Accommodation Including Attendants in Recreation and Sport* *G8 – Childcare and Home Support Workers* *G9 – Sales and Service Occupations*
Production-oriented	*H0 – Contractors and Supervisors in Trades and Transportation* *H1 – Construction Trades* *H2 – Stationary Engineers, Power Station Operators and Electrical Trades and Telecommunications Occupations* *H3 – Machinists, Metal Forming, Shaping and Erecting Occupations* *H4 – Mechanics* *H5 – Other Trades* *H6 – Heavy Equipment and Crane Operators Including Drillers* *H7 – Transportation Equipment Operators and Related Workers, Excluding Labourers* *H8 – Trades Helpers, Construction and Transportation Labourers and Related Occupations* *J0 – Supervisors in Manufacturing* *J1 – Machine Operators in Manufacturing* *J2 – Assemblers in Manufacturing* *J3 – Labourers in Processing, Manufacturing and Utilities*

Table 8: Average income and housing characteristics in the old City of Toronto and CMA, 1991-2006

		Mixed-use	*Non Mixed-use*	*City-wide*	*CMA*
Average household income (2005 dollars)	*1991*	$55,521	$72,762	$69,792	$81,779
	1996	$63,778	$71,269	$70,105	$74,212
	2001	$77,358	$89,284	$86,718	$86,240
	2006	$81,473	$86,289	$85,283	$87,820
Average individual income (2005 dollars)	*1991*	*	*	*	*
	1996	$38,465	$39,501	$39,380	$35,779
	2001	$46,878	$48,988	$48,452	$40,177
	2006	$51,659	$52,433	$52,287	$40,704
Average rooms per dwelling	*1991*	4.4	5.2	5.0	6.0
	1996	4.1	5.0	4.8	6.0
	2001	4.3	5.1	5.0	6.1
	2006	4.3	5.2	5.0	6.3
Average bedrooms per dwelling	*1991*	1.6	2.1	2.0	2.5
	1996	1.5	1.9	1.9	2.5
	2001	1.6	2.0	1.9	2.6
	2006	1.5	2.0	1.9	2.7
% of dwellings under owned tenure	*1991*	27%	40%	37%	58%
	1996	27%	39%	37%	58%
	2001	34%	42%	41%	63%
	2006	42%	46%	45%	68%
% of dwellings under rental tenure	*1991*	73%	60%	63%	42%
	1996	73%	61%	63%	42%
	2001	66%	58%	59%	37%
	2006	58%	54%	55%	32%
# of dwellings under owned tenure	*1991*	12,811	88,728	101,540	791,825
	1996	13,924	92,305	104,685	869,570
	2001	19,373	102,962	121,565	1,033,460
	2006	27,218	112,616	139,830	1,216,100
# of dwellings under rental tenure	*1991*	33,848	135,779	169,675	574,870
	1996	37,165	143,076	179,260	618,800
	2001	36,801	139,952	176,745	595,320
	2006	37,542	132,163	169,690	583,945

**** data not available***

Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d)

Table 9: Average housing costs in the old City of Toronto and CMA, 1991-2006

		Mixed-use	*Non Mixed-use*	*City-wide*	*CMA*
Average owner's major payments (2005 dollars)	*1991*	$1,476	$1,374	$1,387	$1,396
	1996	$1,345	$1,322	$1,332	$1,321
	2001	$1,382	$1,353	$1,361	$1,321
	2006	$1,503	$1,481	$1,485	$1,401
	% Change	1.8%	7.8%	7.1%	0.3%
	Annual Growth Rate	0.1%	0.5%	0.5%	0.0%
Average dwelling value (2005 dollars)	*1991*	$415,482	$451,253	$446,732	$385,704
	1996	$295,550	$342,776	$339,777	$294,466
	2001	$316,462	$390,511	$380,116	$308,392
	2006	$391,836	$519,269	$494,463	$403,112
	% Change	-5.7%	15.1%	10.7%	4.5%
	Annual Growth Rate	-0.4%	0.9%	0.7%	0.3%
Average gross rent (2005 dollars)	*1991*	$1,096	$1,008	$1,025	$1,028
	1996	$1,001	$885	$909	$936
	2001	$1,039	$944	$964	$981
	2006	$1,053	$938	$963	$948
	% Change	-3.9%	-6.9%	-6.0%	-7.7%
	Annual Growth Rate	-0.3%	-0.5%	-0.4%	-0.5%
Average OMP per room (2005 dollars)	*1991*	$335	$264	$277	$233
	1996	$326	$266	$277	$220
	2001	$325	$264	$274	$217
	2006	$353	$283	$295	$222
	% Change	5.5%	7.1%	6.4%	-4.4%
	Annual Growth Rate	0.4%	0.5%	0.4%	-0.3%
Average rent per room (2005 dollars)	*1991*	$248	$193	$205	$171
	1996	$242	$178	$189	$156
	2001	$244	$184	$194	$161
	2006	$247	$179	$191	$150
	% Change	-0.4%	-7.5%	-6.7%	-12.1%
	Annual Growth Rate	0.0%	-0.5%	-0.5%	-0.9%
Average OMP per bedroom (2005 dollars)	*1991*	$895	$649	$693	$558
	1996	$904	$681	$701	$528
	2001	$888	$671	$706	$508
	2006	$982	$724	$767	$519
	% Change	9.7%	11.7%	10.6%	-7.1%
	Annual Growth Rate	0.6%	0.7%	0.7%	-0.5%
Average rent per bedroom (2005 dollars)	*1991*	$664	$476	$513	$411
	1996	$673	$456	$479	$374
	2001	$668	$468	$499	$377
	2006	$688	$459	$497	$351
	% Change	3.5%	-3.5%	-3.0%	-14.6%
	Annual Growth Rate	0.2%	-0.2%	-0.2%	-1.0%

Note: Red text indicates negative values

Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d)

Table 10: Housing cost premium ratios in mixed-use areas compared to the old City of Toronto and CMA, 1991-2006

		Mixed-use	*Non Mixed-use*	*City-wide*	*CMA*
Average owner's major payments	*1991*	**1.00**	1.07	1.06	1.06
	1996	**1.00**	1.02	1.01	1.02
	2001	**1.00**	1.02	1.01	1.05
	2006	**1.00**	1.01	1.01	1.07
Average dwelling value	*1991*	**1.00**	0.92	0.93	1.08
	1996	**1.00**	0.86	0.87	1.00
	2001	**1.00**	0.81	0.83	1.03
	2006	**1.00**	0.75	0.79	0.97
Average gross rent	*1991*	**1.00**	1.09	1.07	1.07
	1996	**1.00**	1.13	1.10	1.07
	2001	**1.00**	1.10	1.08	1.06
	2006	**1.00**	1.12	1.09	1.11
Average owner's major payments per room	*1991*	**1.00**	1.27	1.21	1.44
	1996	**1.00**	1.23	1.17	1.48
	2001	**1.00**	1.23	1.18	1.50
	2006	**1.00**	1.25	1.20	1.59
Average owner's major payments per bedroom	*1991*	**1.00**	1.38	1.29	1.60
	1996	**1.00**	1.33	1.29	1.71
	2001	**1.00**	1.32	1.26	1.75
	2006	**1.00**	1.35	1.28	1.89
Average gross rent per room	*1991*	**1.00**	1.28	1.21	1.45
	1996	**1.00**	1.36	1.28	1.55
	2001	**1.00**	1.33	1.26	1.52
	2006	**1.00**	1.38	1.29	1.64
Average gross rent per bedroom	*1991*	**1.00**	1.40	1.30	1.62
	1996	**1.00**	1.48	1.41	1.80
	2001	**1.00**	1.43	1.34	1.77
	2006	**1.00**	1.50	1.38	1.96

Note: Red text indicates values which are proportionately less relative to those in mixed-use areas
Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d)

Table 11: Housing affordability by tenure in the old City of Toronto and CMA, 1991-2006

		Mixed-use	*Non Mixed-use*	*City-wide*	*CMA*
Percentage of owners paying greater than 30% of household income on housing costs	*1991*	*	*	*	*
	1996	29%	22%	23%	24%
	2001	26%	20%	21%	22%
	2006	32%	25%	26%	27%
Percentage of renters paying greater than 30% of household income on housing costs	*1991*	*	*	*	*
	1996	43%	42%	42%	44%
	2001	42%	40%	40%	42%
	2006	47%	45%	45%	46%

** data not available*
Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d, n.d.-e)

Table 12: Housing expenditure-to-income ratios by income in the old City of Toronto and CMA, 1991-2006

		Mixed-use	*Non Mixed-use*	*City-wide*	*CMA*
Average OMP as percentage of average household income	*1991*	0.32	0.23	0.24	0.20
	1996	0.25	0.22	0.23	0.21
	2001	0.21	0.18	0.19	0.18
	2006	0.22	0.21	0.21	0.19
Average OMP as percentage of average individual income	*1991*	*	*	*	*
	1996	0.42	0.40	0.41	0.44
	2001	0.35	0.33	0.34	0.39
	2006	0.35	0.34	0.34	0.41
Average rent as percentage of average household income	*1991*	0.24	0.17	0.18	0.15
	1996	0.19	0.15	0.16	0.15
	2001	0.16	0.13	0.13	0.14
	2006	0.16	0.13	0.14	0.13
Average rent as percentage of average individual income	*1991*	*	*	*	*
	1996	0.31	0.27	0.28	0.31
	2001	0.27	0.23	0.24	0.29
	2006	0.24	0.21	0.22	0.28

** data not available*
Note: Red text indicates values which exceed the 30% housing cost-to-income affordability cut-off
Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d, n.d.-e)

Table 13: Percentage of population aged 15 and older with Bachelor's degree or greater in the old City of Toronto and CMA, 1991-2006

		Mixed-use	*Non Mixed-use*	*City-wide*	*CMA*
Population 15+ with university degree or greater	*1991*	30%	25%	26%	17%
	1996	34%	28%	29%	19%
	2001	42%	36%	37%	25%
	2006	46%	38%	40%	27%

Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d)

Table 14: Composition of labour force by occupational classes in the old City of Toronto and CMA, 1996-2006

Taxonomy	**Occupational class**		*Mixed-use*	*Non Mixed-use*	*City-wide*	*CMA*
Knowledge Economy taxonomy	**Knowledge-oriented occupations**	*1996*	39.5%	34.7%	35.5%	27.7%
		2001	48.3%	42.8%	43.8%	32.5%
		2006	49.8%	43.1%	44.4%	32.6%
	Service-oriented occupations	*1996*	48.9%	49.6%	49.5%	51.9%
		2001	43.1%	44.5%	44.2%	47.1%
		2006	42.1%	44.0%	43.6%	47.5%
	Production-oriented occupations	*1996*	9.3%	13.6%	12.8%	19.5%
		2001	8.6%	12.5%	11.8%	19.6%
		2006	6.6%	10.4%	9.7%	19.0%
Creative Class taxonomy	**Creative occupations**	*1996*	47.6%	42.1%	43.0%	33.9%
		2001	56.7%	50.7%	51.7%	38.9%
		2006	58.2%	51.1%	52.4%	38.8%
	Service occupations	*1996*	40.8%	42.2%	42.0%	45.6%
		2001	34.7%	36.6%	36.3%	40.7%
		2006	33.6%	36.1%	35.6%	41.3%
	Trades and manual labour	*1996*	9.3%	13.6%	12.8%	19.5%
		2001	8.6%	12.5%	11.8%	19.6%
		2006	6.6%	10.4%	9.7%	19.0%

Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d)

Table 15: Employment by occupational class in the old City of Toronto and CMA, 1996-2006

Taxonomy	Occupational class		*Mixed-use*	*Non Mixed-use*	*City-wide*	*CMA*
Knowledge Economy taxonomy	**Knowledge-oriented occupations**	*1996*	23,516	102,488	124,905	604,095
		2001	33,067	137,207	169,770	819,375
		2006	37,735	135,844	173,570	899,115
		% Change	60.5%	32.5%	39.0%	48.8%
		Annual Growth Rate	4.8%	2.9%	3.3%	4.1%
	Service-oriented occupations	*1996*	29,127	146,424	174,515	1,132,850
		2001	29,486	142,448	171,385	1,187,340
		2006	31,904	138,614	170,505	1,310,130
		% Change	9.5%	-5.3%	-2.3%	15.6%
		Annual Growth Rate	0.9%	-0.5%	-0.2%	1.5%
	Production-oriented occupations	*1996*	5,516	40,067	45,225	426,730
		2001	5,873	40,018	45,785	493,265
		2006	5,042	32,762	37,800	523,180
		% Change	-8.6%	-18.2%	-16.4%	22.6%
		Annual Growth Rate	-0.9%	-2.0%	-1.8%	2.1%
Creative Class taxonomy	**Creative occupations**	*1996*	28,354	124,357	151,335	739,805
		2001	38,814	162,476	200,530	980,820
		2006	44,132	160,868	204,990	1,069,325
		% Change	55.6%	29.4%	35.5%	44.5%
		Annual Growth Rate	4.5%	2.6%	3.1%	3.8%
	Service occupations	*1996*	24,289	124,555	148,085	997,140
		2001	23,739	117,178	140,625	1,025,895
		2006	25,506	113,589	139,085	1,139,920
		% Change	5.0%	-8.8%	-6.1%	14.3%
		Annual Growth Rate	0.5%	-0.9%	-0.6%	1.3%
	Trades and manual labour	*1996*	5,516	40,067	45,225	426,730
		2001	5,873	40,018	45,785	493,265
		2006	5,042	32,762	37,800	523,180
		% Change	-8.6%	-18.2%	-16.4%	22.6%
		Annual Growth Rate	-0.9%	-2.0%	-1.8%	2.1%

Note: Red text indicates negative values

Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d)

Table 16: Housing expenditure-to-income ratios by occupation in the old City of Toronto and CMA, 1991-2006

Occupational Group		Owned Housing				Rental Housing			
		Mixed-use	*Non Mixed-use*	*City-wide*	*CMA*	*Mixed-use*	*Non Mixed-use*	*City-wide*	*CMA*
Managerial occupations	*1991*	0.26	0.24	0.25	0.25	0.19	0.18	0.18	0.18
	1996	0.24	0.23	0.24	0.23	0.18	0.16	0.16	0.17
	2001	0.22	0.22	0.22	0.21	0.17	0.15	0.16	0.16
	2006	0.20	0.20	0.20	0.19	0.14	0.13	0.13	0.13
Business occupations	*1991*	0.55	0.51	0.52	0.52	0.41	0.38	0.38	0.38
	1996	0.43	0.42	0.43	0.42	0.32	0.28	0.29	0.30
	2001	0.34	0.33	0.33	0.32	0.25	0.23	0.23	0.24
	2006	0.34	0.34	0.34	0.32	0.24	0.21	0.22	0.22
Technical occupations	*1991*	0.32	0.30	0.31	0.31	0.24	0.22	0.23	0.23
	1996	0.30	0.29	0.30	0.29	0.22	0.20	0.20	0.21
	2001	0.28	0.28	0.28	0.27	0.21	0.19	0.20	0.20
	2006	0.30	0.30	0.30	0.28	0.21	0.19	0.19	0.19
Health occupations	*1991*	0.35	0.32	0.33	0.33	0.26	0.24	0.24	0.24
	1996	0.32	0.32	0.32	0.32	0.24	0.21	0.22	0.22
	2001	0.23	0.23	0.23	0.22	0.17	0.16	0.16	0.16
	2006	0.32	0.32	0.32	0.30	0.23	0.20	0.21	0.20
Social, Edu., Gov't occupations	*1991*	0.28	0.26	0.26	0.26	0.21	0.19	0.19	0.19
	1996	0.32	0.32	0.32	0.32	0.24	0.21	0.22	0.22
	2001	0.23	0.23	0.23	0.22	0.17	0.16	0.16	0.17
	2006	0.38	0.37	0.37	0.35	0.26	0.23	0.24	0.24
Cultural occupations	*1991*	0.69	0.65	0.65	0.66	0.51	0.47	0.48	0.48
	1996	0.53	0.52	0.53	0.52	0.40	0.35	0.36	0.37
	2001	0.40	0.39	0.39	0.38	0.30	0.27	0.28	0.28
	2006	0.58	0.57	0.57	0.54	0.40	0.36	0.37	0.36
Sales & Service occupations	*1991*	0.72	0.67	0.67	0.68	0.53	0.49	0.50	0.50
	1996	0.58	0.57	0.58	0.57	0.44	0.39	0.40	0.41
	2001	0.64	0.62	0.63	0.61	0.48	0.44	0.44	0.45
	2006	0.71	0.70	0.71	0.67	0.50	0.45	0.46	0.45
Trades occupations	*1991*	0.47	0.43	0.44	0.44	0.35	0.32	0.32	0.32
	1996	0.45	0.44	0.44	0.44	0.33	0.29	0.30	0.31
	2001	0.41	0.40	0.40	0.39	0.31	0.28	0.29	0.29
	2006	0.53	0.52	0.53	0.50	0.37	0.33	0.34	0.34
Manufacturing occupations	*1991*	0.60	0.56	0.56	0.57	0.44	0.41	0.42	0.42
	1996	0.52	0.51	0.52	0.51	0.39	0.34	0.35	0.36
	2001	0.52	0.51	0.51	0.49	0.39	0.35	0.36	0.37
	2006	0.59	0.58	0.58	0.55	0.41	0.37	0.38	0.37

Note: Red text indicates values which exceed the 30% housing cost-to-income affordability cut-off
Source: Custom tabulations using Statistics Canada (n.d.-a, n.d.-b, n.d.-c, n.d.-d, n.d.-e)

Appendix B: Maps

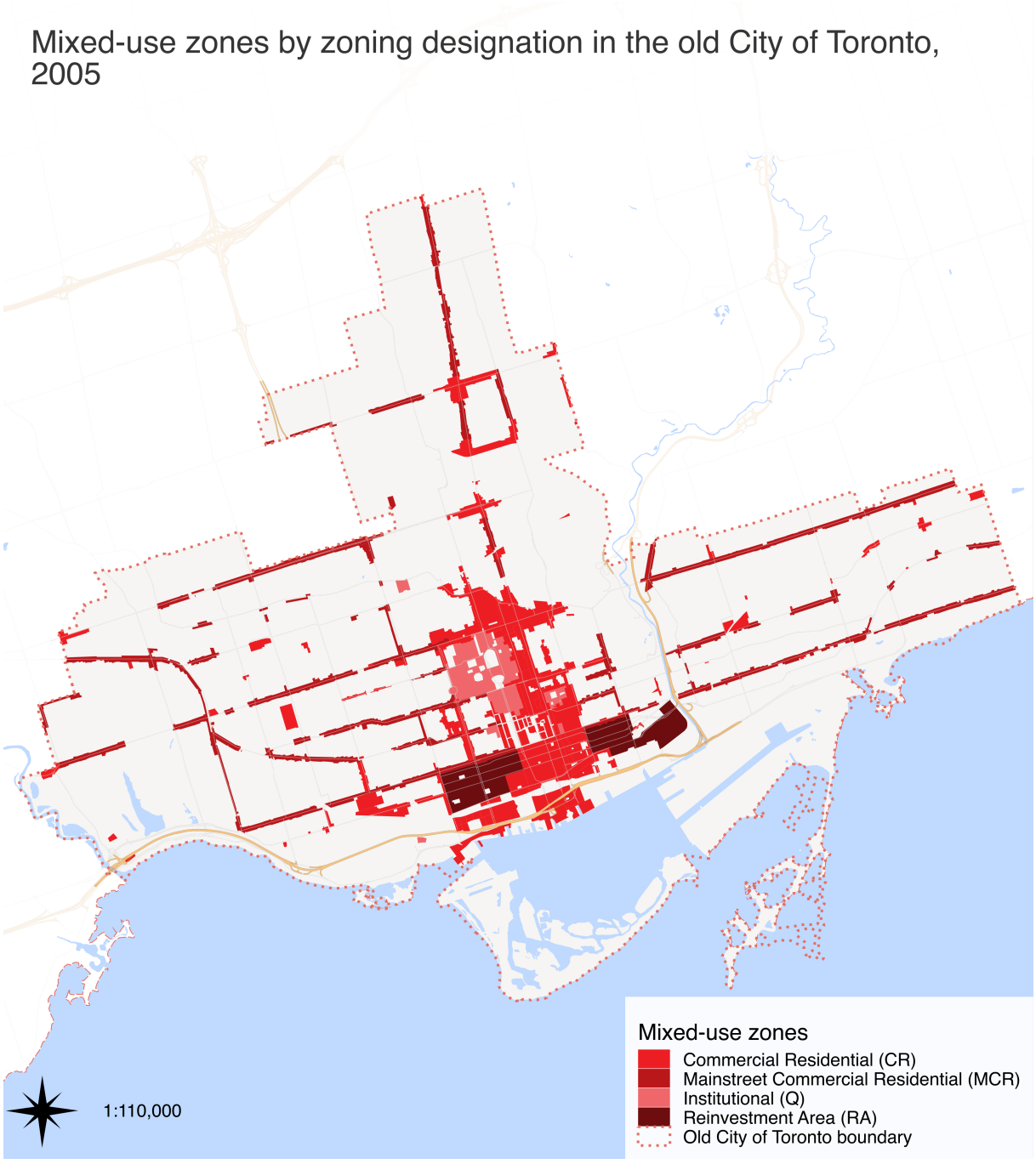


Figure 28: Mixed-use zones by zoning designation in the old City of Toronto, 2005

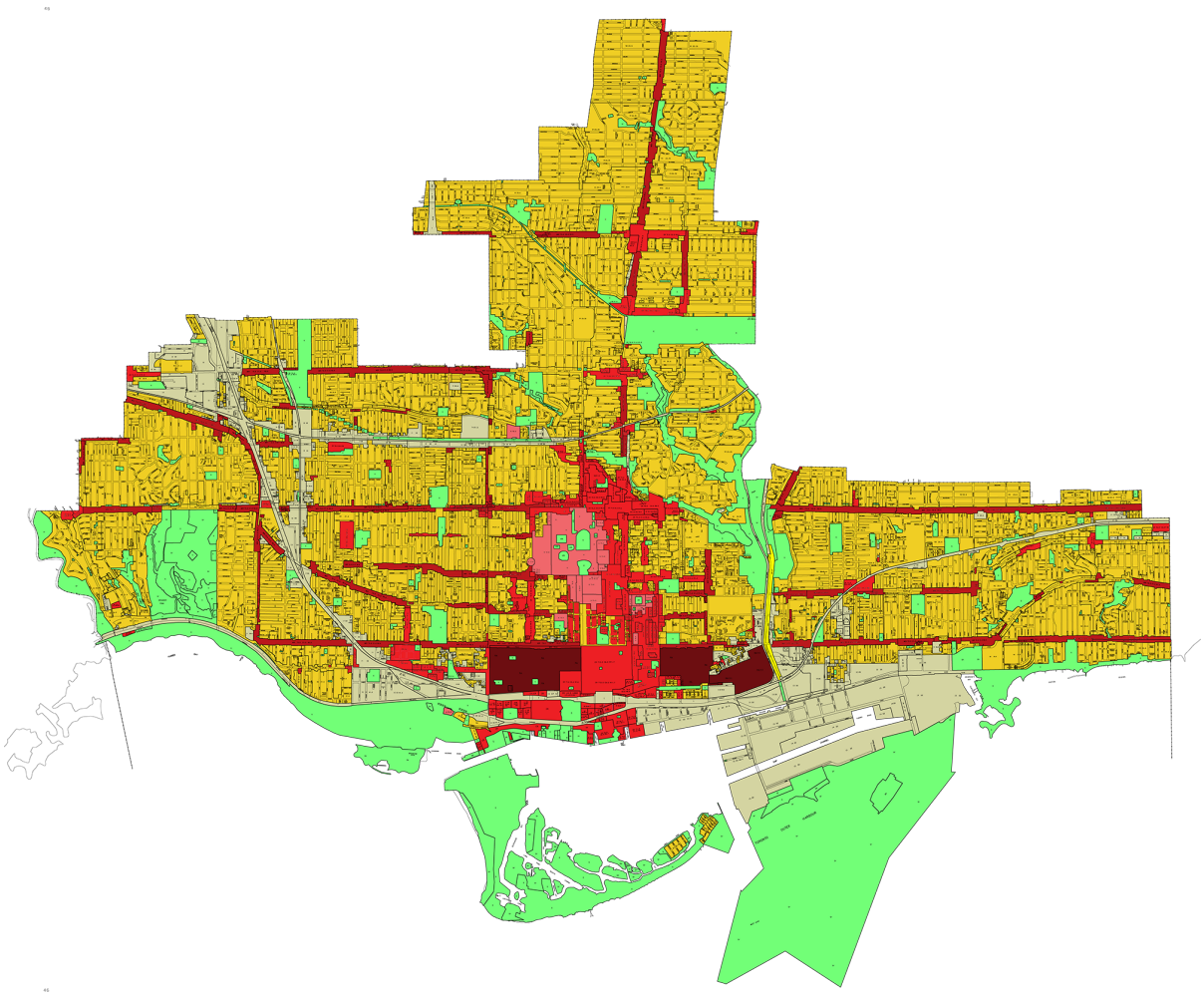


Figure 29: Old City of Toronto zoning map, recoloured and reprocessed

Figure 30: Neighbourhoods in the old City of Toronto

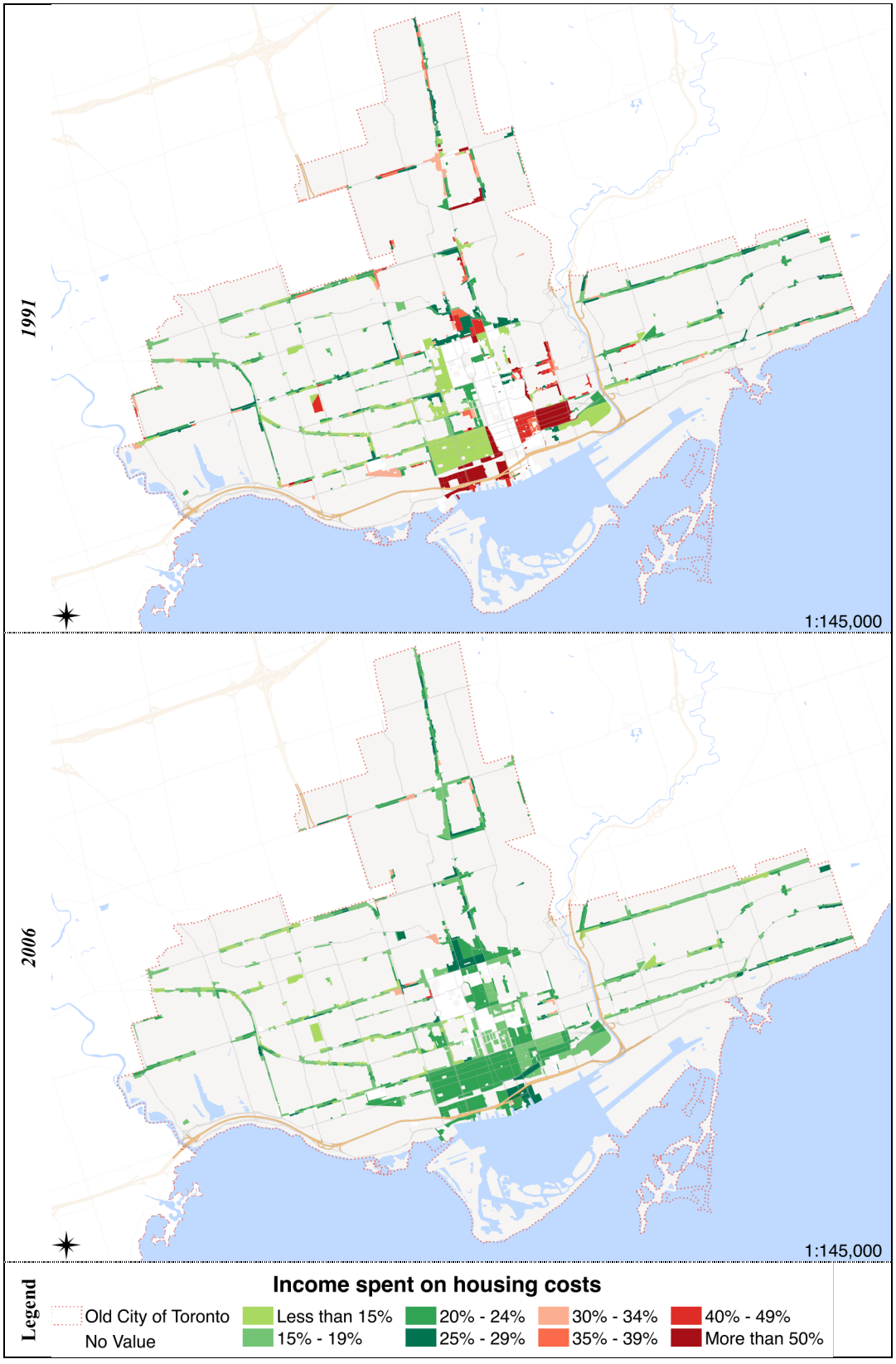


Figure 31: Average owner housing costs in mixed-use areas as percentage of average income for Managerial occupations in the old City of Toronto, 1991 and 2006

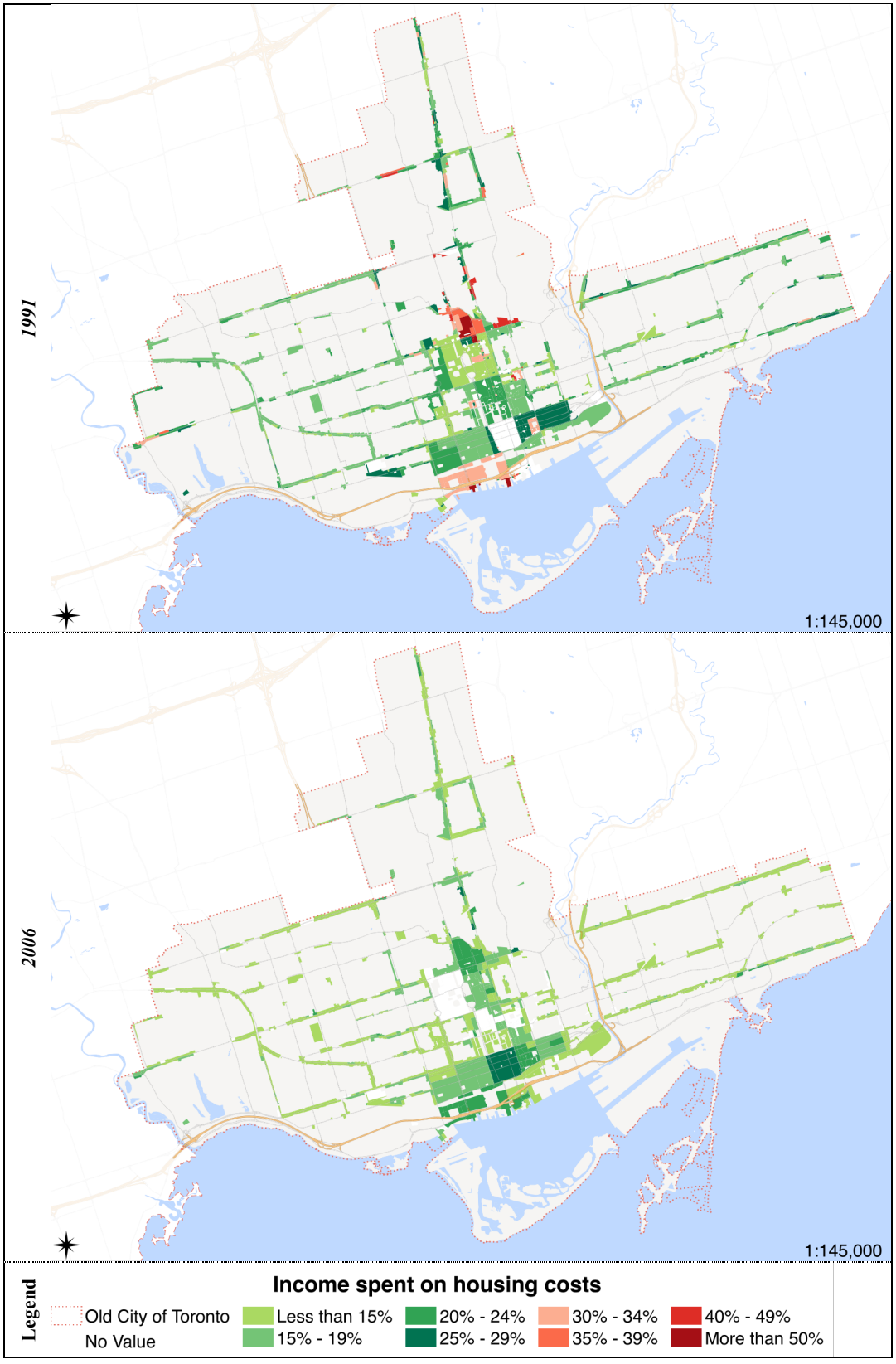


Figure 32: Average rental housing costs in mixed-use areas as percentage of average income for Managerial occupations in the old City of Toronto, 1991 and 2006

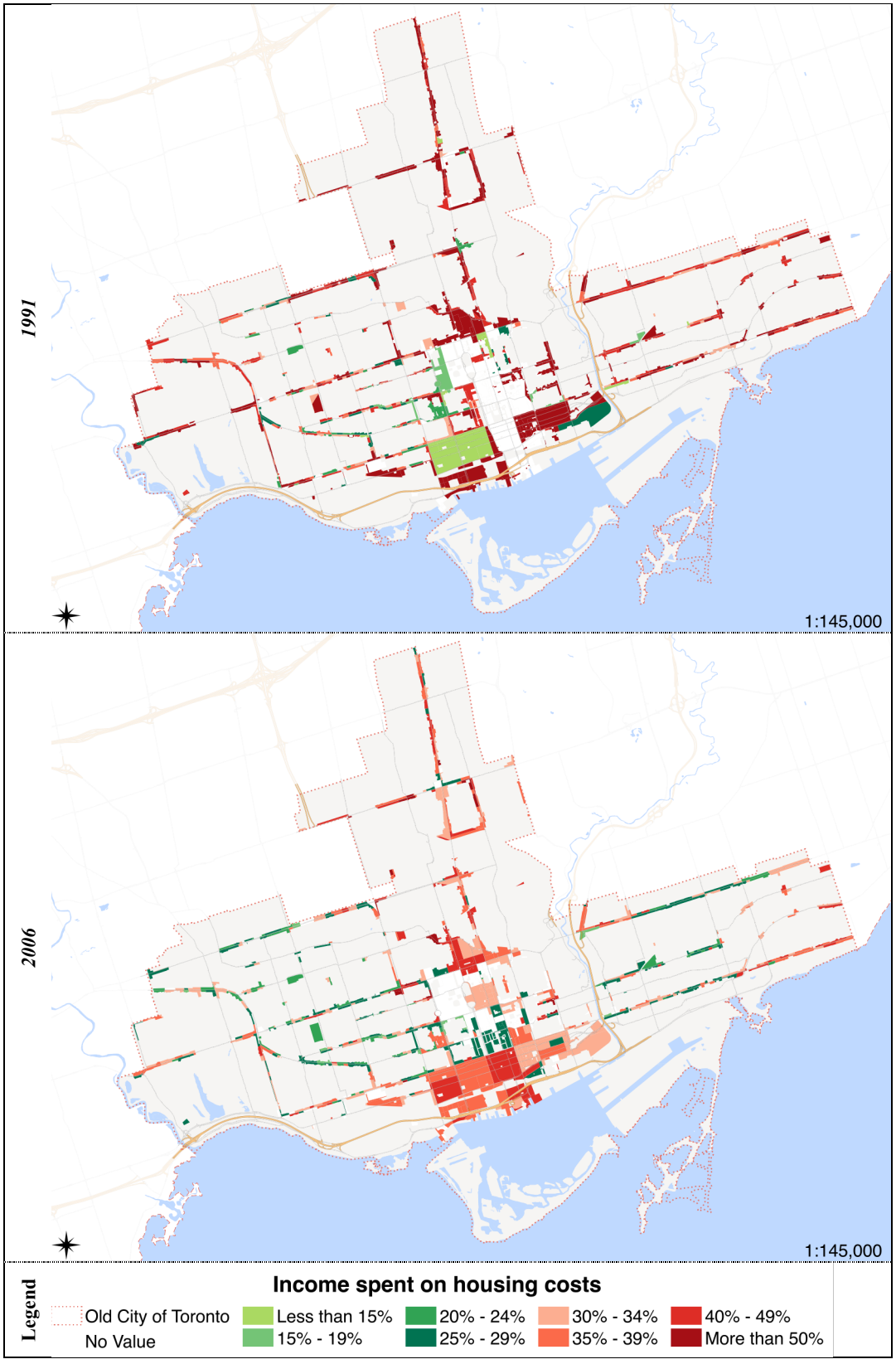


Figure 33: Average owner housing costs in mixed-use areas as percentage of average income for Business occupations in the old City of Toronto, 1991 and 2006

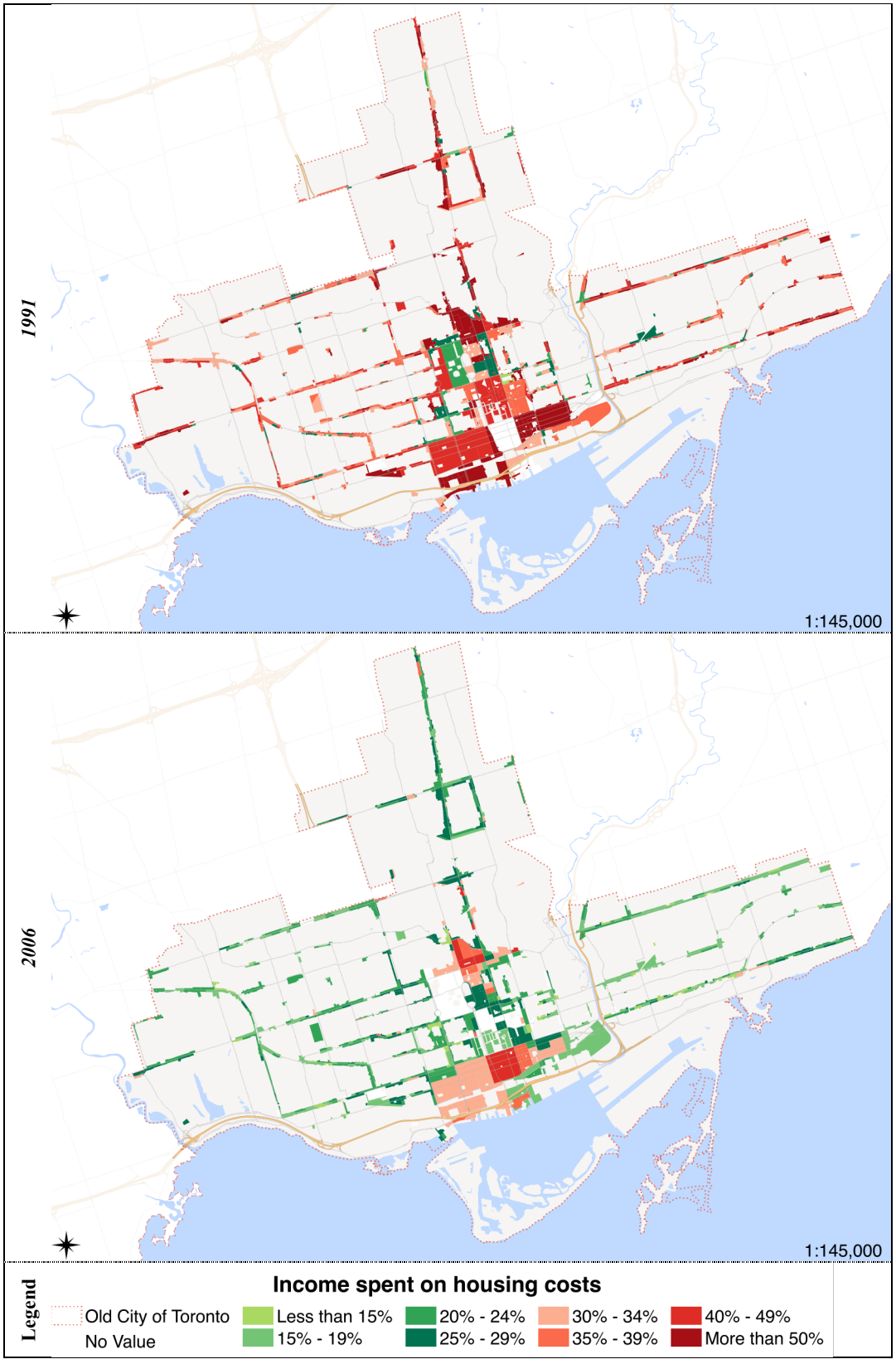


Figure 34: Average rental housing costs in mixed-use areas as percentage of average income for Business occupations in the old City of Toronto, 1991 and 2006

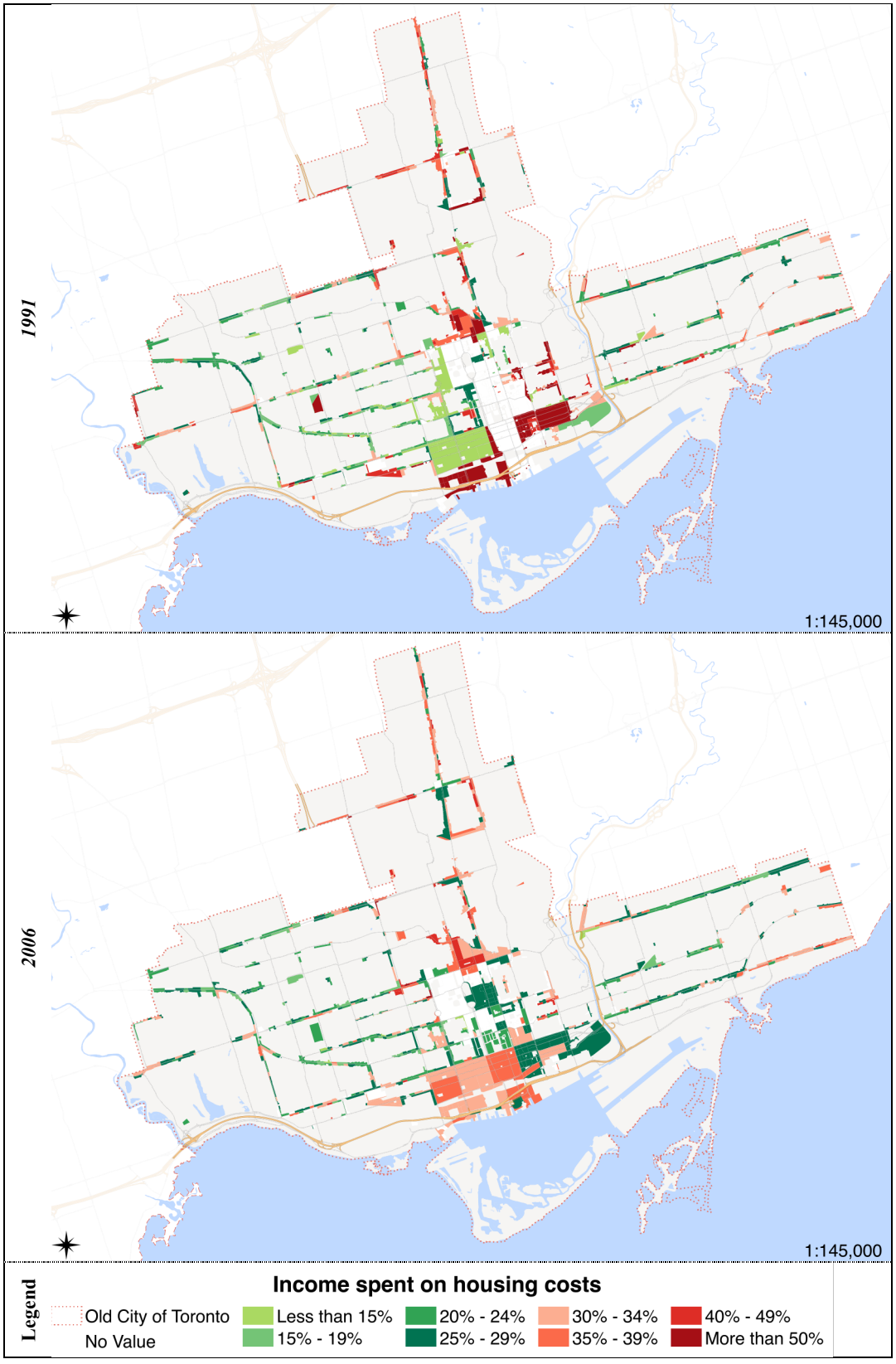


Figure 35: Average owner housing costs in mixed-use areas as percentage of average income for Technical occupations in the old City of Toronto, 1991 and 2006

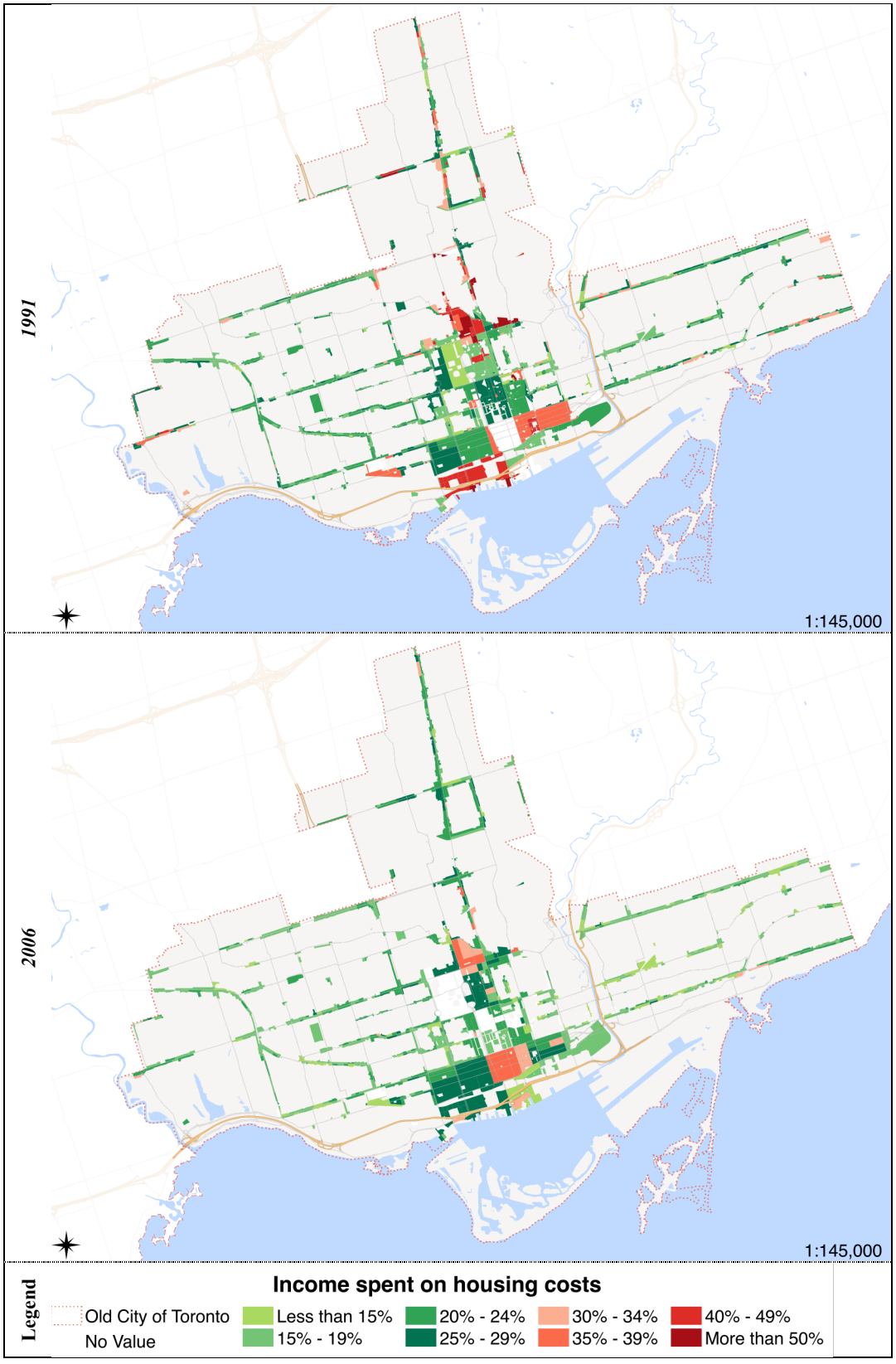


Figure 36: Average rental housing costs in mixed-use areas as percentage of average income for Technical occupations in the old City of Toronto, 1991 and 2006

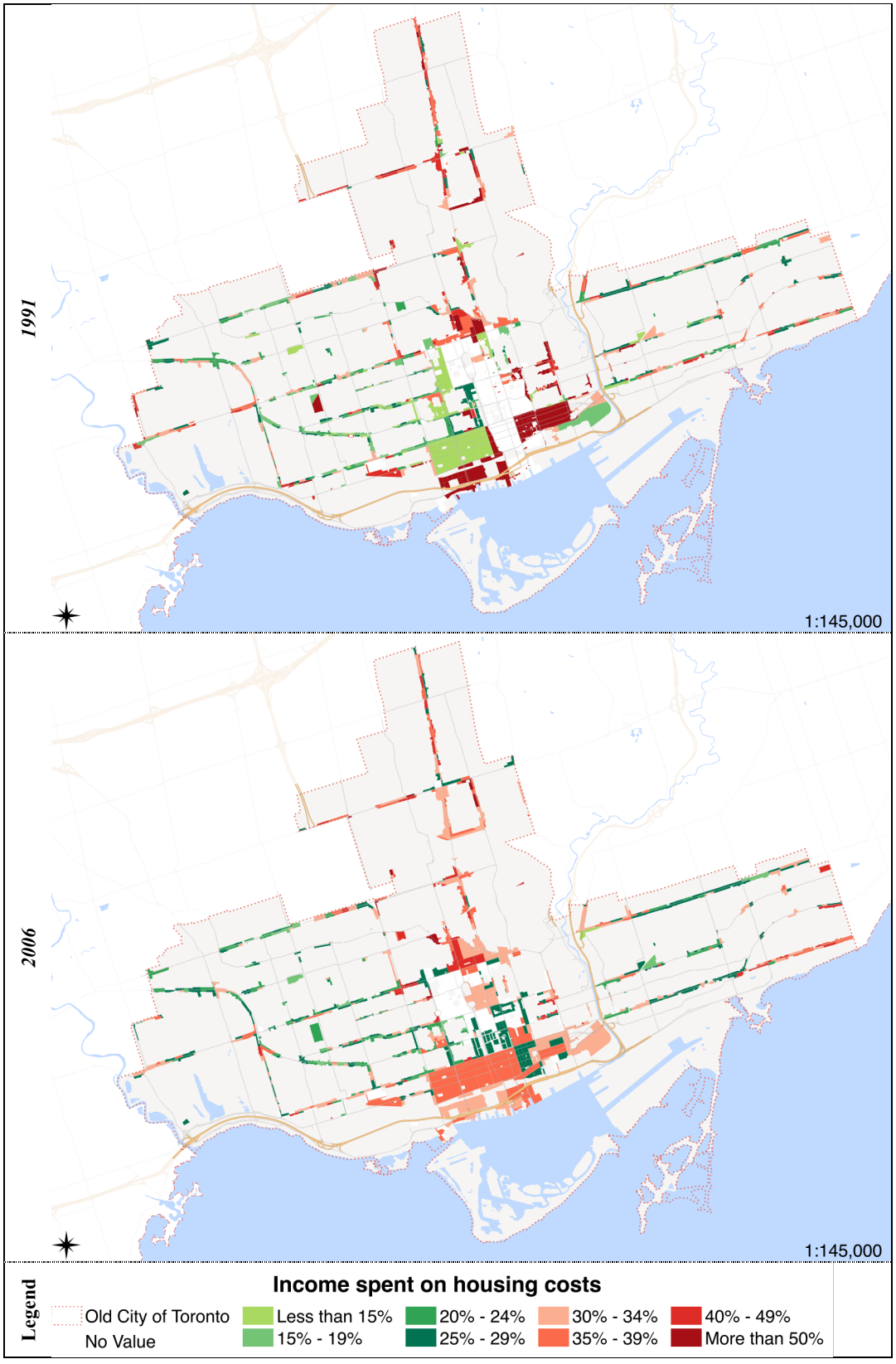


Figure 37: Average owner housing costs in mixed-use areas as percentage of average income for Health occupations in the old City of Toronto, 1991 and 2006

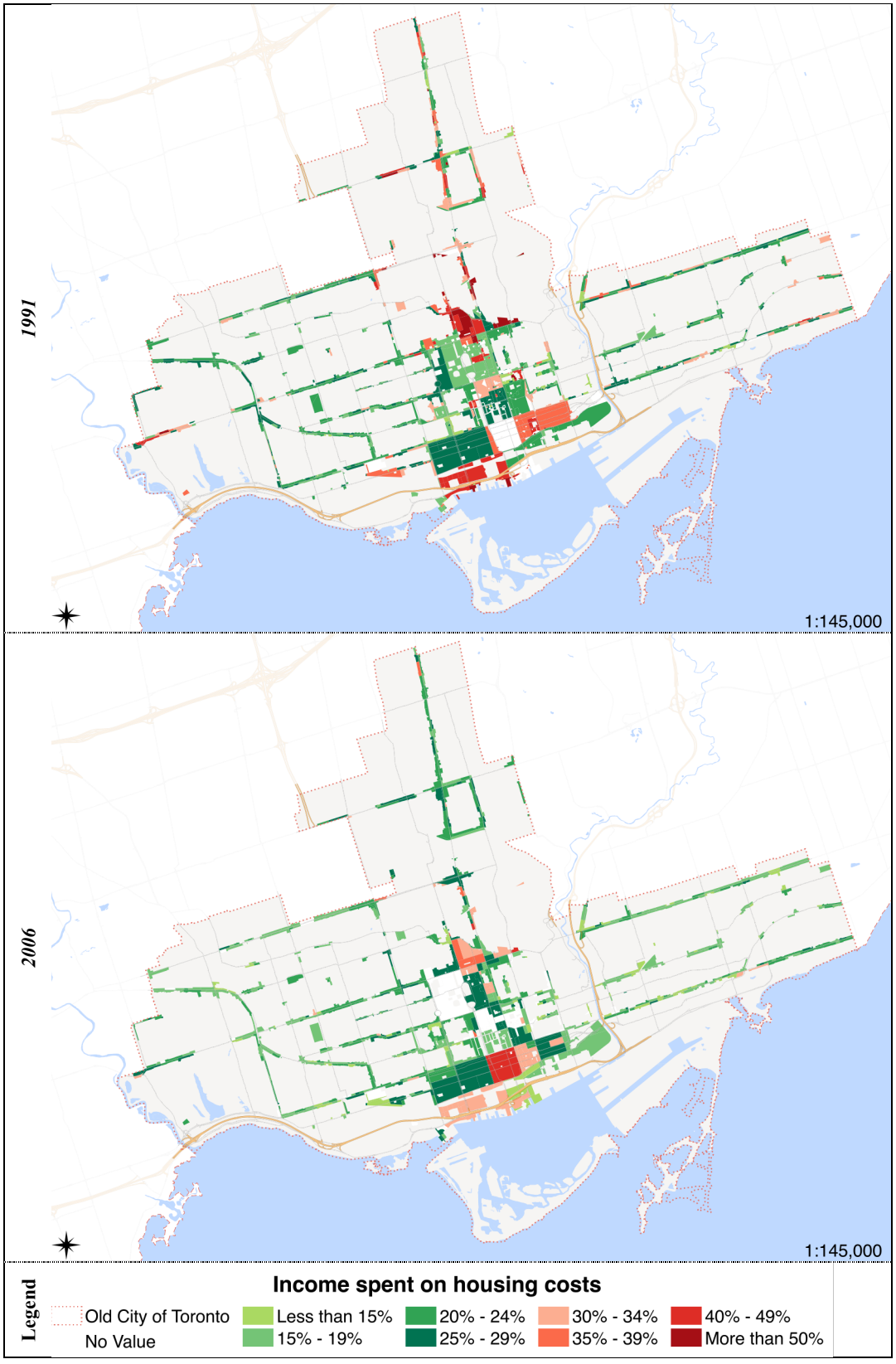


Figure 38: Average rental housing costs in mixed-use areas as percentage of average income for Health occupations in the old City of Toronto, 1991 and 2006

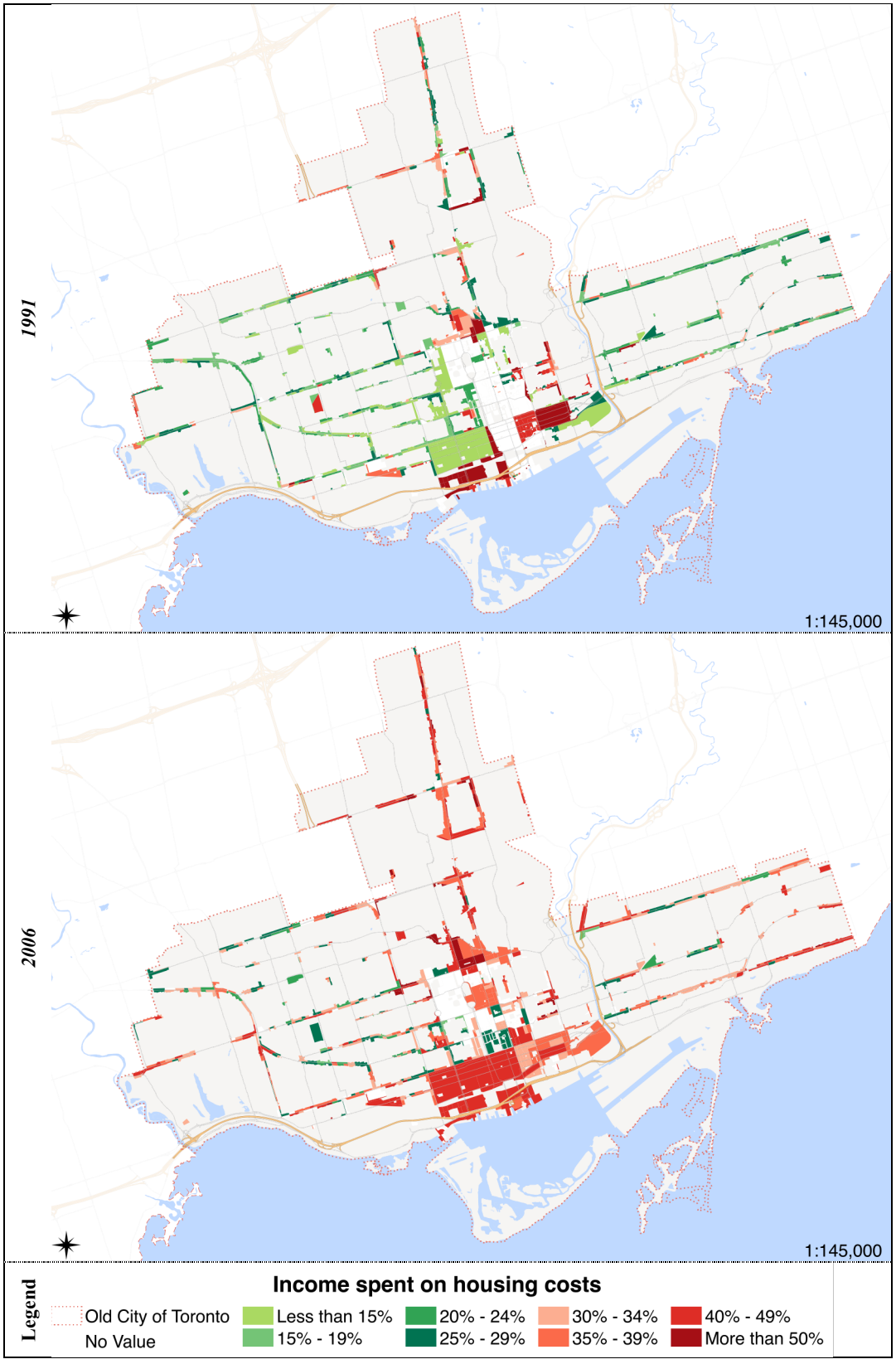


Figure 39: Average owner housing costs in mixed-use areas as percentage of average income for Social, Edu., Gov't occupations in the old City of Toronto, 1991 and 2006

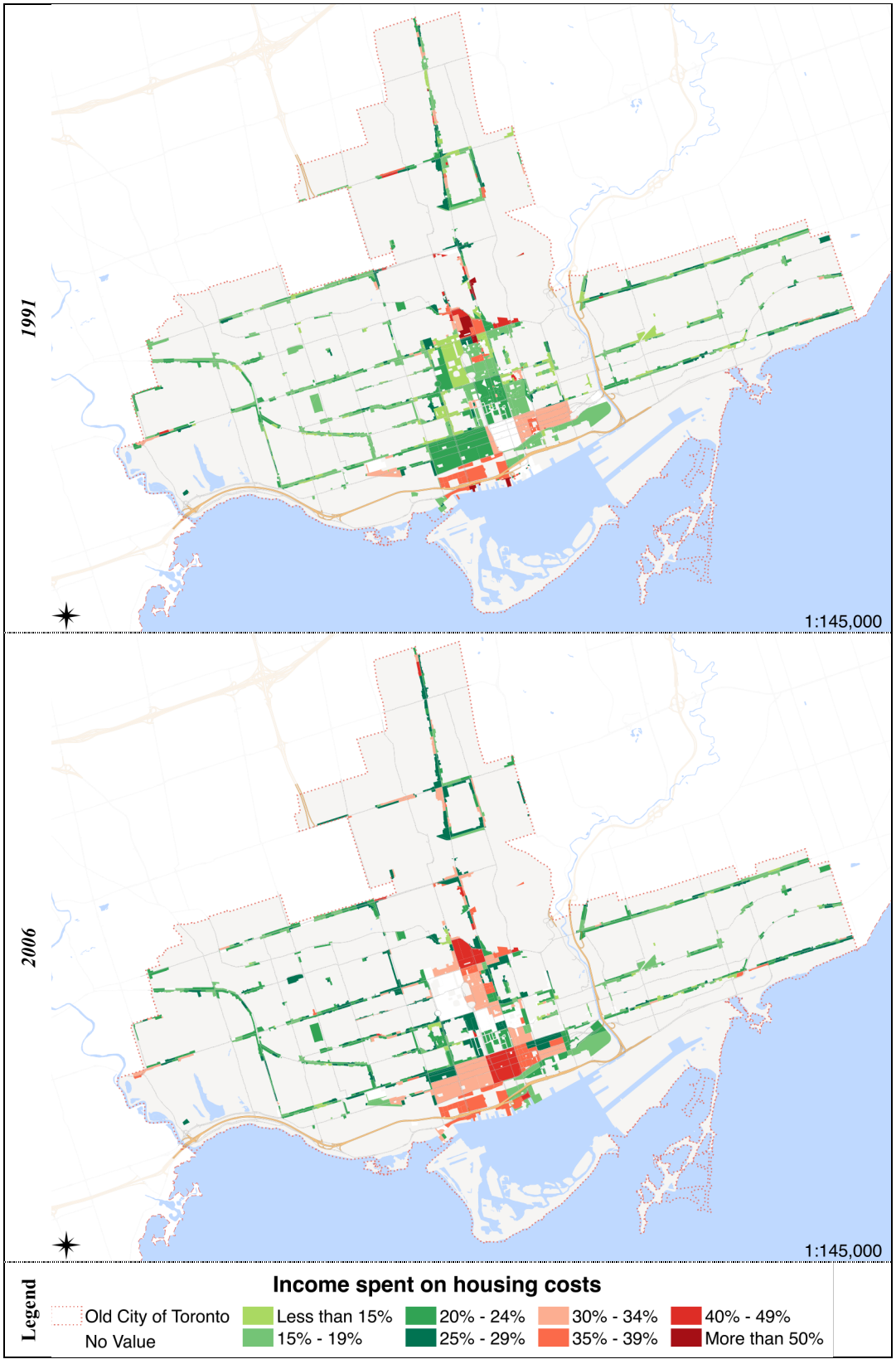


Figure 40: Average rental housing costs in mixed-use areas as percentage of average income for Social, Edu., Gov't occupations in the old City of Toronto, 1991 and 2006

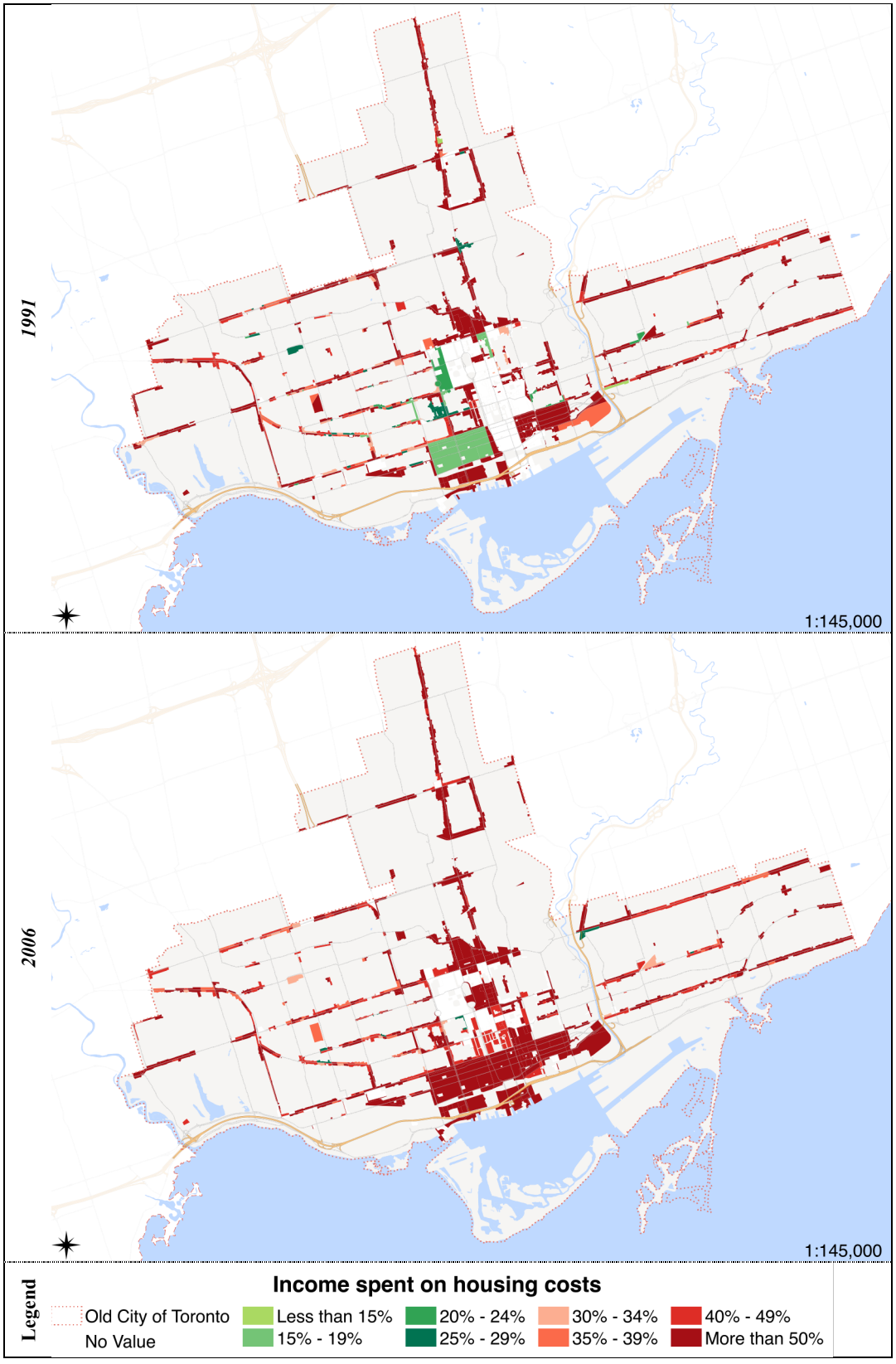


Figure 41: Average owner housing costs in mixed-use areas as percentage of average income for Cultural occupations in the old City of Toronto, 1991 and 2006

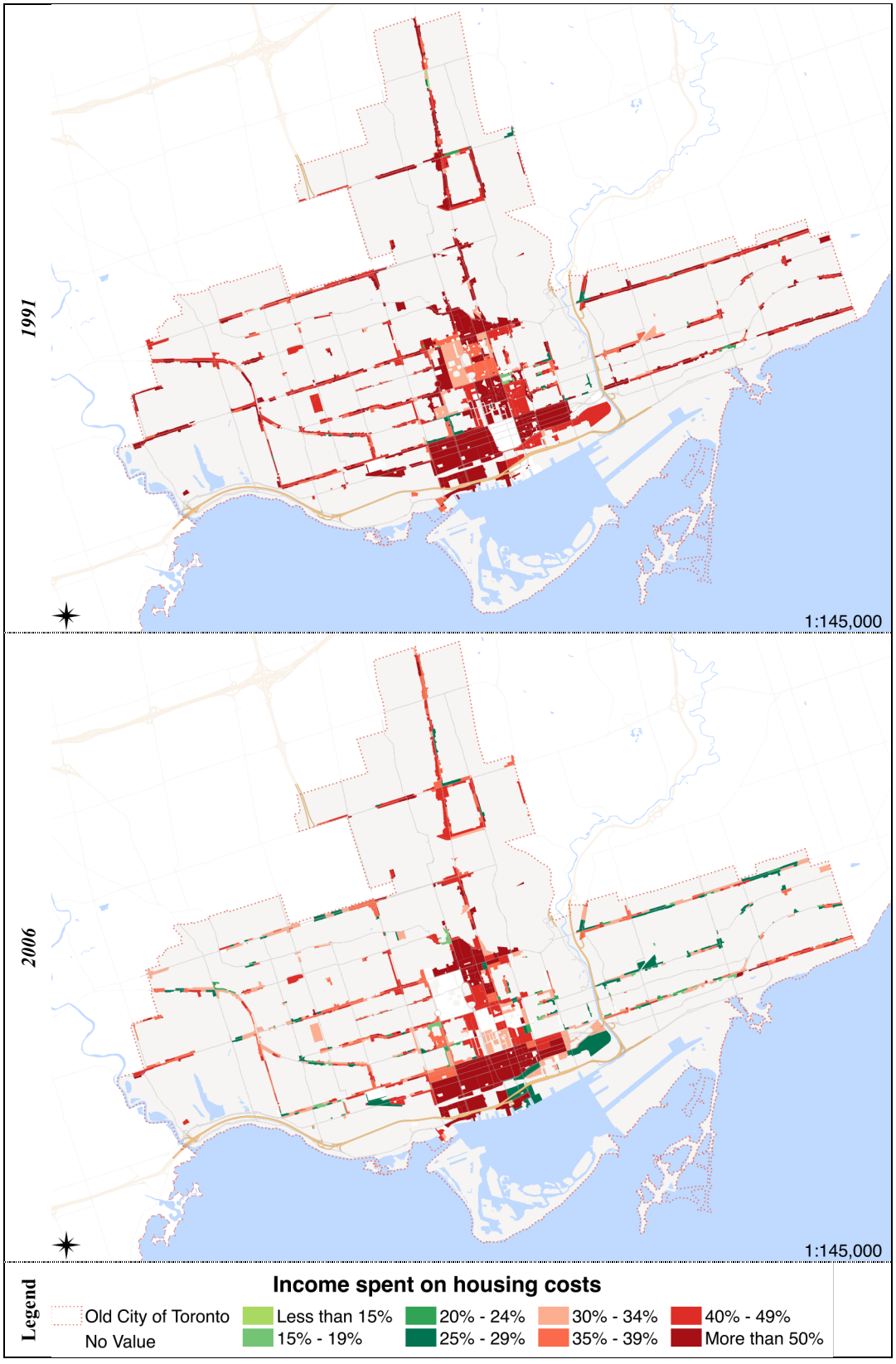


Figure 42: Average rental housing costs in mixed-use areas as percentage of average income for Cultural occupations in the old City of Toronto, 1991 and 2006

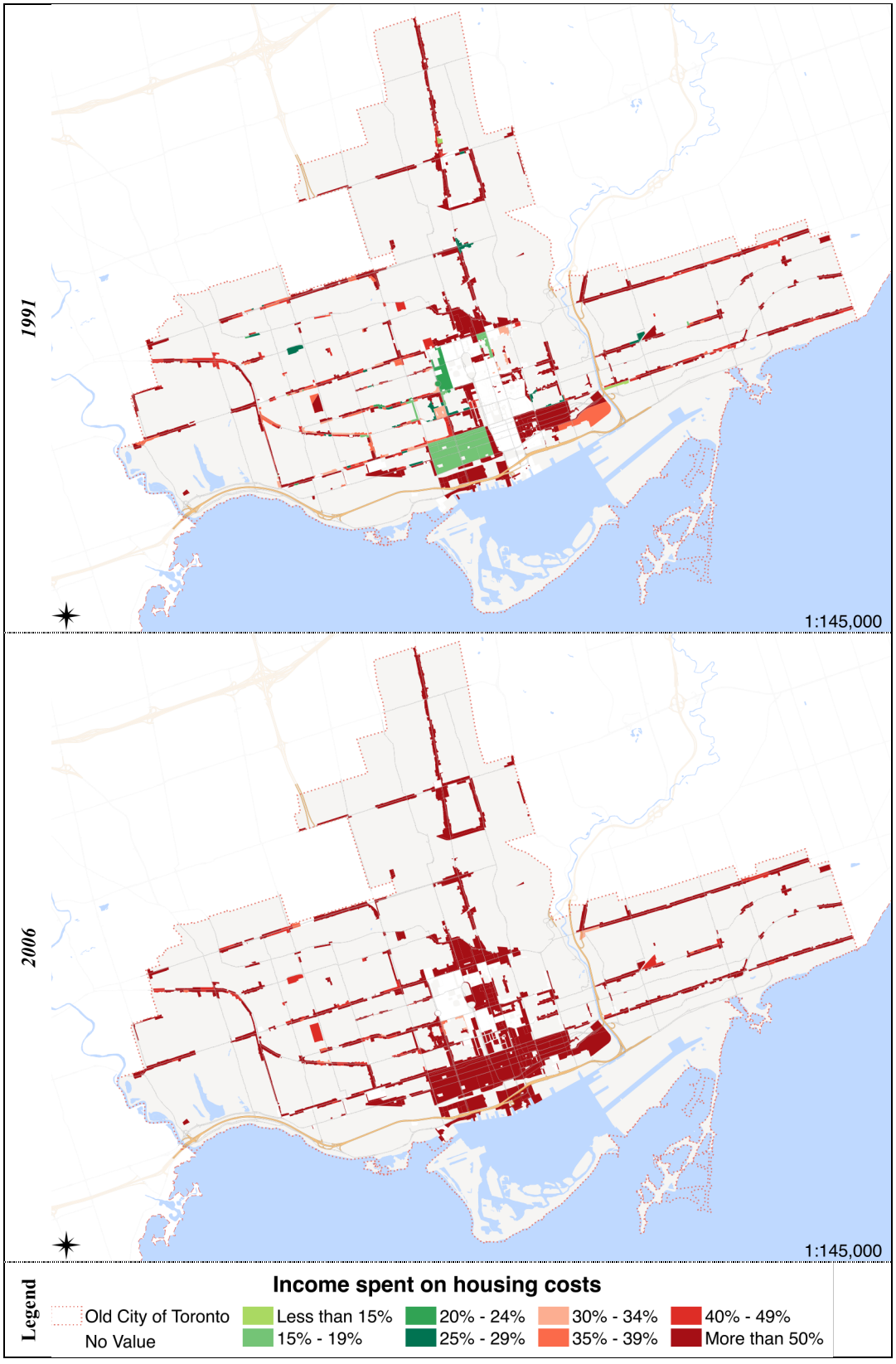


Figure 43: Average owner housing costs in mixed-use areas as percentage of average income for Sales & service occupations in the old City of Toronto, 1991 and 2006

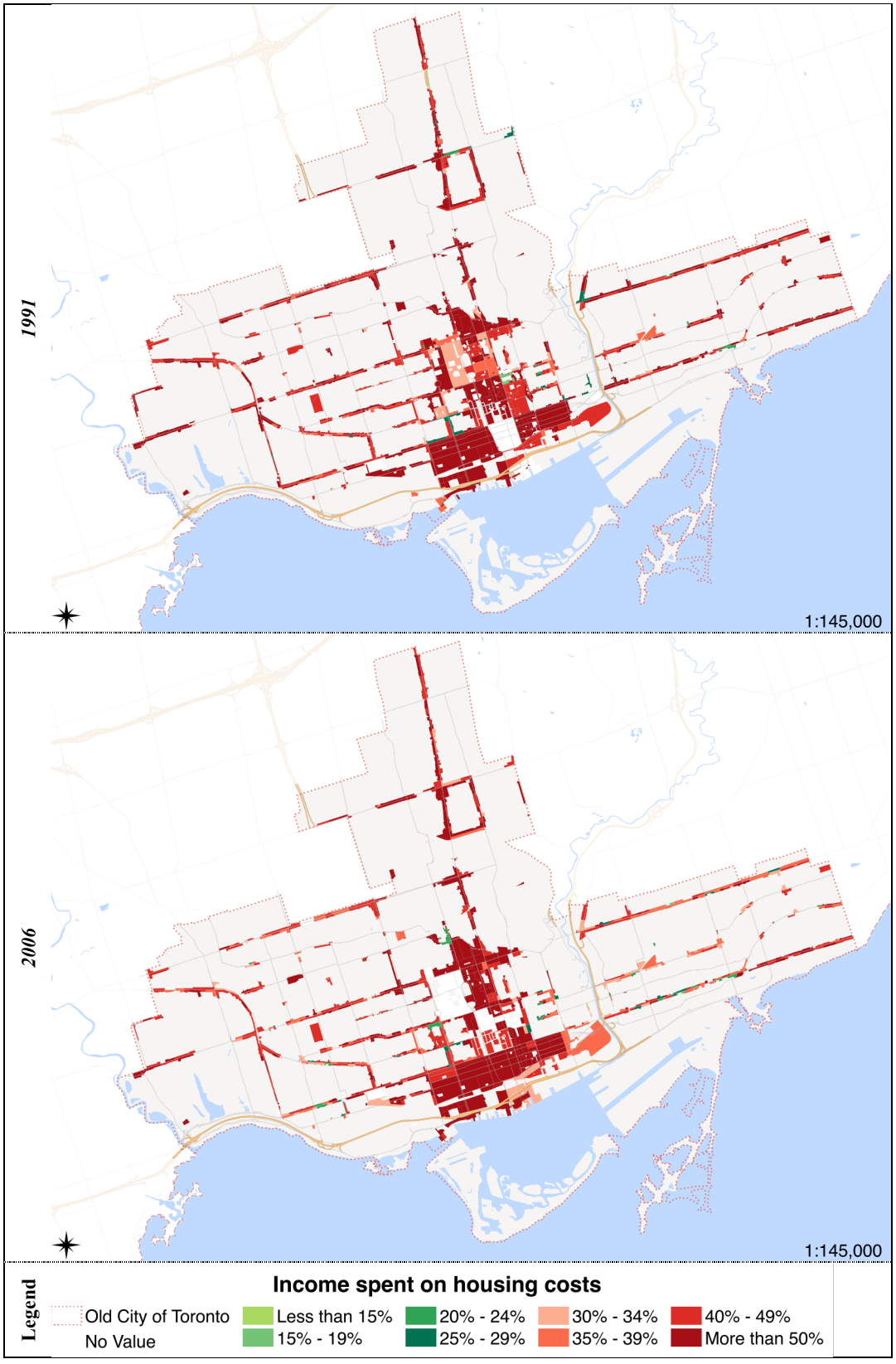


Figure 44: Average rental housing costs in mixed-use areas as percentage of average income for Sales & service occupations in the old City of Toronto, 1991 and 2006

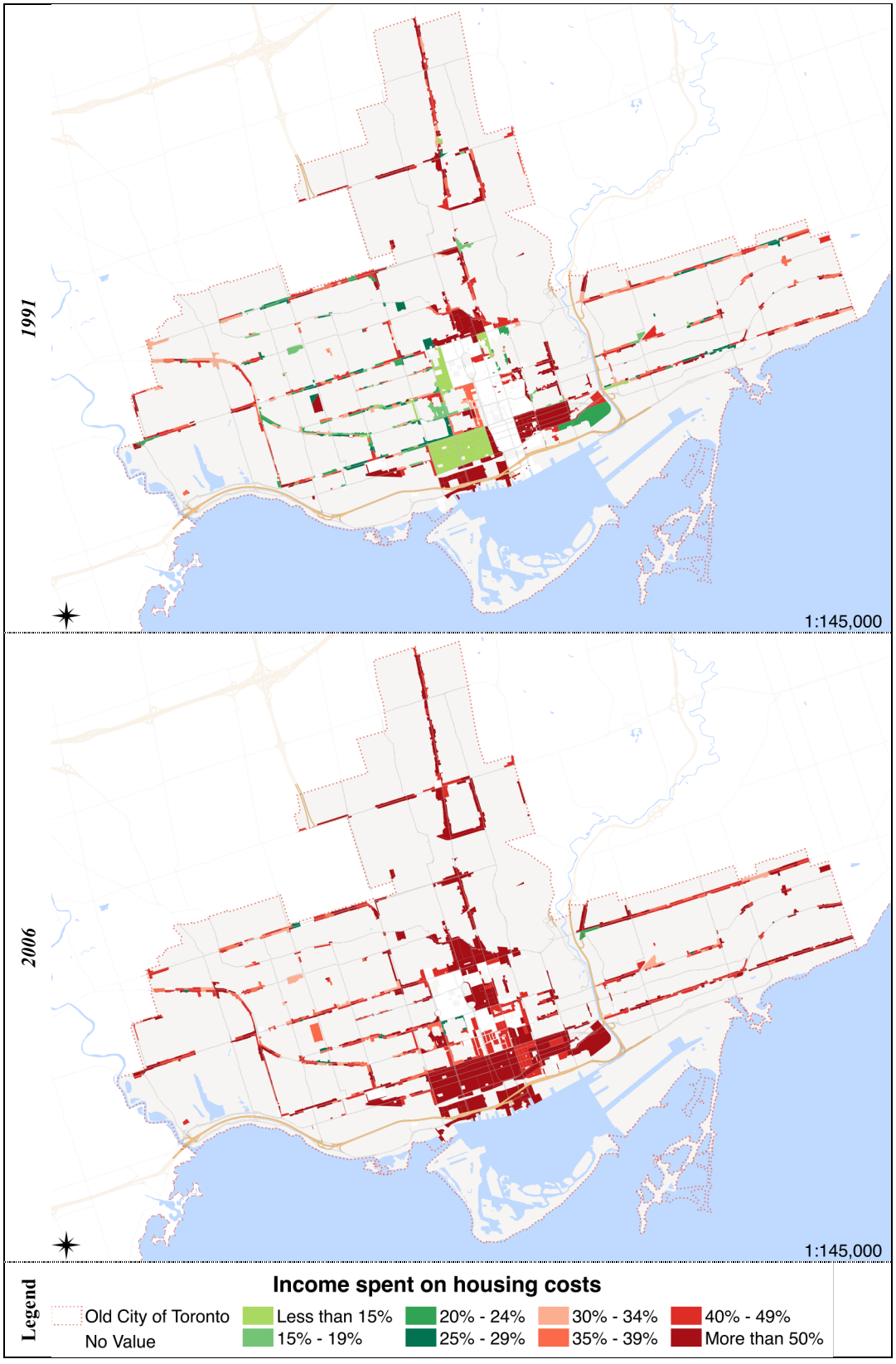


Figure 45: Average owner housing costs in mixed-use areas as percentage of average income for Trades occupations in the old City of Toronto, 1991 and 2006

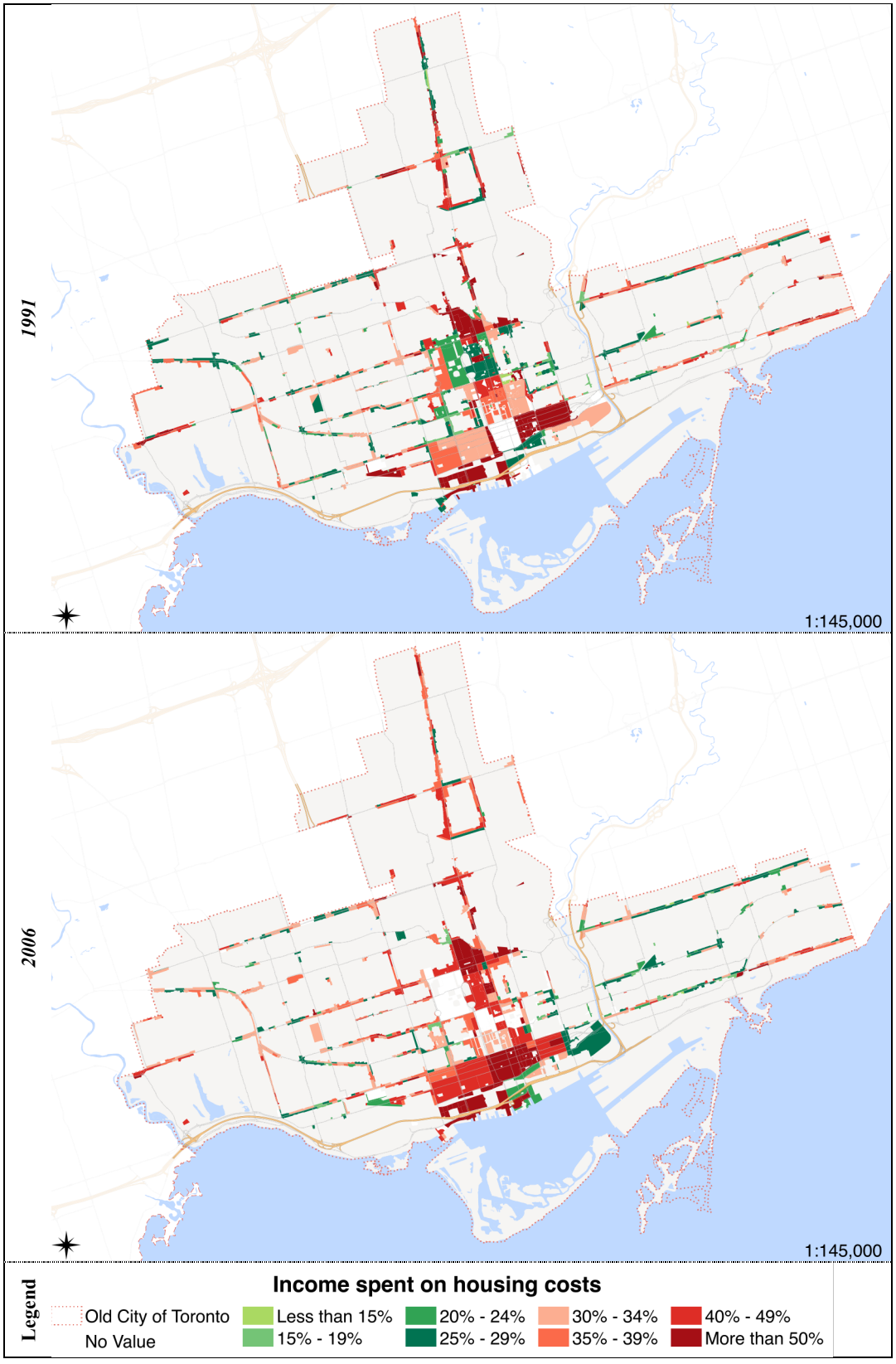


Figure 46: Average rental housing costs in mixed-use areas as percentage of average income for Trades occupations in the old City of Toronto, 1991 and 2006

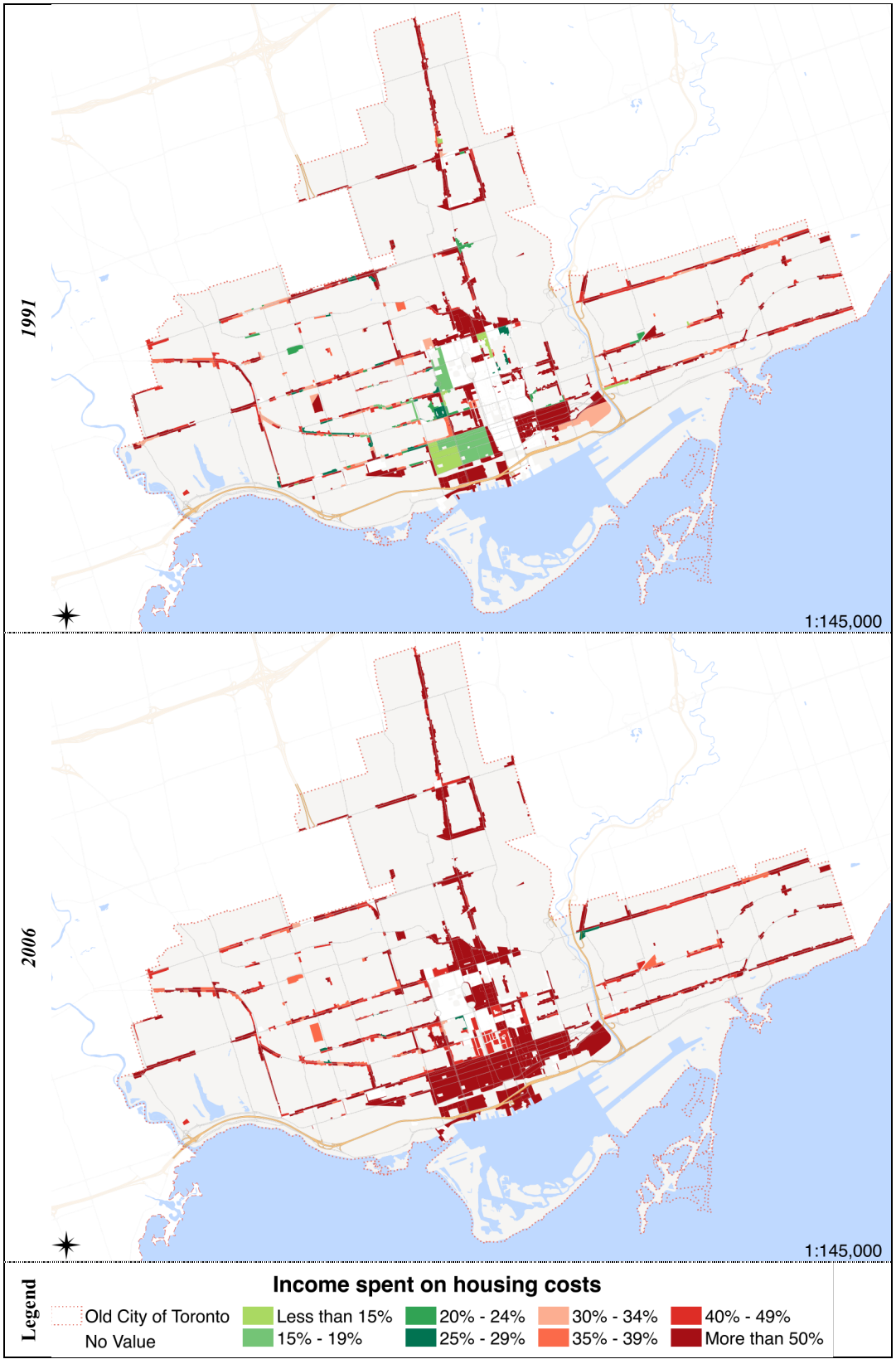


Figure 47: Average owner housing costs in mixed-use areas as percentage of average income for Manufacturing occupations in the old City of Toronto, 1991 and 2006

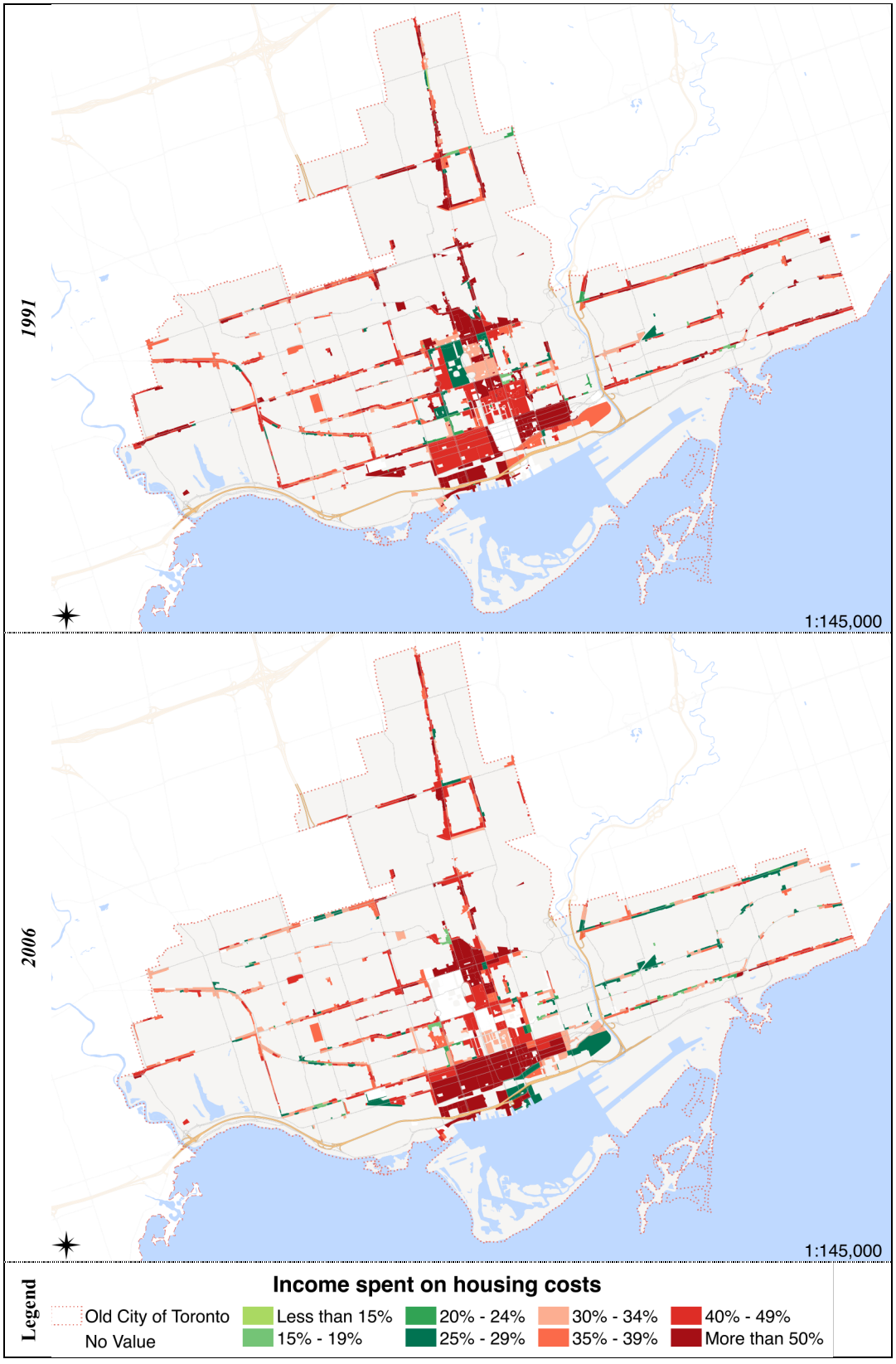


Figure 48: Average rental housing costs in mixed-use areas as percentage of average income for Manufacturing occupations in the old City of Toronto, 1991 and 2006

Appendix C: Diagrams and Figures

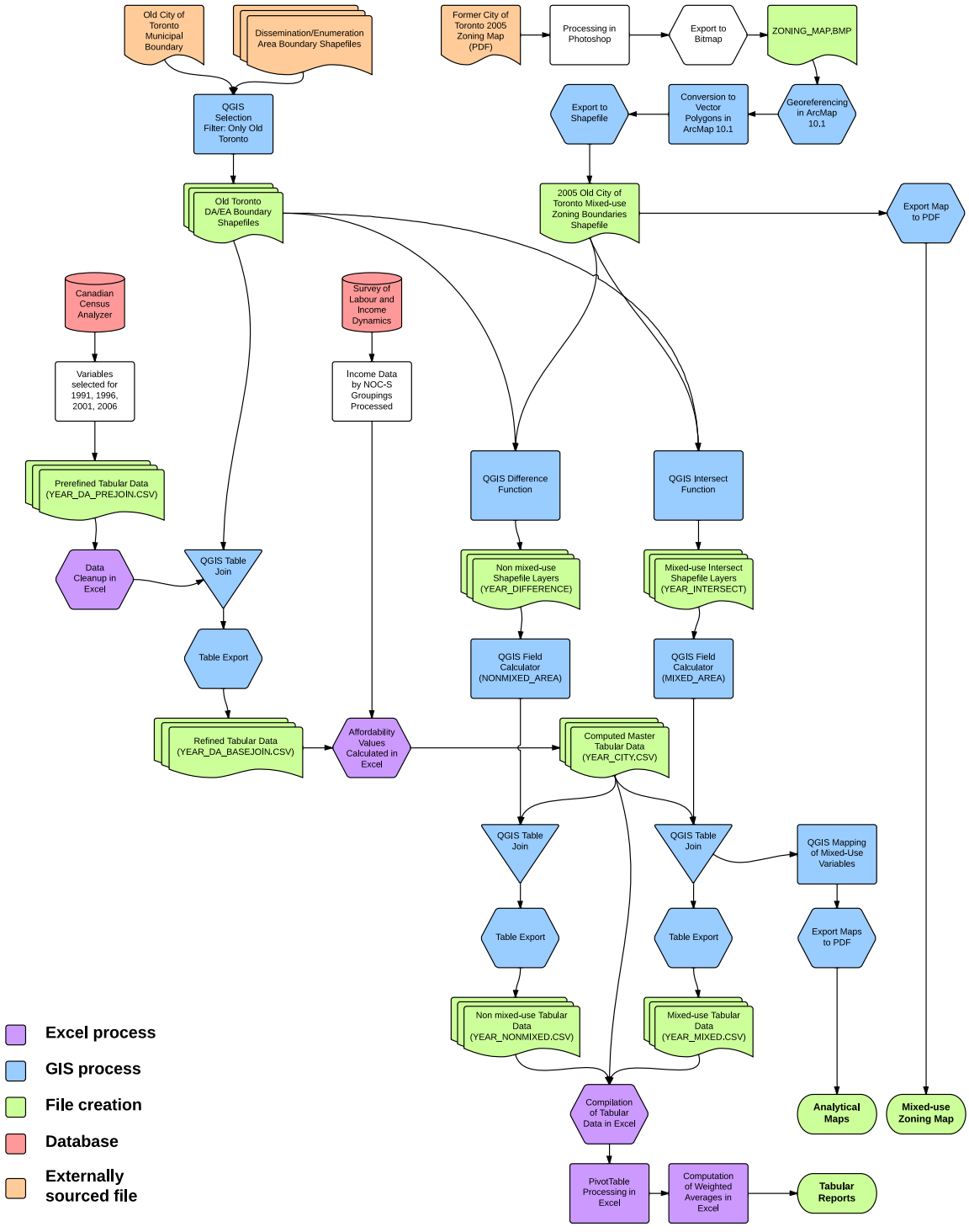


Figure 49: Procedural flowchart depicting data collection and analysis methods

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