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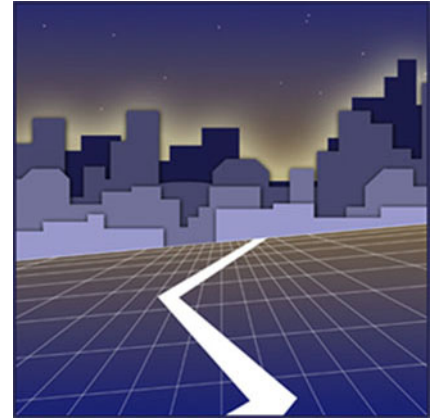
Trends and Conditions in Census Metropolitan Areas

# Work and Commuting in Census Metropolitan Areas, 1996-2001

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### **Trends and Conditions in Census Metropolitan Areas**

This series of reports provides key background information on the trends and conditions in Canadian Census Metropolitan Areas (CMAs) across a number of dimensions. Subjects covered include demographics, housing, immigration, aboriginal persons, low income, economic conditions, health, location of work and commuting mode, and culture.

The objective of these reports is to provide statistical measures of trends and conditions in our larger metropolitan areas, and neighbourhoods within them. These measures will be available for use in city planning and in policy assessments of what works to create a healthy city.

Statistics Canada has worked on this project in collaboration with the Cities Secretariat, Infrastructure Canada (formerly Cities Secretariat of the Privy Council Office), with financial assistance from 14 other departments.

This project is being conducted under the direction of Doug Norris and Garnett Picot at Statistics Canada.

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Statistics Canada  
Business and Labour Market Analysis Division

## Trends and Conditions in Census Metropolitan Areas

# Work and Commuting in Census Metropolitan Areas, 1996-2001

Andrew Heisz and Sébastien LaRochelle-Côté

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### Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

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## Executive Summary

According to the Organisation for Economic Cooperation and Development (OECD), Canada is one of the most urbanized nations. In fact, much of Canada's population is concentrated into one of the 27 existing Census metropolitan areas (CMAs) and together these 27 CMAs comprise about 64% of Canada's population. These large metropolitan areas are growing faster than other areas, increasing in population by 6.2% between 1996 and 2001 (compared to an increase of just 0.4% in non-CMA areas).

At the same time, the landscape of where people work is changing. Driven by changes in the industrial makeup of the city, plus a need to accommodate an ever expanding population, more and more of the workforce are employed in the suburbs of cities. The suburbanization of work, in turn, places stresses on urban infrastructure, with significant increases in traffic as well as increased demands for public transit systems.

This report documents these trends in Canada's largest urban areas over the period 1996 to 2001. It focuses on three themes: (1) The changing location of work; (2) characteristics of jobs in the central cities and suburbs; and (3) implications for commuting. The objective is to describe these factors and determine how they have changed in the recent past in order to shed light on the changing landscape of work in Canada's largest urban areas. The report places particular emphasis on developments in Canada's 8 largest CMAs: Québec, Montréal, Ottawa–Hull, Toronto, Winnipeg, Calgary, Edmonton and Vancouver.

This report is the seventh in a series that develops statistical measures that shed light upon issues of importance for Canada's largest cities. These reports are intended to present stylized facts which can then be available for use by city planners and aid in policy assessments of what works to create a healthy city. Interested readers are encouraged to look to the remainder of the series on trends and conditions in CMAs for detailed reports on Low income; Health; Immigration; Culture; Housing; Labour Markets, Business activity, Population growth and mobility; and Aboriginal People.

### *Employment grew faster in locations farther from the city centre in virtually all CMAs*

CMAs differ from one another in terms of their age, size, growth rate, industrial orientation, development policies, public transit access and geographic characteristics. These plus other factors influence the location of employment in the respective CMAs. However, while Canadian metropolitan areas continue to be characterized by a strong concentration of jobs in the downtown core, the relative economic importance of the inner core declined in most CMAs. From 1996 to 2001, areas located within 5 km of the city centre decreased their shares of employment in most CMAs. Over the same period, the average distance from a job's location to the city centre rose in nearly all CMAs.

One characteristic of increased employment shares in suburban locations and the relative decline in some central locations has been the shift of manufacturing activities from the core of the city to the suburbs. In virtually all CMAs, this shift reflected an absolute decline in manufacturing jobs in the city centre. In Montreal, for example, the share of manufacturing within 5 km of the city centre dropped from 13.8% to 10.2%, representing a decline of 8,600 jobs in the core. In Canada's eight largest CMAs, retail trade also shifted in concentration away from the central core opting for more suburban locations.

*Jobs in the city centres are higher skilled and better paid*

Job characteristics are polarized by location. In fact, a skill and earnings gradient can be drawn from the city centre to the suburbs. Jobs in the city centre are much more likely to be in the producer services, have high skill requirements, and have higher average pay. They are also much more likely to be among the 25% of best paid jobs in the city.

In recent years, this skill and earnings gradient has shifted more in favour of the city centre, as higher earning jobs concentrated more in the downtown between 1996 and 2001 in most large CMAs. Looking at Toronto, where the pattern of change was perhaps most striking, workers whose jobs were located within 5 km of the city centre earned 1.15 times that of the average Toronto worker in 1996, but 1.24 times the average in 2001. At the same time, workers located outside the city centre earned relatively less, and their relative earnings declined.

*Large urban areas face a challenge in promoting transit use to workers employed in suburban locations*

Workers tend to commute to these growing suburban locations by car rather than take public transit. The reliance on auto travel to access these suburban jobs may have important consequences for infrastructure, traffic congestion and air pollution.

Furthermore, the growth in employment outside the city centre may place stress on public transit systems which may struggle to provide adequate and competitive commuting services to these decentralised locations.

The public transit systems in Canada's largest urban areas are highly city centre oriented. In the 8 largest CMAs, from one-quarter to more than one-half of commuters on public transit were destined for city centre locations, with the remaining commuters going to relatively dispersed employment locations within the CMA.

However, as noted above, most of the job growth was in the suburbs. In Toronto, an additional 208,300 workers commuted to locations more than 20 km from the city centre in 2001 than in 1996. Nearly 90% of these workers commuted by car, increasing the number of car commuters in the Toronto CMA by 12% and increasing the number of car commuters destined for locations more than 20 km from the city centre by 25%.

In Montréal, job growth was more evenly split between the city centre and the suburbs. The number of commuters heading for downtown on public transit rose faster than employment, increasing commuter ridership by 13% overall and by 21% for those workers destined for locations within 5 km of downtown.

As the central city loses its importance as a place of work in the growing metropolitan area, and as more and more people live in the suburbs, commutes are becoming more complex. Larger numbers of workers commute either within suburban municipalities, across suburban municipalities, or commute from the central municipality to the suburbs. Commuters travelling within and across suburbs are much more likely to drive, especially when the commute is longer than 10 km. For example, in Ottawa–Hull where 13% of commutes were outside the city centre and more than 10 km in length, just 8% of these commuters took public transit to work.

Despite the increase in suburban traffic, the share of commuters taking public transit remained steady in 1996 and 2001 in most large CMAs. Public transit ridership, as a share of all commuters, remained steady in the face of employment decentralization largely because public transit increased its share of ridership within most zones, offsetting the compositional shift towards zones with lower take-up rates. For example, in Montréal the share of those working within 5 km of the city centre commuting via public transit rose from 39.7% in 1996 to 44.7% in 2001, and increases were also noted in other zones.

## Introduction

This report examines the spatial location of employment and commuting patterns in Canada's largest metropolitan regions. It is part of a series that develops statistical measures to shed light on issues of importance for Canada's 27 Census Metropolitan Areas (CMAs). The objective is to document the evolving location of work landscape in urban areas, plus highlight what implications this has for commuting, public transit and other urban infrastructures in general.

It is structured around three major themes. The first is the suburbanization of employment and population. It finds that a pattern of decentralization of work is continuing in Canadian CMAs. The city centre as a location of work continues to dominate in most large urban areas, but its relative importance has declined over recent years as a result of faster job creation in areas located farther away from the city centre.

The second discusses the varying characteristics of jobs located in the city centre and in the suburbs. Jobs in the city centre and suburbs are found to be located on a skill and earnings gradient. Jobs are better paid and require higher skills in the city centre, and skill requirements and pay typically decline as the job location moves farther from downtown. This is in part a reflection of the types of jobs located in different areas of the city, as jobs in the city centre are highly likely to be in lucrative producer services industries, while manufacturing jobs are concentrated in the suburbs. The pace of change in the CMA is gradual, with shifts in the concentration of manufacturing, retail trade and relatively low-paid jobs towards locations away from the city centre observed in most CMAs.

The third theme centres on what these facts imply for CMA infrastructure by focusing on commuting issues. It finds that commuters to these new suburban locations overwhelmingly drive to work. This appears to be related to the combined facts that public transit systems are city centre oriented, and that more commutes are taking place between suburbs of Canada's largest urban areas. One consequence of this is that CMAs face a challenge in encouraging transit use to suburban employment nodes, especially when job growth is mainly concentrated in the suburbs.

A census metropolitan area (CMA) is the area formed by one or more adjacent municipalities centred on a large urban area (known as the urban core). The census population count required for an urban core to form a CMA is at least 100,000. To be included in the CMA, other adjacent municipalities must have a high degree of integration with the central urban area, as measured by urban flows derived from census data on place of work. The universe of CMAs as of the 2001 Census is: St. John's, Halifax, Saint John, Chicoutimi–Jonquière,<sup>1</sup> Québec, Sherbrooke, Trois-Rivières, Montréal, Ottawa–Hull,<sup>2</sup> Kingston, Oshawa, Toronto, Hamilton, St. Catharines–Niagara, Kitchener, London, Windsor, Sudbury, Thunder Bay, Winnipeg, Regina, Saskatoon, Calgary, Edmonton, Abbotsford, Vancouver and Victoria.

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1. Now known as Saguenay.

2. Now known as Ottawa–Gatineau.

This paper uses place of work data from the 1996 and 2001 Censuses of Canada. The Census is administered to the entire population of the country, but more detailed questions were sent to 20% of Canadian households. These questions included information about the place of work and about the mode of transportation they most frequently use to commute from home to work. This paper primarily focuses on the non-institutional population aged 15 and over who worked at some time since January 1, 2000, and who reported a specific place of work (unless otherwise stated). For sets of tables comparing 1996 and 2001 other adjustments were made to make the data comparable. Individuals working at home, working outside the country or with no fixed workplace address were excluded from the analysis, but these correspond to a relatively small fraction of the working-age population. This is a reasonable approach as it focuses on people using a CMA infrastructure on a daily basis to go to work.

This paper mostly reports information about individuals working at a usual place in the CMA, but these may include individuals living in other CMAs or non-CMAs. For instance, many individuals working in Toronto actually live in Oshawa or Hamilton. For the purpose of this paper, the focus will be on “CMA workers”, that is, individuals working in the CMA even if they live in a different CMA. Naturally, CMA workers also exclude individuals living in the CMA but working elsewhere. According to the latest Census report on work location and mode of transport,<sup>3</sup> workers exceed residents in most CMAs, but that differential amounts to a tiny fraction of total workers in CMAs.

CMA boundaries can change over time with the growth and economic integration of nearby municipalities. Suburbanization plays a substantial part in the process of CMA enlargement. Workers in the CMA move out to suburbs outside of the CMA and integrate the suburb in the CMA. Similarly, those who live in the outlying municipalities may become more integrated with the nearby CMA.<sup>4</sup> In this paper, comparisons of CMAs over time are made on a “boundaries allowed to expand basis”. Hence, CMA boundaries are as defined in their respective Census years. This is appropriate because workers heading from “newer” suburban areas may contribute to increase congestion in CMAs and represent a key element of the suburbanization process.

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3. Statistics Canada, 2001. “Where Canadians work and how they get there.” Catalogue no. 96F0030XIE2001010. Ottawa: Statistics Canada.

4. The redrawing of CMA boundaries can also happen as a result of municipal boundary changes (for example, those resulting from amalgamation).



# Chapter 1

## The suburbanization of employment and population

In recent decades, U.S. case studies of urban sprawl have shown that employment grew faster in outer areas than in the inner core of major metropolitan areas (Walker and Lewis, 2001; Nucci and Long, 1996, 1997). Studying Canadian cities, Shearmur and Coffey (2002) likewise found that the relative importance of the downtown core declined in Montréal, Ottawa–Hull, Toronto and Vancouver over the last two decades. Although the studies vary in scope and in style, most suggest that suburbs considerably increased their share of economic activity in recent decades.

This section describes the extent to which job locations have moved away from the downtown core over the 1996 to 2001 period in Canadian CMAs. To describe this movement, each metropolitan area has been divided into five zones, centred upon the census tract where the city hall of the core municipality is located. The five zones are: 0 to 5 km from the city hall, 5 to 10 km, 10 to 15 km, 15 to 20 km, 20 to 25 km and beyond 25 km from the city hall. This is an appropriate measure of distance because the city hall is typically located at, or near to, centrally-located employment clusters.<sup>5</sup> However, one disadvantage of this method is that physically smaller CMAs will tend to display more concentration in the inner rings.

### 1.1 Employment grew faster in locations farther from the city centre in virtually all CMAs

CMAs differ from one another in terms of their age, size, growth rate, industrial orientation, development policies, public transit access and geographic characteristics. These and other factors influence the location of employment in the respective CMAs. However, two broad facts can be relayed concerning employment location in Canadian CMAs.

First, Canadian CMAs continue to be characterized by a strong concentration of jobs in the downtown core. In 2001, 38.3% of all jobs in CMAs were located within 5 km of the city hall (Table 1.1). Not surprisingly, jobs were typically more concentrated in smaller CMAs. In Regina, for instance, 90.7% of all workers were located within 5 km of the city centre. In contrast, workers in larger CMAs like Toronto, Montréal and Vancouver were more likely to work away from the downtown core, but still had impressive job shares in the 0-5 km range.

The centralization of jobs can also be seen with reference to density graphs of job distance from the city centre. In density graphs, the area under the curve equals 100%, so the shape of the density indicates at what distances employment was most concentrated. Figure 1.1 shows density graphs for 2001 for the largest 8 CMAs. Each CMA had important central employment clusters, indicated by the large areas under the density curves in the 0-5 km range. Notably, many CMAs had important employment concentrations beyond the city centre. In Toronto, an important employment cluster is located nearly 25 km from the city centre, which corresponds (mainly) to high employment in and around Pearson Airport. Ottawa–Hull has an important employment cluster located about 20 km from the city centre in the former city of Kanata, and Vancouver has three important zones outside of the city centre where jobs are more

5. Caution should be applied in some cases, where two large municipalities are combined in a single CMA, as in the case of St. Catharines–Niagara. In these cases, employment will appear relatively decentralized compared to other CMAs of similar size.

concentrated at 10, 20 and 35 km from downtown. The last of these conforms roughly to employment centres located in Langley. Other CMAs like Montréal, Edmonton and Calgary are characterized by more gradual declines in the job density as location becomes more distant from the downtown core.

Second, the relative economic importance of the inner core declined in most CMAs (with some notable exceptions discussed below). From 1996 to 2001, areas located within 5 km of the city centre decreased their shares of employment at the expense of areas located farther from the city centre (Table 1.2). In many cases (St. John's, Halifax, Saint John, Chicoutimi–Jonquière, Québec, Trois-Rivières, Kingston, Hamilton, Sudbury, Thunder Bay and Winnipeg), this reflected an absolute decline in the number of jobs located near the city centre, while in others, the number of jobs downtown grew, but they grew more slowly than in locations farther from the CMA core. Correspondingly, the average distance from a job's location to the city centre rose in nearly all CMAs.

Trends in job decentralization for the largest 8 CMAs can also be seen in the density graphs shown in Figure 1.1. It should be noted that the shifting of jobs away from the downtown core is a gradual process, as reflected in the similarity of the density curves shown for 1996 and 2001. However, each of the large CMAs saw some rightward shifting of the densities from 1996 to 2001, indicating employment concentrations further from the city centre. The exact nature of the change was not the same in all CMAs. In Montréal and Toronto, the share of jobs within 5 km of the city centre was stable, with job shares declining in the 5-10 km range in Montréal, and in the 5-20 km range in Toronto. In the 6 other large CMAs, the share of jobs in the city centre declined in the face of rising shares farther out.

## **1.2 Manufacturing jobs were also more likely to move into the suburbs**

One characteristic of the increasing employment density in suburban locations, and the relative decline in some central locations, is the shifting of manufacturing activities from the core of the city to the suburbs. This movement is important for several reasons. First, manufacturers have been the traditional employer of lower skilled workers, and manufacturing employment in some ways represents the “good jobs” that were seen to be lost in the 1990s economic restructuring. If good jobs accessible to the lower skilled workers are moving away from downtown, it may present a challenge to workers with low skills in the downtown core. This is one expression of the *spatial-skill-mismatch* hypothesis (McLafferty and Preston, 1999; Gobillon, Selod and Zenou, 2003). This theory, which has received much attention among academics studying American cities, proposes that the decentralization of entry level jobs towards the suburbs has created adverse labour market conditions for low-skilled workers residing in the city centres. Second, the moving of manufacturing, and industrial activities in general, away from the downtown core frees up resources for other uses. However, the buildings and land left behind are often unsuitable for contemporary needs, and may require decontamination or other decommissioning expenses before they can be put to alternative use (Filion and Rutherford, 2000).

Manufacturing jobs were much less centralized in CMAs than were all jobs. This reflects high concentrations of business and public services jobs in the city centre, with manufacturing locations traditionally concentrated in industrial locations surrounding the city core. In Toronto in 2001, just 5.2% of manufacturing was located within 5 km of the city centre, as compared to 23.1% of all jobs (Table 1.3). But like all jobs, manufacturing jobs also became less concentrated in the downtown core. In virtually all CMAs, this reflected an absolute decline in manufacturing jobs in the city centre. Taking Montréal as an example, the share of manufacturing within 5 km of the city centre dropped from 13.8% to 10.2% driven by a decline of 8,600 jobs in the core. Correspondingly the average distance of manufacturing jobs from the city centre rose from 13.2 km to 14.1 km. Fully 24 of the 27 CMAs saw their share of manufacturing decline in the central zone, with this share falling by more than 10% in 7 CMAs.

At the same time, manufacturing increased its importance in locations more distant from the city centre in many CMAs. These trends are seen looking at density graphs of job distances from the city centre for manufacturing jobs in the 8 largest CMAs (Figure 1.2). In Toronto, the share of manufacturing workers in areas located at least 20 km away from the city centre increased from 50.8% in 1996 to 56.7% in 2001 and decreased in almost all other distance zones. The inner core of Montréal, once known as a vibrant centre of manufacturing activities, also lost jobs to outer areas. Manufacturing losses in the inner core of Ottawa–Hull and Vancouver were also offset by gains at locations farther away from the downtown core.<sup>6</sup>

Why are manufacturing activities declining in centrally-located urban areas? According to Baldwin and Brown (2003), there are several reasons why manufacturing production tends to locate away from the city centre. First, the development of truck freight transportation may have reduced the dependence of industries on central urban locations with water or railway access. Second, manufacturers are possibly attracted to suburban areas because this is often where vast pieces of affordable land can be found for the development of single-story buildings on large sites.

### **1.3 Changes in the location of employment and commuting pressures**

On the face of it, the suburbanization of jobs may be thought to be simply related to population and employment growth in the CMA. As employment grows in the CMA, there is an increasing need to utilize vacant locations typically located in the periphery of the CMA for setting up both job and residential locations. In fact, other research has shown that CMAs are likewise expanding their suburban populations in ways analogous to those described for jobs as mentioned in the sections above (Bunting, Filion and Priston, 2002; Statistics Canada Catalogue no. 96F0030XIE2001001).

Table 1.4 shows the average distance of workers' residences from downtown, and the average distance of workers' job locations from downtown for 2001, as well as the percentage change in these factors between 1996 and 2001. As expected, both the average distances of job and residence and the change in average distances in these factors are highly correlated across CMAs.

If the suburbanization of jobs is simply a reflection of the suburbanization of the population, then this has important implications for commuting. If suburb dwellers are simply commuting to these new suburban jobs, then it would mean that average commute distances were not necessarily greater. Additionally, while commuting would be spread across a greater area, it would not necessarily imply increased congestion.

Chapter 3 of this report discusses questions of commuting in the growing CMA in more detail. However, it is appropriate to introduce into this section some of the implications urban decentralization may have for commuting patterns.

First, the decentralization of jobs does not necessarily go hand in hand with longer commute distances. Table 1.5 shows the average commute distances for CMA workers along with the average commute distance for workers with work locations in various distances from the city centre. More decentralized CMAs do have longer average commute distances. For example, Toronto, Montréal and Vancouver have relatively long average distances of place of work to the city centre as well as relatively long average commute distances. However, it is not the case that *increasing* decentralization necessarily leads to *increasing* commute distances. As shown in Table 1.5, the longest commute distances are often travelled

6. Other research has shown that the suburbanization of manufacturing employment is not a recent phenomenon. Baldwin and Brown (2003) have shown that manufacturing employment in Toronto, Vancouver and Montréal has concentrated more in the suburbs over the period 1976 to 1997.

by those working in the city centre, and workers travelling to jobs away from the city centre have shorter average commute distances in many CMAs. As reasoned above, it may be that as jobs move closer to the suburbs they are also moving closer to where the bulk of workers live.

However, it may be that the average commute distance is less important than the nature of the commute and the choice of commute mode. As job locations and residences become more decentralised in CMAs, this may place stress on public transit systems which may struggle to provide adequate and competitive commuting services to these decentralized locations. Furthermore, the nature of commutes are becoming more complex, with smaller shares of commuters taking traditional routes from suburban to city central employment locations, and larger shares commuting within suburban municipalities, across suburban municipalities, and commuting from the central municipality to suburbs (Statistics Canada Catalogue No: 96F0030XIE2001010). These themes are picked up in the final section of this report.

#### **1.4 Location and immigration**

Immigration is an important contributor to the growth of Canada, and especially Canada's largest cities. In fact, in 2001, 5.4 million people, or 18.4% of the total population, were born outside the country, the highest share in more than 70 years. Of these new Canadians who arrived during the 1990s, 94% were living in one of Canada's census metropolitan areas, compared with 64% of the total population who lived in these areas. Finally, nearly three-quarters (73%) of the immigrants who came in the 1990s lived in Toronto, Vancouver and Montréal. The trend toward immigrant settlement in these three urban centres has been growing over time (Statistics Canada Catalogue no. 96F0030XIE2001008).

The influx of immigrants to Canada's largest CMAs has received substantial attention from researchers wishing to understand what effect this has on urban settlement patterns and employment locations, and what the implications may be for public services provision in general and public transit provision in particular. Immigrants tend to have high rates of university attainment, and are often admitted into Canada in special classes for the self-employed, entrepreneurs and investors, and can contribute to the human and financial capital of the city. Furthermore, immigrants are increasingly settling in the suburbs of Canada's largest cities, especially in Toronto and Vancouver. Interestingly, growth of immigrants in suburbs has occurred at the same time as increased residential segregation of visible minorities, as persons from the same visible minority group increasingly live in neighbourhoods together (Hou and Picot, 2003). These trends give rise to the need for institutional and commercial organizations to serve this community (Hiebert, 2000).

Chapter 3 of this report refers to research that reveals one implication of the increasing suburbanization of the immigrant population. Specifically, the fact that recent immigrants (those arriving in Canada in the 10 years preceding the census) have higher public transit take-up rates than the Canadian born—even after holding their demographic and income characteristics constant.

**Table 1.1: Number and percentage distribution of CMA workers by distance of job from city centre,\* 2001**

	0 to 5 km	5 to 10 km	10 to 15 km	15 to 20 km	20 to 25 km	25 km +	Employment
St. John's	73.5	17.9	4.1	2.3	0.9	1.3	85,200
Halifax	69.0	11.0	9.1	5.4	0.5	5.0	186,100
Saint John	68.7	17.1	3.5	6.3	1.3	3.2	57,600
Chicoutimi-Jonquière	48.2	12.1	28.1	10.7	0.6	0.4	68,700
Québec	41.6	38.4	10.8	4.4	1.9	3.0	337,700
Sherbrooke	76.6	14.3	4.3	4.8	0.0	0.0	71,300
Trois-Rivières	77.4	12.1	6.7	0.1	3.7	0.0	61,600
Montréal	28.1	24.3	19.2	10.3	7.5	10.6	1,699,900
Ottawa-Hull	45.6	29.1	9.0	10.5	1.7	4.1	573,000
Kingston	58.0	32.0	2.6	1.5	5.1	0.8	72,600
Oshawa	62.4	26.5	6.0	2.9	2.2	0.0	109,100
Toronto	23.1	10.2	11.8	13.2	15.6	26.2	2,461,700
Hamilton	37.4	27.7	19.9	12.2	1.3	1.5	275,200
St. Catharines-Niagara	35.3	7.2	17.0	27.4	2.3	10.8	167,000
Kitchener	46.8	20.2	17.3	15.8	0.0	0.0	215,200
London	47.6	33.2	2.3	2.1	8.7	6.1	211,300
Windsor	48.8	32.9	10.8	2.8	1.6	3.1	153,800
Sudbury	63.0	13.0	9.7	9.5	0.0	4.8	71,900
Thunder Bay	60.4	33.9	2.8	0.0	2.9	0.1	57,600
Winnipeg	52.8	36.1	8.5	1.0	0.9	0.7	345,400
Regina	90.7	6.4	0.0	1.4	0.0	1.5	99,600
Saskatoon	85.2	9.7	0.0	1.0	0.7	3.4	108,500
Calgary	56.4	23.7	14.6	2.0	0.5	2.8	496,700
Edmonton	34.2	34.9	17.3	1.7	0.5	11.4	462,800
Abbotsford	72.5	18.7	8.5	0.0	0.3	0.0	50,400
Vancouver	30.8	24.0	12.9	6.5	13.2	12.7	922,900
Victoria	69.8	12.4	5.8	4.8	3.8	3.4	143,800
All CMAs	38.3	21.3	12.8	8.6	7.4	11.6	9,566,500

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.

\* City centre is defined as the census tract where the city hall of the core municipality is located.

Source: Census of Canada, 2001.

**Table 1.2: Change in employment by distance from city centre,\* 1996-2001**

	0 to 5 km			5km+			Average distance	
	1996	2001	Difference in jobs	1996	2001	Difference in jobs	1996	2001
St. John's	80.4	73.5	-1,800	19.6	26.5	6,900	4.2	4.7
Halifax	75.1	69.0	-200	24.9	31.0	15,100	4.9	6.6
Saint John	74.8	68.7	-1,100	25.2	31.4	4,400	5.0	5.3
Chicoutimi-Jonquière	49.4	48.2	-100	50.6	51.9	1,500	7.7	7.4
Québec	43.9	41.6	-2,200	56.1	58.5	15,200	6.9	7.0
Sherbrooke	81.0	76.6	1,600	19.0	23.4	4,300	3.9	4.3
Trois-Rivières	79.9	77.4	-2,200	20.1	22.6	1,400	4.0	4.2
Montréal	28.5	28.1	31,900	71.5	71.9	102,500	11.5	11.8
Ottawa-Hull	48.9	45.6	11,900	51.1	54.4	51,700	7.1	7.6
Kingston	65.0	58.0	-3,400	35.0	42.0	6,000	4.9	5.2
Oshawa	68.7	62.4	800	31.4	37.6	10,300	5.2	5.4
Toronto	23.0	23.1	72,700	77.0	77.0	237,200	16.5	17.2
Hamilton	40.0	37.4	-2,300	60.0	62.6	14,700	7.7	8.2
St. Catharines-Niagara	37.2	35.3	500	62.9	64.7	9,400	12.3	12.3
Kitchener	51.0	46.8	2,300	49.0	53.3	20,100	7.5	7.7
London	50.7	47.6	2,900	49.3	52.4	15,500	6.6	7.6
Windsor	85.3**	81.7***	4,600**	14.8**	18.3**	7,200**	6.1	6.6
Greater Sudbury	66.0	63.0	-3,400	34.0	37.0	1,600	6.2	6.9
Thunder Bay	61.6	60.4	-2,400	38.4	39.7	-300	4.5	4.8
Winnipeg	56.9	52.8	-3,300	43.1	47.2	21,800	5.2	5.5
Regina	92.3	90.7	2,400	7.8	9.3	1,800	2.8	3.1
Saskatoon	88.6	85.2	3,800	11.4	14.8	4,700	3.5	4.0
Calgary	60.5	56.4	29,700	39.5	43.6	52,700	5.5	6.3
Edmonton	37.8	34.2	4,200	62.2	65.8	51,300	9.0	9.6
Abbotsford	73.9	72.5	4,100	26.1	27.5	2,400	4.0	4.1
Vancouver	32.9	30.8	4,800	67.1	69.3	68,800	12.2	12.6
Victoria	72.2	69.8	200	27.9	30.2	5,000	5.0	5.4
All CMAs	40.4	38.3	156,000	59.6	61.7	733,200	10.4	11.0

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.

\* City centre is defined as the census tract where the city hall of the core municipality is located.

\*\* Windsor values are for 0-10 km.

Source: Census of Canada, 1996, 2001.

**Table 1.3: Change in manufacturing employment by distance from city centre,\* 1996-2001**

	0 to 5 km			5km+			Average distance	
	1996	2001	Difference in jobs	1996	2001	Difference in jobs	1996	2001
St. John's	73.7	59.9	-500	26.3	40.1	600	5.8	7.1
Halifax	71.4	55.7	-1,900	28.6	44.3	1,600	7.1	12.6
Saint John	71.0	52.4	-2,400	29.0	47.6	500	3.5	4.7
Chicoutimi-Jonquière	22.4	22.7	300	77.6	77.3	900	10.0	9.8
Québec	41.1	32.1	-2,000	58.9	67.9	3,700	8.1	8.4
Sherbrooke	71.9	63.1	600	28.1	36.9	1,900	5.4	6.3
Trois-Rivières	65.7	59.1	-900	34.3	40.9	700	5.1	6.5
Montréal	13.8	10.2	-8,600	86.2	89.8	28,800	13.2	14.1
Ottawa-Hull	15.8	11.3	-300	84.2	88.7	12,200	12.7	12.9
Kingston	29.5	26.9	-100	70.5	73.1	300	8.5	8.4
Oshawa	80.1	71.4	-3,100	19.9	28.6	2,100	4.8	5.3
Toronto	8.0	5.2	-9,400	92.0	94.8	43,700	20.3	22.1
Hamilton	31.7	27.9	-2,300	68.3	72.1	1,900	8.8	9.4
St. Catharines-Niagara	35.8	37.0	-500	64.2	63.0	-1,900	12.5	12.4
Kitchener	41.3	34.2	-2,500	58.7	65.8	6,800	8.8	9.3
London	23.7	18.3	-900	76.3	81.7	5,600	10.0	12.3
Windsor	83.9**	75.6**	200**	16.0**	24.6**	5,000**	6.7	7.5
Greater Sudbury	54.5	34.5	-1,100	45.5	65.5	700	6.3	8.2
Thunder Bay	68.2	70.4	-200	31.8	29.6	-300	5.2	5.3
Winnipeg	51.8	41.5	-3,800	48.2	58.5	6,400	5.5	6.1
Regina	90.5	91.9	-800	9.5	8.1	-200	5.0	4.8
Saskatoon	89.9	86.7	-600	10.1	13.3	300	3.9	4.2
Calgary	56.6	44.0	-2,600	43.4	56.0	8,700	6.4	8.0
Edmonton	17.4	11.7	-2,200	82.6	88.3	4,700	12.2	12.6
Abbotsford	76.8	70.8	-100	23.2	29.2	500	4.8	5.0
Vancouver	20.6	16.9	-3,500	79.4	83.1	4,600	14.4	15.7
Victoria	58.8	43.9	-1,200	41.2	56.1	800	7.7	10.5
All CMAAs	24.4	19.8	-50,400	75.6	80.2	140,600	13.4	14.6

Note: Includes all individuals aged 15 + working at a usual place of work within CMAAs.

\* City centre is defined as the census tract where the city hall of the core municipality is located.

\*\* Windsor values are for 0-10 km.

Source: Census of Canada, 1996, 2001.

**Table 1.4: Decentralization of population and work locations, 1996-2001**

CMA	Average distance from place of work to city centre*		Average distance of residences from city centre*	
	2001	% change, 1996-2001	2001	% change, 1996-2001
St. John's	4.7	12.4	8.2	2.1
Halifax	6.6	32.9	11.1	13.9
Saint John	5.3	6.4	11.8	1.3
Chicoutimi-Jonquière	7.4	-3.1	9.3	-2.0
Québec	7.0	1.2	9.7	-2.0
Sherbrooke	4.3	9.7	5.6	-1.8
Trois-Rivières	4.2	6.8	5.6	-1.4
Montréal	11.9	2.8	15.6	0.4
Ottawa-Hull	7.6	7.1	12.1	-2.7
Kingston	5.2	5.7	9.2	4.3
Oshawa	5.4	4.6	6.5	-0.2
Toronto	17.3	4.7	20.4	2.9
Hamilton	8.2	5.4	8.9	1.8
St. Catharines-Niagara	12.3	-0.6	13.3	-0.2
Kitchener	7.7	3.2	8.2	1.1
London	7.6	15.3	8.8	13.6
Windsor	6.6	7.2	9.4	10.8
Greater Sudbury	6.9	11.5	10.1	2.7
Thunder Bay	4.8	5.5	7.4	3.9
Winnipeg	5.5	6.5	8.0	-0.7
Regina	3.1	7.8	5.3	2.5
Saskatoon	4.0	14.8	6.8	2.1
Calgary	6.3	13.7	10.4	4.4
Edmonton	9.6	6.5	12.6	-0.3
Abbotsford	4.1	2.2	5.2	-3.3
Vancouver	12.6	3.0	16.0	0.4
Victoria	5.4	9.1	8.2	0.7
All CMAs	11.0	5.8	14.0	2.2

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.

\* City centre is defined as the census tract where the city hall of the core municipality is located.

Source: Census of Canada, 1996, 2001.



**Table 1.5: Average commute distance, 2001**

CMA	All workers	By distance of job location from city centre*			
		0 to 5 km	5 to 10 km	10 to 25 km	25 km +
St. John's	6.7	6.9	6.6	5.8	6.2
Halifax	8.7	8.0	8.1	8.9	21.2
Saint John	9.6	9.6	11.6	7.6	6.0
Chicoutimi–Jonquière	6.4	6.4	6.5	6.4	6.1
Québec	7.6	7.4	7.4	7.4	13.3
Sherbrooke	5.2	4.8	5.3	9.0	...
Trois-Rivières	5.3	4.6	5.3	11.9	...
Montréal	9.9	10.1	9.0	10.5	9.1
Ottawa–Hull	9.9	9.8	9.2	10.7	11.2
Kingston	7.3	7.0	6.9	11.1	6.9
Oshawa	6.4	5.7	7.6	7.5	...
Toronto	12.2	12.9	10.7	12.1	12.2
Hamilton	7.4	6.3	7.0	9.2	6.1
St. Catharines–Niagara	7.7	7.0	8.6	7.9	8.8
Kitchener	6.1	5.2	6.6	7.0	...
London	6.9	5.8	7.3	8.6	11.4
Windsor	7.6	7.1	7.3	9.9	8.3
Greater Sudbury	8.6	7.9	10.1	8.9	13.9
Thunder Bay	6.6	6.4	6.1	10.8	10.1
Winnipeg	7.1	6.7	7.2	8.3	11.0
Regina	5.3	5.2	5.0	10.7	14.8
Saskatoon	6.3	5.8	7.0	8.4	18.2
Calgary	8.8	8.9	7.8	9.8	10.0
Edmonton	9.8	8.6	8.9	9.4	17.3
Abbotsford	4.9	4.5	5.5	6.7	...
Vancouver	10.1	9.7	10.0	10.7	9.6
Victoria	6.7	6.0	6.7	8.9	10.0
All CMAs	9.6	8.7	8.7	10.6	11.6

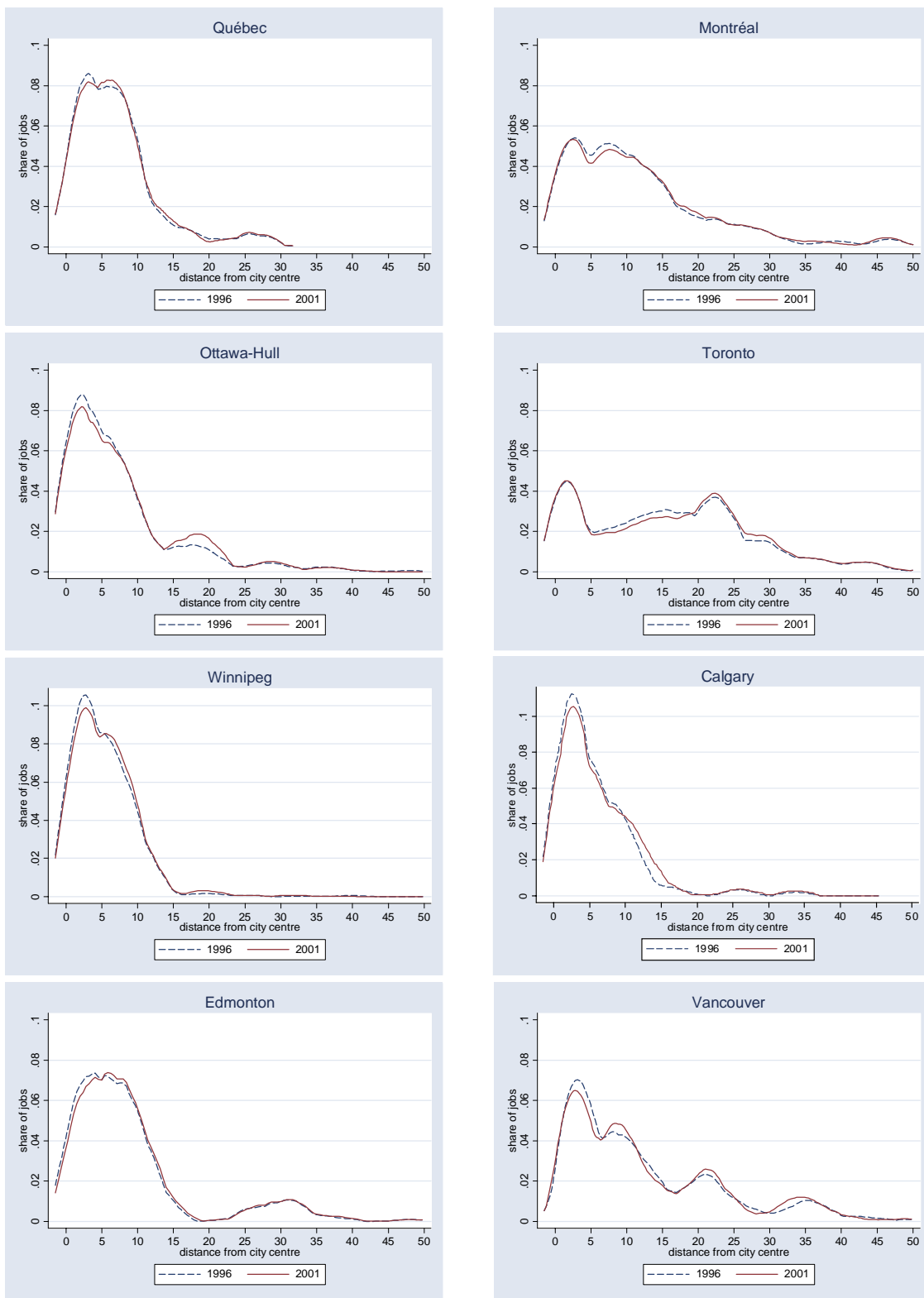
Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.

\* City centre is defined as the census tract where the city hall of the core municipality is located.

... Not applicable.

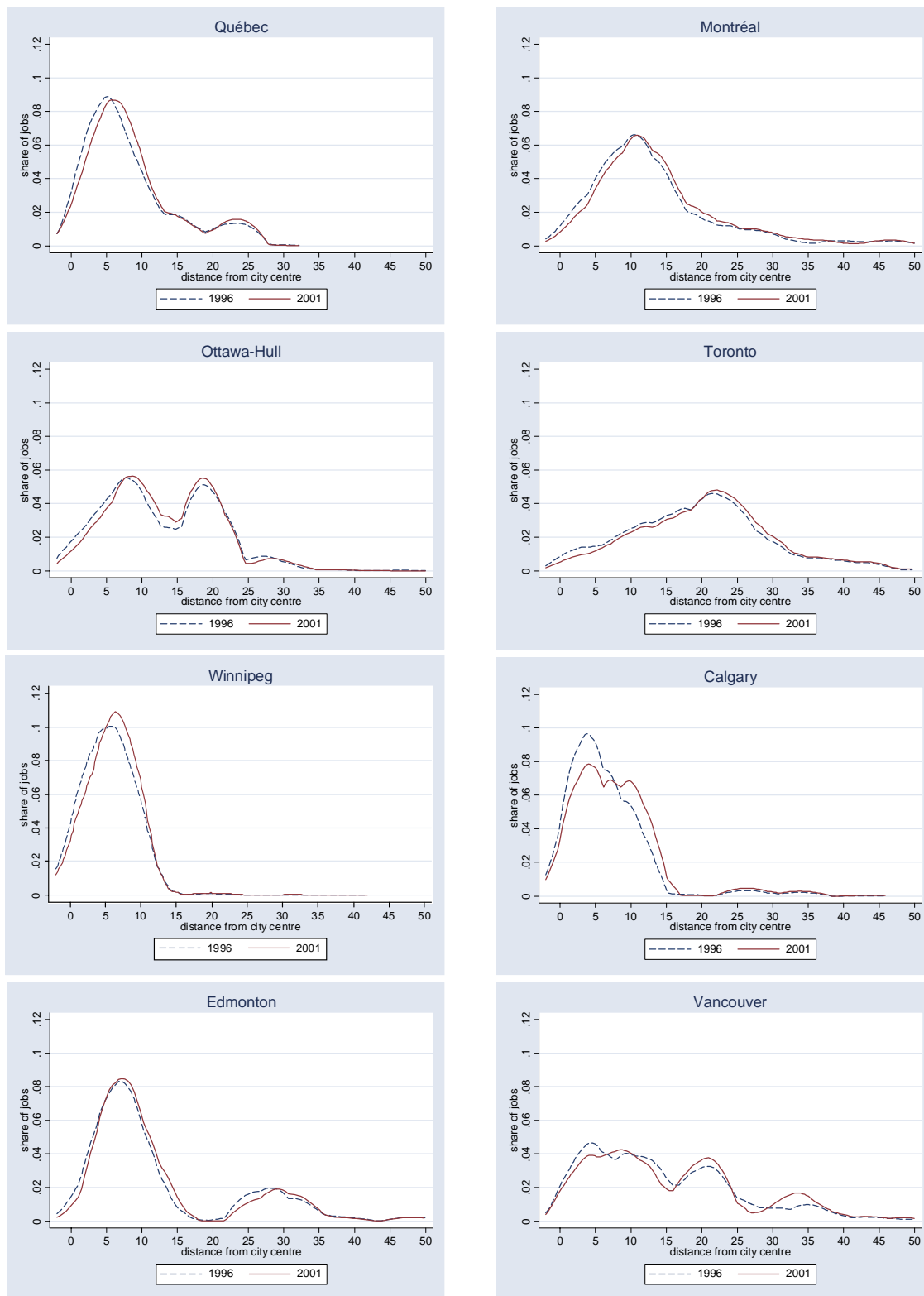
Source: Census of Canada, 2001.

**Figure 1.1: Densities of location of work distances from the city centre (in kilometres), 1996-2001, selected CMAs**



Source: Census of Canada, 1996, 2001.

**Figure 1.2: Densities of location of work distances from the city centre (in kilometres), manufacturing only, 1996-2001, selected CMA**



Source: Census of Canada, 1996, 2001.

## Chapter 2

### Job characteristics by location

This section describes the characteristics of jobs according to their location. As suggested in the previous section, jobs in the downtown core are disproportionately white collar and producer services oriented, and those outside of the downtown core, in the industrial rings around the city centre, are disproportionately manufacturing, but are there other characteristics that describe jobs found in different locations of the city? Other factors like the wage and the occupational skill classification can also be used to generate a gradient of job characteristics. Does the wage decline for jobs located farther from downtown? Similarly, does the skill requirement of the work activity required decline? The objective of this is to work towards a characterization of city centre jobs and suburban jobs. How do they differ? Has the difference changed?

#### 2.1 City centre jobs are predominantly in high paid producer services industries

Table 2.1 shows the jobs in the largest 8 CMAs classified by their industry and their distance from the city centre. Taking Québec as an example, 66.0% of jobs located within 5 kilometres of the city centre<sup>7</sup> were in the producer services industries. These are largely white collar, well remunerated jobs in the public services and business services industries. As one moves farther away from the downtown core, the distribution of jobs becomes less concentrated in producer services. Only 59.0% of those between 5 and 10 km were producer services industries, falling to 56.8% of those between 10 and 15 km out, and to 41.6% of those between 15 and 20 km out.

Likewise, jobs in the city centre were less likely to be in manufacturing than jobs in the suburbs. In Québec, 6.9% of jobs within 5 km of the city centre were manufacturing compared to 15.1% of those located between 15 and 20 km of downtown.

Similar patterns arise when examining other CMAs. Comparing jobs within 0-5 km of the city centre to those between 10 and 15 km of the city centre in Montréal, one sees that city centre jobs were more likely to be producer services, and less likely to be manufacturing.

Consumer services employment, combining retail trade and personal services, are typically located close to where people live, rather than concentrated in the downtown core. Accordingly, employment tends to become more heavily concentrated in the consumer services as location shifts farther from downtown (Table 2.1). However, retail trade (a major component of consumer services) is also shifting in concentration away from the central core towards more suburban locations in the eight largest CMAs. This can be seen in Figure 2.1 which shows the density of retail trade job locations according to their distance from the city centre. As in the case of all jobs, this can be seen by the rightward shift in the densities shown in Figure 2.1. The shift in Montréal was quite small, but in other CMAs a more pronounced rightward shift is evident. Suburban retailing is a major feature in most urban areas, and reflects an important source of traffic, attracting both workers during commuting hours, as well as shoppers over the entire day.

7. As elsewhere in this report, the city centre is defined according to the location of the central municipality city hall.

## 2.2 Significant shares of workers are concentrated in a relatively few large employment clusters

Maps 2-1 through 2-8 demonstrate the concentration of employment using a method derived from research by Shearmur and Coffey (2002). In this method, employment clusters, which are areas of high employment concentration, are defined using census tract data (see Box 2.1). Employment clusters are a group of census tracts (or a single census tract—employment clusters can be either multiple or single tract) wherein (1) employment in each tract is greater than the population in that tract, and (2) each tract has as a place of work at least 5,000 workers. In this study we look specifically at *primary clusters* which have at least one tract 15,000 or more workers. The downtown core of CMAs typically includes one of these primary employment clusters, which can be referred to as the Central Business District (CBD). Other employment clusters can be found near airports, industrial areas, or universities. This method is useful since it identifies a finite number of geographic units to analyse which together comprise a large share of employment in the CMA. They are also relatively localized units of analysis, which will be important in the next section when we discuss access to these clusters by public transit.

### Box 2.1: How census tracts are defined

Census tracts (CTs) are small, relatively stable geographic areas that usually have a population of 2,500 to 8,000. They are located in census metropolitan areas and in census agglomerations with an urban core population of 50,000 or more in the previous census. In these agglomerations, CT boundaries have been delineated by a committee of local specialists (for example, planners, health and social workers and educators) in conjunction with Statistics Canada. The CT is defined so as to be as homogeneous as possible in terms of socio-economic characteristics, such as similar economic status and social living conditions at the time of its creation. In addition, the CT's shape should be as compact as possible, and CT boundaries follow permanent and easily recognizable physical features. Consequently, a CT closely corresponds to what most would think of as a neighbourhood.

As many as half of workers in a CMA are employed in a relatively few high-concentration employment clusters located around the city. Taking Toronto as one example, 58.2% of workers work in an area defined as an employment cluster, while 47.7% work in a primary cluster (where at least one census tract has an employment level in excess of 15,000). Altogether these clusters comprise just 88 of Toronto's 932 census tracts, while primary clusters, which account for nearly 1.2 million workers, comprise just 56 tracts (Map 2.4). In Calgary, workers in the 17 census tracts which include its 3 primary clusters and other smaller employment clusters comprise 63.4% of total employment in the CMA (Map 2.6).

Table 2.2 presents industry of employment distributions by employment cluster. In the Montréal CBD, 80.1% of jobs were in the producer services. The employment cluster with the second highest concentration of producer services was the Airport-West cluster with 47.2% of its jobs in that industry. Meanwhile, manufacturing employment is more concentrated in suburban clusters with 44.5% of employment in the Montréal North cluster and 38.0% of employment in the Airport-West cluster in Manufacturing, compared to just 3.3% in the CBD cluster.

Similarly, in Ottawa–Hull, manufacturing jobs were more solidly represented in suburban employment clusters in Kanata and West-Hunt Club, while producer services jobs were concentrated in the CBD and in Tunney's Pasture—the Federal Government Campus located west of the CBD. Other CMAs showed similar patterns.

### 2.3 Jobs in the city centres are better paid, but other high paid clusters are evident

Table 2.3 shows the average earnings<sup>8</sup> of workers in the 8 largest CMAs classified according to the distance their job is located from the city centre. The first column presents average earnings. Average earnings tend to be higher for city centre jobs and lower for jobs located away from the city centre. The decline is not monotonic across ranges. However, a general pattern of declining earnings can be seen in the 8 largest CMAs.

Between 1996 and 2001, earnings of workers employed in the city centre rose relative to those working in less central locations. Figure 2.2 shows average earnings for 1996 and 2001 for each of the 8 largest CMAs. Because average earnings (of all workers) rose between 1996 and 2001 in these CMAs, Figure 2.2 standardizes earnings by dividing earnings in each distance range by the average earnings seen in the CMA in that year. Looking at Toronto, where the pattern of change was perhaps most striking, workers whose jobs were located within 5 km of the city centre earned 1.15 times that of the average Toronto worker in 1996, but 1.24 times the average in 2001. At the same time, workers located outside the city centre earned relatively less, and their relative earnings declined. Of the largest CMAs, the only one that did not see rising relative earnings in the city centre was Ottawa–Hull, where rising earnings among high tech employees in the 15-25 km range dominated in the late 1990s. Québec was the only large CMA to see a rise in relative earnings in areas located at least 25 km away from the downtown core, with changes mainly associated with employment in and around the military installations of Valcartier.

Relatively few jobs in the city centre are low paid jobs compared to those in the suburbs, and more are highly paid. Table 2.3 also presents jobs organized by earnings quartile—with jobs in the bottom quartile being those with the lowest earnings, and the top quartile being those with the highest. Quartiles are defined at the CMA level, so where the table shows a value greater than 25.0%, this means that workers in that area were more likely to have earnings in that category than people in the CMA were overall. In Toronto, 33.4% of workers employed within 5 km of the city centre had top quartile earnings, indicating that workers in the city centre were more likely than others to have high earnings (if they were not more likely then only 25.0% would have had earnings this high). The share of workers in the top quartile of earnings falls as one moves farther away from the downtown core. However, the fall is not monotonic. Of those working between 5 and 10 km from the city centre, 22.7% had earnings high enough to place them in the top quartile, compared to 24.8% of those working between 10 and 15 km out. This likely captures the fact that as one moves out from the city centre, different employment clusters are contained in the concentric zones.

Table 2.4 shows the share of workers with bottom and top quartile earnings organized by employment cluster. As above, workers in the Toronto CBD were among the best paid in that CMA, with 34.3% in the top quartile of earnings. However, earnings were higher in the 401-404 cluster with 35.9% of workers having earnings in the top quartile. Other clusters, like the Airport-West cluster, the 427-Gardiner cluster, and the 401-Allan Road cluster were less likely to have workers in the top quartile of earnings. These same clusters were also more likely to have workers in the bottom quartile of earnings. For example, 35.5% of workers in the 401-Allan Road cluster had bottom quartile earnings, possibly representing the influence of a large number of retail jobs located at the Yorkdale Shopping Centre.

8. Earnings were defined as the sum of employment income (wages and salaries, net farm income and net income from a non-farm unincorporated business and/or professional practice) on an annual basis for full-year and full-time workers (before taxes).

Other CMAs showed similar patterns, with high paid jobs concentrated in the city centre but other clusters of high paid jobs are also evident. For example, in Vancouver, 30.1% of workers working in the CBD and 30.4% of workers in the UBC cluster were in the top quartile of earnings.

Finally, it is notable that bottom quartile jobs were concentrated in the “non-cluster” segment of geography in all CMAs. In most CMAs, the non-cluster segments were heavily weighted by consumer services jobs that are normally found nearer to where people live, rather than where they work.

## **2.4 Jobs in the city centre have higher skill requirements**

Tables 2.5 and 2.6 show the geographic distribution of employment in CMAs according to the skill requirement of the job. Following a method used in other Statistics Canada publications (e.g., Statistics Canada Catalogue no. 96F0030XIE2001009), jobs are assigned a skill category according to the National Occupation Classification (NOC), and have the following four designations: managerial skills, skills normally requiring a university degree, skills normally requiring a college degree, and lower skills required.

Jobs located within 5 km of the city centre were more likely to require a university degree than were those located farther out (Table 2.5). In Calgary, for example, 22.3% of jobs in the city centre required a university degree, compared to 11.5% located between 10 and 15 km out. However, as with earnings, the decline was not always monotonic, as the skill requirements of jobs rose in the 15-20 km range.

This is also seen in Table 2.6 which shows job skill requirements by employment cluster. In 2001, 25.6% of jobs in the Calgary CBD had university level skill requirements compared to 11.1% in Calgary North and 4.5% in Calgary South.

Similarly, clusters located outside the CBD had higher concentrations of jobs not typically requiring a university or college degree. In Calgary North, 49.1% of jobs had such skill requirements, while in Calgary South the share was 52.4%. This compares to the Calgary CBD share of 32.1%.

Finally, jobs requiring less than college skills were more concentrated in non-cluster areas.

## **2.5 Location of jobs and the spatial mismatch hypothesis**

Chapter 1 described the *spatial mismatch hypothesis* in terms of access to entry-level jobs in manufacturing for low-skilled workers. To the extent that these traditional “good jobs” have moved to the suburbs, it might place low-skilled central city residents at a disadvantage in the labour market. While this report does not examine the spatial mismatch hypothesis in any detail, it is worth discussing the implications of the differences in job characteristics discussed above in terms of this literature. According to Gobillon, Selod and Zenou (2003) one of the major trends related to spatial mismatch in U.S. cities is that the number of low-skilled jobs has grown rapidly in the suburbs but not in the central city. This chapter likewise found that low-skilled jobs were disproportionately found in the suburbs while high-skilled jobs, and producer services jobs in particular, were concentrated in the city centre. However, other characteristics of spatial mismatch identified by Gobillon, Selod and Zenou (2003), including the low residential mobility of the poor and the propensity for inner city neighbourhoods to be more affected by poverty and unemployment, are not necessarily true in Canada. For instance, in the first report of this series it was shown that low-income neighbourhoods were dispersed in the CMA, and were present in both downtown and suburban locations in most of Canada’s largest CMAs (Heisz and McLeod, 2004). In all, more work would need to be done to know whether changes in the geographic location of low-skilled jobs has had any effect on the labour market access of less skilled workers.

Nevertheless, the increasing tendency for low-skilled, low-paid, and manufacturing jobs to be located in the suburbs does have important implications for commuting, and who is using the public transit services. It is this question that is turned to in the next chapter.



**Table 2.1: Percentage distribution of jobs by industry and by distance of job from city centre,\* selected CMAs, 2001**

		Primary goods and construction	Manufacturing	Consumer services	Producer services
Québec	less than 5 km	2.2	6.9	24.9	66.0
	5-10 km	4.8	9.8	26.4	59.0
	10-15 km	4.3	6.9	32.1	56.8
	15-20 km	10.0	15.1	33.3	41.6
	20-25 km	8.2	44.8	17.4	29.6
	at least 25 km	1.9	1.1	14.9	82.2
Montréal	less than 5 km	2.5	6.8	19.1	71.7
	5-10 km	2.8	20.5	25.2	51.5
	10-15 km	3.4	29.6	18.8	48.2
	15-20 km	5.0	21.8	26.1	47.2
	20-25 km	4.7	22.8	31.1	41.4
	at least 25 km	6.1	19.4	30.8	43.7
Ottawa–Hull	less than 5 km	1.3	2.1	16.9	79.7
	5-10 km	4.1	7.6	26.2	62.1
	10-15 km	5.7	21.7	23.4	49.2
	15-20 km	3.9	25.6	22.9	47.6
	20-25 km	7.5	7.3	44.4	40.7
	at least 25 km	12.8	11.0	31.3	44.9
Toronto	less than 5 km	2.3	4.0	18.7	74.9
	5-10 km	2.4	16.3	27.1	54.3
	10-15 km	3.6	17.5	23.4	55.6
	15-20 km	3.7	23.2	23.5	49.6
	20-25 km	4.7	23.1	20.5	51.7
	at least 25 km	5.2	24.7	24.2	45.9
Winnipeg	less than 5 km	3.0	11.3	21.9	63.7
	5-10 km	4.8	22.0	27.9	45.3
	10-15 km	3.9	4.1	31.7	60.4
	15-20 km	14.4	2.1	26.9	56.6
	20-25 km	18.1	11.7	29.3	40.9
	at least 25 km	16.6	6.1	26.6	50.6
Calgary	less than 5 km	13.3	7.6	19.3	59.8
	5-10 km	4.5	8.8	36.4	50.3
	10-15 km	6.3	19.6	32.1	42.0
	15-20 km	13.1	1.2	46.1	39.6
	20-25 km	4.6	1.5	55.3	38.7
	at least 25 km	11.9	15.7	33.6	38.9
Edmonton	less than 5 km	3.3	3.4	20.7	72.6
	5-10 km	7.1	13.5	30.1	49.4
	10-15 km	7.3	11.6	37.1	44.0
	15-20 km	5.6	0.7	35.1	58.5
	20-25 km	6.8	2.7	30.6	59.8
	at least 25 km	19.8	17.4	24.6	38.2
Vancouver	less than 5 km	2.8	5.9	25.9	65.3
	5-10 km	3.4	10.4	28.2	58.0
	10-15 km	5.2	12.1	24.0	58.7
	15-20 km	4.4	11.1	29.2	55.3
	20-25 km	4.9	18.3	26.1	50.7
	at least 25 km	8.2	14.2	32.5	45.2

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.

\* City centre is defined as the census tract where the city hall is located.

Source: Census of Canada, 2001.

**Table 2.2: Percentage distribution of jobs by industry and by employment cluster, selected CMAs, 2001**

		Primary goods and construction	Manufacturing	Consumer services	Producer services
Québec	Central Business District	1.0	0.4	21.6	77.0
	Sainte-Foy	1.7	7.9	22.7	67.8
	Other clusters	2.8	6.1	33.1	58.0
	Non-clusters	5.2	11.3	26.4	57.1
	Total, Québec	3.9	8.9	26.2	61.1
Montréal	Central Business District	2.1	3.3	14.6	80.1
	Airport-West	2.2	38.0	12.6	47.2
	Montréal North	6.0	44.5	14.5	35.1
	Laval	5.9	27.6	29.1	37.5
	Montréal East	5.2	35.9	22.7	36.3
	Other clusters	3.0	32.7	18.5	45.8
	Non-clusters	4.0	15.1	28.5	52.5
	Total, Montréal	3.5	18.6	23.4	54.5
Ottawa-Hull	Central Business District-Ottawa	0.9	0.9	15.4	82.8
	Central Business District-Hull	1.0	2.4	12.5	84.2
	Kanata	2.5	39.1	9.5	48.9
	West-Hunt Club	8.6	30.8	11.1	49.5
	Tunney's Pasture	1.2	5.3	6.3	87.2
	Industrial South	4.1	10.6	17.8	67.5
	Other clusters	0.9	2.3	10.4	86.4
	Non-clusters	5.0	7.9	32.3	54.8
	Total, Ottawa-Hull	3.4	8.4	21.9	66.4
Toronto	Central Business District	2.5	2.5	15.8	79.2
	Airport-West	3.7	30.7	14.9	50.7
	427-Gardiner	4.2	28.4	27.5	39.9
	Vaughan	7.3	43.8	13.1	35.8
	Markham	4.0	20.3	15.5	60.2
	Don Mills	1.5	31.0	14.0	53.5
	401-404	7.8	6.6	13.4	72.2
	401-Allan Road	2.0	15.4	41.3	41.2
	Other clusters	5.6	24.2	20.2	50.1
	Non-clusters	3.4	13.1	30.3	53.2
	Total, Toronto	3.8	17.8	22.5	56.0
Winnipeg	Central Business District	1.6	4.5	16.8	77.1
	Airport-West	4.3	22.5	29.4	43.8
	Other clusters	4.3	24.6	17.7	53.4
	Non-clusters	4.9	11.8	30.6	52.7
	Total, Winnipeg	4.1	14.4	25.0	56.4
Calgary	Central Business District	19.2	7.4	15.2	58.3
	Calgary North	6.2	17.0	23.6	53.3
	Calgary South	8.8	42.4	11.9	36.9
	Other clusters	3.7	0.7	29.3	66.3
	Non-clusters	5.1	4.9	39.7	50.3
	Total, Calgary	10.1	9.7	26.3	53.8
Edmonton	Central Business District	3.0	0.8	13.8	82.4
	Edmonton West	9.4	17.6	20.6	52.4
	Edmonton East	13.2	26.8	18.2	41.8
	Other clusters	16.8	14.9	48.7	19.7
	Non-clusters	6.8	8.3	34.8	50.2
	Total, Edmonton	7.3	9.9	27.5	55.3
Vancouver	Central Business District	3.3	6.4	20.0	70.2
	Delta	7.7	41.3	7.1	43.9
	Richmond (Airport)	3.2	17.0	24.9	54.9
	UBC	0.8	1.4	7.3	90.5
	Vancouver East	3.9	6.3	25.5	64.2
	Other clusters	4.8	20.1	27.4	47.7
	Non-clusters	4.8	8.4	32.9	53.9
	Total, Vancouver	4.3	10.8	27.3	57.6

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.  
Source: Census of Canada, 2001.

**Table 2.3: Average earnings and percentage distribution of full-year and full-time jobs across quartiles of weekly earnings and by distance of job from city centre,\* selected CMAs, 2001**

		Average annual earnings	Share of jobs in bottom quartile	Share of jobs between bottom and top quartile	Share of jobs in top quartile
Québec	less than 5 km	41,000	21.5	49.0	29.5
	5-10 km	39,200	25.4	48.0	26.6
	10-15 km	35,300	30.3	47.8	21.9
	15-20 km	32,000	38.0	45.3	16.6
	20-25 km	32,600	36.7	49.4	13.9
	at least 25 km	41,100	11.8	67.9	20.3
Montréal	less than 5 km	47,400	20.1	48.5	31.5
	5-10 km	38,800	29.1	48.5	22.5
	10-15 km	40,300	24.7	50.5	24.8
	15-20 km	40,600	24.6	50.7	24.7
	20-25 km	38,900	28.1	49.1	22.7
	at least 25 km	36,300	30.5	49.2	20.3
Ottawa–Hull	less than 5 km	51,600	20.4	52.6	26.9
	5-10 km	46,000	29.9	50.4	19.8
	10-15 km	46,000	34.7	45.1	20.2
	15-20 km	61,800	23.6	39.5	36.9
	20-25 km	45,200	38.6	42.6	18.8
	at least 25 km	39,900	40.2	46.2	13.6
Toronto	less than 5 km	63,400	18.8	47.8	33.4
	5-10 km	46,600	27.7	49.5	22.7
	10-15 km	48,000	25.0	50.2	24.8
	15-20 km	45,600	28.1	49.6	22.3
	20-25 km	48,800	24.5	50.6	24.9
	at least 25 km	47,400	24.4	51.0	24.6
Winnipeg	less than 5 km	40,000	23.8	50.1	26.1
	5-10 km	37,300	24.6	52.3	23.1
	10-15 km	38,100	25.3	48.3	26.4
	15-20 km	35,300	19.4	59.5	21.1
	20-25 km	37,000	23.2	51.1	25.7
	at least 25 km	32,200	29.6	50.9	19.5
Calgary	less than 5 km	55,700	20.7	49.4	30.0
	5-10 km	42,100	31.7	48.9	19.4
	10-15 km	40,600	28.2	54.5	17.3
	15-20 km	44,900	32.8	43.1	24.0
	20-25 km	36,400	36.3	42.8	20.8
	at least 25 km	39,800	31.8	49.2	19.0
Edmonton	less than 5 km	45,700	22.3	51.1	26.6
	5-10 km	41,300	26.6	51.7	21.7
	10-15 km	41,500	28.8	46.7	24.4
	15-20 km	39,800	22.7	60.7	16.6
	20-25 km	43,700	27.9	39.4	32.7
	at least 25 km	45,900	23.1	44.2	32.6
Vancouver	less than 5 km	51,300	24.5	48.1	27.3
	5-10 km	46,100	24.7	49.3	26.1
	10-15 km	46,500	23.4	51.9	24.7
	15-20 km	43,300	26.1	51.0	22.8
	20-25 km	42,800	25.7	52.3	22.1
	at least 25 km	41,900	28.2	51.3	20.5

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.

\* City centre is defined as the census tract where the city hall is located.

Source: Census of Canada, 2001.

**Table 2.4: Percentage distribution of full-year and full-time jobs across quartiles of weekly earnings, by employment cluster, selected CMAs, 2001**

		Share of jobs in bottom quartile	Share of jobs between bottom and top quartile	Share of jobs in top quartile
Québec	Central Business District	15.4	52.3	32.3
	Sainte-Foy	23.5	48.9	27.6
	Other clusters	22.7	55.0	22.2
	Non-clusters	26.9	50.2	22.9
	Total, Québec	24.4	50.9	24.7
Montréal	Central Business District	16.5	50.0	33.5
	Airport-West	20.0	50.9	29.1
	Montréal North	33.4	47.4	19.2
	Laval	26.5	52.7	20.7
	Montréal East	26.9	51.5	21.7
	Other clusters	23.7	52.3	24.0
	Non-clusters	28.9	50.1	21.1
	Total, Montréal	25.2	50.4	24.5
Ottawa–Hull	Central Business District-Ottawa	18.8	51.0	30.2
	Central Business District–Hull	18.2	54.1	27.7
	Kanata	16.6	36.8	46.6
	West-Hunt Club	31.0	44.9	24.1
	Tunney's Pasture	13.4	58.5	28.1
	Industrial South	29.8	56.1	14.1
	Other clusters	16.2	56.4	27.4
	Non-clusters	33.8	48.1	18.1
	Total, Ottawa–Hull	25.4	50.1	24.5
Toronto	Central Business District	16.1	49.7	34.3
	Airport-West	22.9	54.4	22.7
	427-Gardiner	26.5	55.0	18.5
	Vaughan	25.6	53.3	21.1
	Markham	24.3	48.8	26.9
	Don Mills	20.6	53.0	26.4
	401-404	14.3	49.7	35.9
	401-Allan Road	35.5	45.0	19.5
	Other clusters	22.8	53.9	23.4
	Non-clusters	28.4	50.6	21.0
	Total, Toronto	23.9	51.6	24.5
	Winnipeg	Central Business District	19.8	47.3
Airport-West		23.7	49.9	26.4
Other clusters		21.3	55.2	23.5
Non-clusters		27.9	50.3	21.8
Total, Winnipeg		24.2	50.8	25.0
Calgary	Central Business District	17.2	48.8	34.1
	Calgary North	25.9	55.6	18.5
	Calgary South	24.2	60.6	15.2
	Other clusters	25.1	52.7	22.2
	Non-clusters	33.1	50.6	16.3
	Total, Calgary	24.4	51.6	24.0
Edmonton	Central Business District	17.6	52.0	30.4
	Edmonton West	24.1	53.2	22.7
	Edmonton East	20.6	50.8	28.6
	Other clusters	32.2	43.8	24.0
	Non-clusters	29.6	48.5	21.9
	Total, Edmonton	25.0	50.0	25.1
Vancouver	Central Business District	20.9	49.0	30.1
	Delta	22.1	52.1	25.8
	Richmond (Airport)	26.6	50.3	23.1
	UBC	14.8	54.8	30.4
	Vancouver East	20.5	51.3	28.1
	Other clusters	23.9	52.6	23.5
	Non-clusters	28.4	49.9	21.8
	Total, Vancouver	25.1	50.2	24.7

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.  
Source: Census of Canada, 2001.

**Table 2.5: Percentage distribution of jobs by skill level and by distance of job from city centre,\* selected CMAs, 2001**

		Managerial skills	University skills	College skills	Lower skills
Québec	less than 5 km	8.9	23.0	29.7	38.3
	5-10 km	8.9	20.0	28.7	42.4
	10-15 km	7.2	15.8	30.5	46.5
	15-20 km	8.6	11.4	32.0	48.0
	20-25 km	7.8	6.1	32.0	54.2
	at least 25 km	11.3	7.9	20.3	60.5
Montréal	less than 5 km	12.0	24.2	26.3	37.5
	5-10 km	10.0	16.2	27.3	46.5
	10-15 km	10.1	13.0	29.1	47.8
	15-20 km	10.1	11.7	29.8	48.4
	20-25 km	10.0	13.3	28.4	48.4
	at least 25 km	8.5	13.6	28.8	49.2
Ottawa–Hull	less than 5 km	14.3	29.7	24.2	31.9
	5-10 km	11.5	20.8	25.8	41.9
	10-15 km	11.3	19.6	27.0	42.0
	15-20 km	13.4	29.0	23.9	33.6
	20-25 km	9.9	12.6	27.0	50.4
	at least 25 km	9.9	15.5	29.0	45.6
Toronto	less than 5 km	15.4	27.8	24.2	32.6
	5-10 km	12.1	18.1	24.4	45.4
	10-15 km	12.5	18.2	24.6	44.7
	15-20 km	11.9	15.4	25.3	47.4
	20-25 km	14.2	14.1	25.7	45.9
	at least 25 km	11.4	12.4	25.9	50.3
Winnipeg	less than 5 km	10.0	18.0	25.5	46.5
	5-10 km	8.9	11.0	26.1	54.0
	10-15 km	8.4	22.0	26.4	43.2
	15-20 km	9.6	7.6	27.4	55.5
	20-25 km	10.6	10.7	31.0	47.7
	at least 25 km	10.6	14.4	26.6	48.3
Calgary	less than 5 km	13.3	22.3	27.6	36.8
	5-10 km	11.5	16.9	25.2	46.4
	10-15 km	10.2	11.5	27.1	51.2
	15-20 km	10.6	15.9	25.4	48.1
	20-25 km	10.9	10.9	25.7	52.5
	at least 25 km	9.6	11.1	30.5	48.8
Edmonton	less than 5 km	10.5	25.1	27.0	37.4
	5-10 km	10.9	11.7	29.4	48.1
	10-15 km	11.2	10.4	27.3	51.0
	15-20 km	9.8	11.8	19.1	59.3
	20-25 km	7.8	20.4	26.9	44.9
	at least 25 km	9.3	10.1	37.5	43.2
Vancouver	less than 5 km	13.1	22.0	25.9	39.0
	5-10 km	12.4	17.9	25.4	44.2
	10-15 km	10.9	14.6	27.5	46.9
	15-20 km	10.4	16.3	26.6	46.6
	20-25 km	10.5	12.3	26.9	50.3
	at least 25 km	10.9	12.1	26.3	50.7

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.

\* City centre is defined as the census tract where the city hall is located.

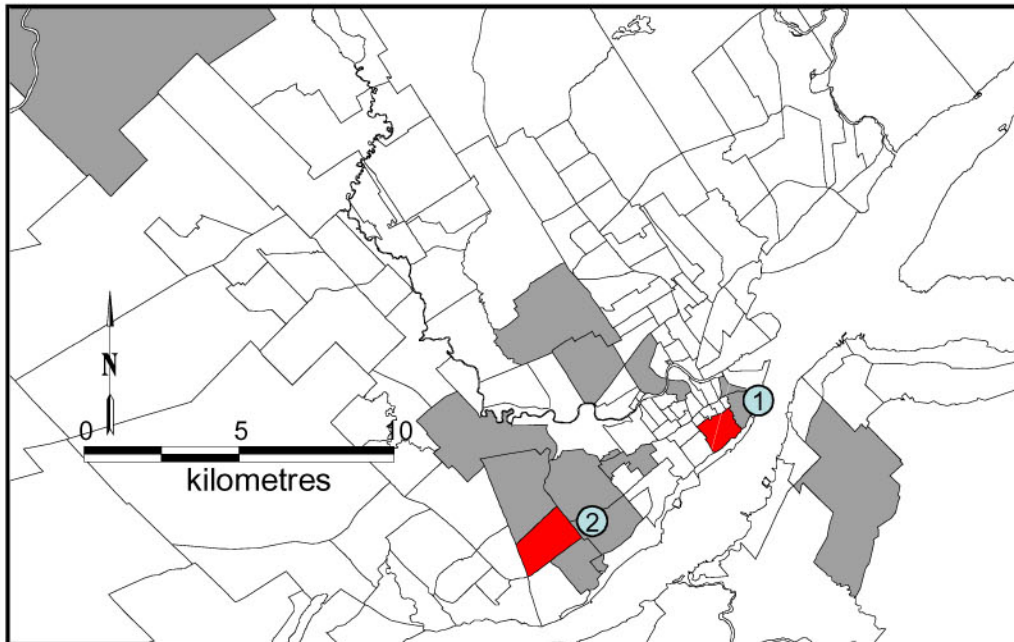
Source: Census of Canada, 2001.

**Table 2.6: Percentage distribution of jobs by skill level and by employment cluster, selected CMAs, 2001**

		Managerial skills	University skills	College skills	Lower skills
Québec	Central Business District	9.9	27.3	27.5	35.4
	Sainte-Foy	8.9	27.1	25.6	38.5
	Other clusters	9.4	12.3	27.2	51.2
	Non-clusters	8.4	18.1	31.2	42.3
	Total, Québec	8.8	19.8	29.3	42.1
Montréal	Central Business District	13.0	26.9	25.0	35.0
	Airport-West	11.4	12.4	28.5	47.7
	Montréal North	12.1	8.0	24.1	55.8
	Laval	11.2	9.0	28.3	51.5
	Montréal East	10.2	7.0	28.7	54.1
	Other clusters	8.7	15.9	26.4	49.0
	Non-clusters	9.6	16.3	28.7	45.3
	Total, Montréal	10.4	16.9	27.9	44.8
Ottawa-Hull	Central Business District-Ottawa	16.7	29.1	23.8	30.3
	Central Business District-Hull	15.1	31.7	24.9	28.4
	Kanata	16.1	37.2	23.4	23.3
	West-Hunt Club	15.6	18.6	28.5	37.2
	Tunney's Pasture	14.2	36.1	22.5	27.3
	Industrial South	10.3	18.0	23.9	47.8
	Other clusters	12.2	36.3	23.2	28.4
	Non-clusters	10.6	20.3	26.5	42.6
	Total, Ottawa-Hull	12.9	25.2	25.2	36.8
Toronto	Central Business District	16.2	30.0	23.5	30.3
	Airport-West	14.0	9.7	24.8	51.5
	427-Gardiner	12.2	7.8	23.7	56.3
	Vaughan	12.6	10.2	28.4	48.9
	Markham	16.8	17.4	26.0	39.8
	Don Mills	13.1	19.8	26.8	40.3
	401-404	18.8	29.4	24.5	27.2
	401-Allan Road	13.2	12.1	18.6	56.2
	Other clusters	11.4	15.3	25.7	47.5
	Non-clusters	11.5	17.9	25.2	45.4
	Total, Toronto	13.1	17.9	25.1	49.0
Winnipeg	Central Business District	12.0	21.2	24.3	42.5
	Airport-West	12.0	5.7	28.1	54.3
	Other clusters	7.1	16.4	25.9	50.6
	Non-clusters	9.2	15.1	26.0	49.7
	Total, Winnipeg	9.5	15.6	25.9	49.0
Calgary	Central Business District	14.9	25.6	27.4	32.1
	Calgary North	12.0	11.1	27.8	49.1
	Calgary South	10.7	4.5	32.4	52.4
	Other clusters	9.5	30.8	20.7	39.0
	Non-clusters	10.8	16.0	26.7	46.5
	Total, Calgary	12.3	18.9	27.0	41.8
Edmonton	Central Business District	10.4	30.4	25.9	33.3
	Edmonton West	12.6	6.1	30.6	50.6
	Edmonton East	11.6	8.6	37.1	42.7
	Other clusters	11.8	4.3	30.4	53.6
	Non-clusters	10.1	13.9	28.0	48.0
	Total, Edmonton	10.6	15.9	28.9	44.5
Vancouver	Central Business District	13.7	23.8	25.9	36.6
	Delta	12.2	10.3	26.7	50.8
	Richmond (Airport)	12.2	10.3	26.7	50.8
	UBC	6.6	48.5	22.4	22.6
	Vancouver East	12.7	19.2	24.5	43.6
	Other clusters	11.7	12.1	27.0	49.2
	Non-clusters	11.2	16.3	26.3	46.2
	Total, Vancouver	11.9	17.2	26.2	44.7

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.  
Source: Census of Canada, 2001.

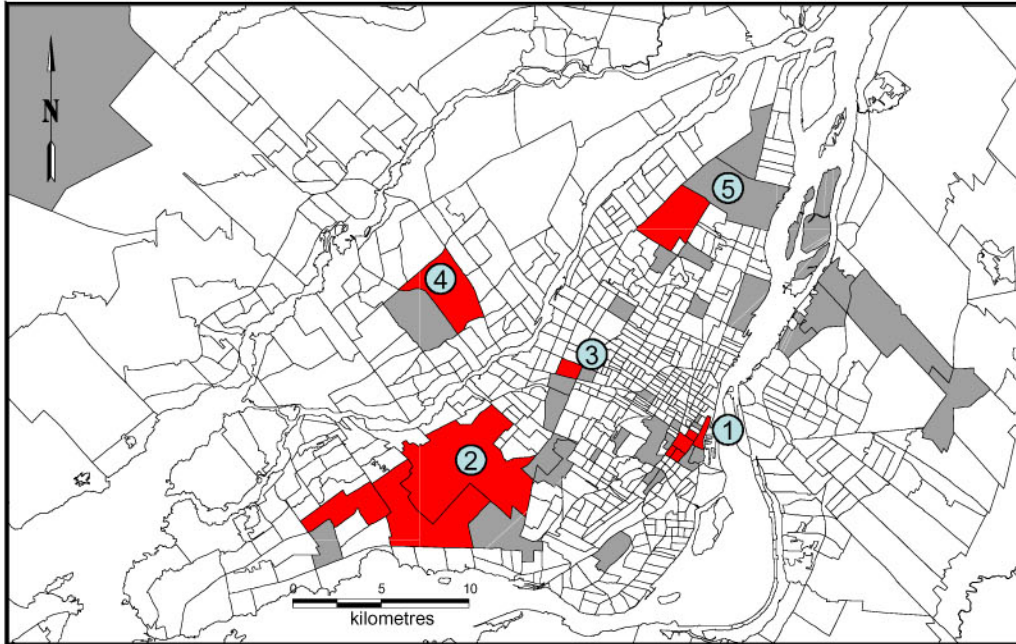
**Map 2.1: Employment clusters, Québec, 2001**



	# CTs	Employment (%)
1- Central Business District	3	32,300 (9.5%)
2- Sainte-Foy	7	61,200 (18.0%)
Other clusters	5	46,600 (13.7%)
Non-clusters	150	199,000 (58.7%)
Total, Québec	165	339,100 (100%)

Note: Employment numbers were rounded to nearest hundred.  
Source: Census 2001.

**Map 2.2: Employment clusters, Montréal, 2001**



	# CTs	Employment (%)
1- Central Business District	14	269,100 (15.8%)
2- Airport-West	7	196,000 (11.5%)
3- Montréal North	4	38,600 (2.3%)
4- Laval	2	47,400 (2.8%)
5- Montréal East	5	48,200 (2.8%)
Other clusters	15	108,600 (6.4%)
Non-clusters	815	999,200 (58.5%)
<b>Total, Montréal</b>	<b>862</b>	<b>1,707,100 (100%)</b>

Note: Employment numbers were rounded to nearest hundred.  
 Source: Census 2001.



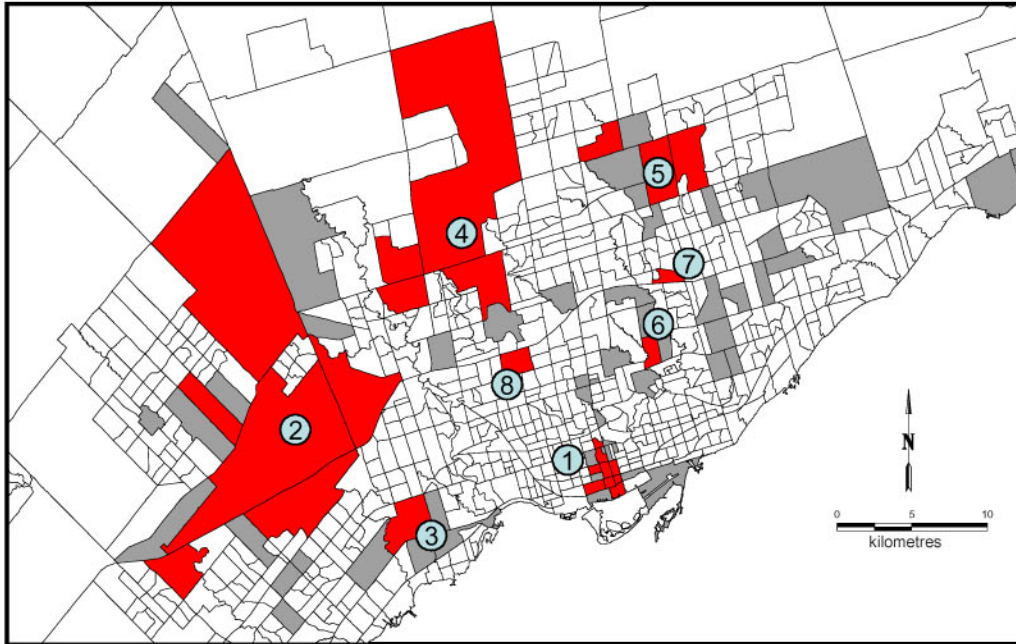
**Map 2.3: Employment clusters, Ottawa–Hull, 2001**



	# CTs	Employment (%)
1-Central Business District-Ottawa	6	119,000 (20.7%)
2- Central Business District-Hull	4	38,900 (6.8%)
3- Kanata	3	33,700 (5.9%)
4- West-Hunt Club	1	18,400 (3.2%)
5- Industrial South	4	48,500 (8.4%)
6- Tunney's Pasture	1	17,400 (3.0%)
Other clusters	6	41,000 (7.1%)
Non-clusters	212	258,100 (44.9%)
Total, Ottawa–Hull	237	574,900 (100%)

Note: Employment numbers were rounded to nearest hundred.  
Source: Census 2001.

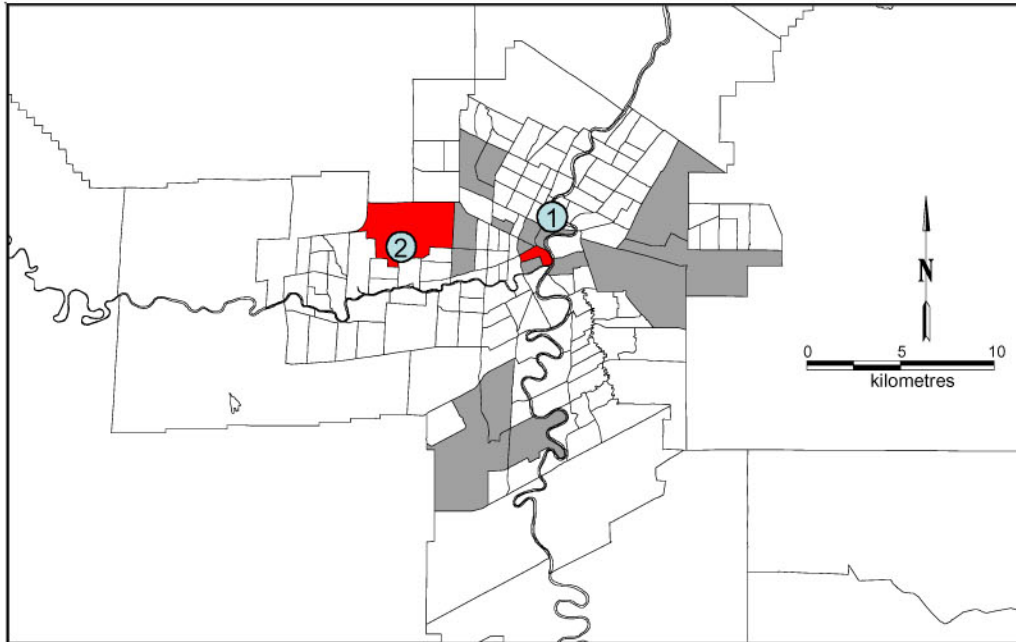
**Map 2.4: Employment clusters, Toronto, 2001**



	# CTs	Employment (%)
1- Central Business District	18	418,000 (16.9%)
2- Airport-West	13	352,900 (14.3%)
3- 427-Gardiner	5	62,100 (2.5%)
4- Vaughan	5	141,700 (5.7%)
5- Markham	8	115,900 (4.7%)
6- Don Mills	5	47,300 (1.9%)
7- 401-404	1	19,100 (0.8%)
8- 401-Allan Road	1	20,400 (0.8%)
Other clusters	32	259,700 (10.5%)
Non-clusters	844	1,033,000 (41.8%)
<b>Total, Toronto</b>	<b>932</b>	<b>2,470,000 (100%)</b>

Note: Employment numbers were rounded to nearest hundred.  
Source: Census 2001.

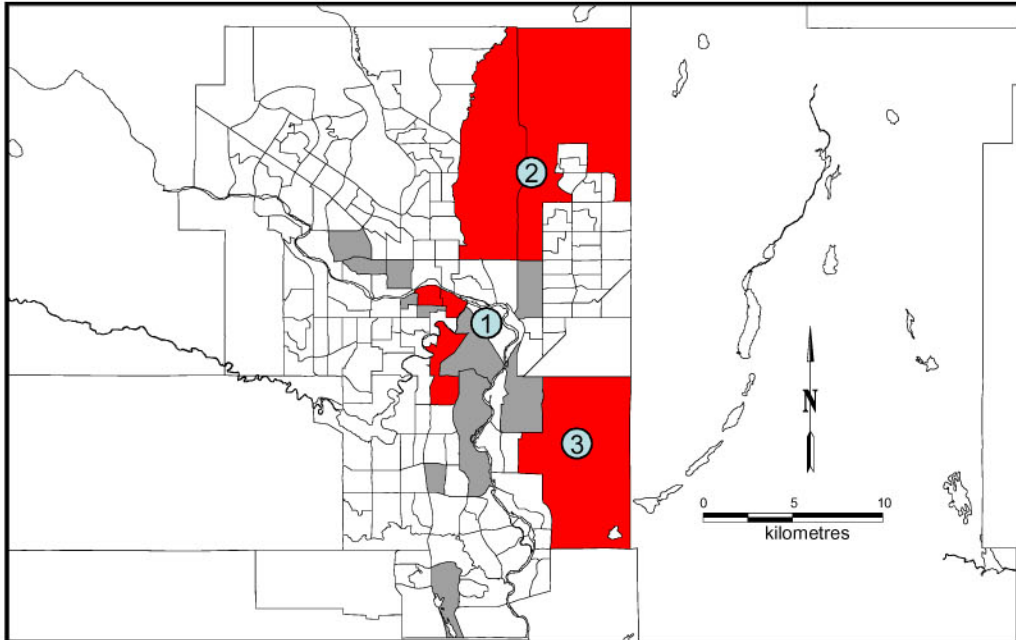
**Map 2.5: Employment clusters, Winnipeg, 2001**



	# CTs	Employment (%)
1- Central Business District	5	63,000 (18.2%)
2- Airport-West	3	32,800 (9.5%)
Other clusters	10	79,500 (22.9%)
Non-clusters	147	171,500 (49.5%)
Total, Winnipeg	165	346,800 (100%)

Note: Employment numbers were rounded to nearest hundred.  
 Source: Census 2001.

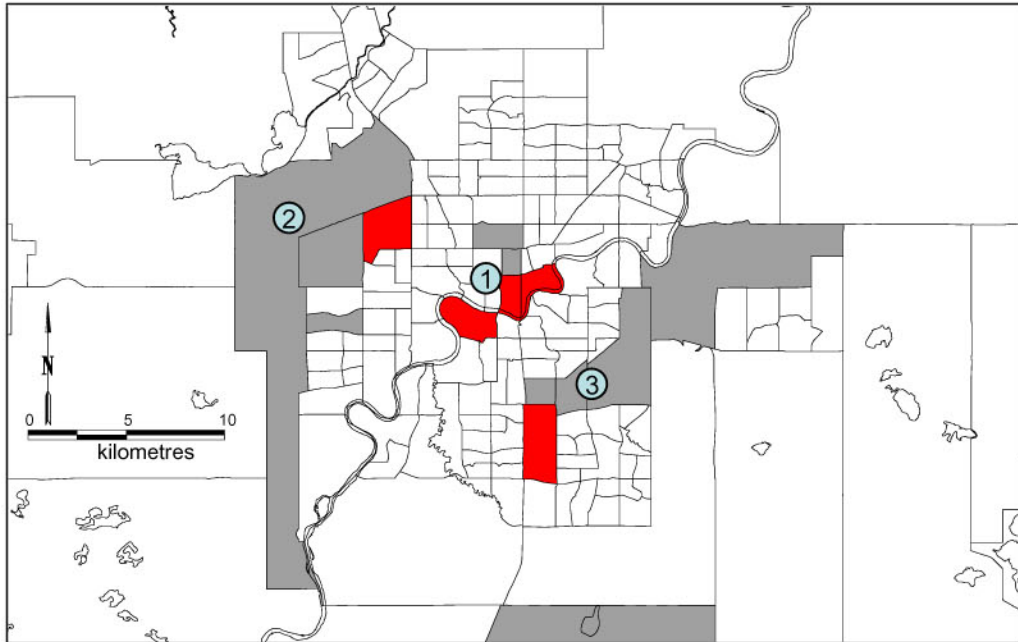
**Map 2.6: Employment clusters, Calgary, 2001**



	# CTs	Employment (%)
1- Central Business District	7	167,900 (33.7%)
2- Calgary North	3	77,400 (15.5%)
3- Calgary South	2	31,800 (6.4%)
Other clusters	5	39,100 (7.8%)
Non-clusters	176	182,100 (36.6%)
<b>Total, Calgary</b>	<b>193</b>	<b>498,200 (100%)</b>

Note: Employment numbers were rounded to nearest hundred.  
Source: Census 2001.

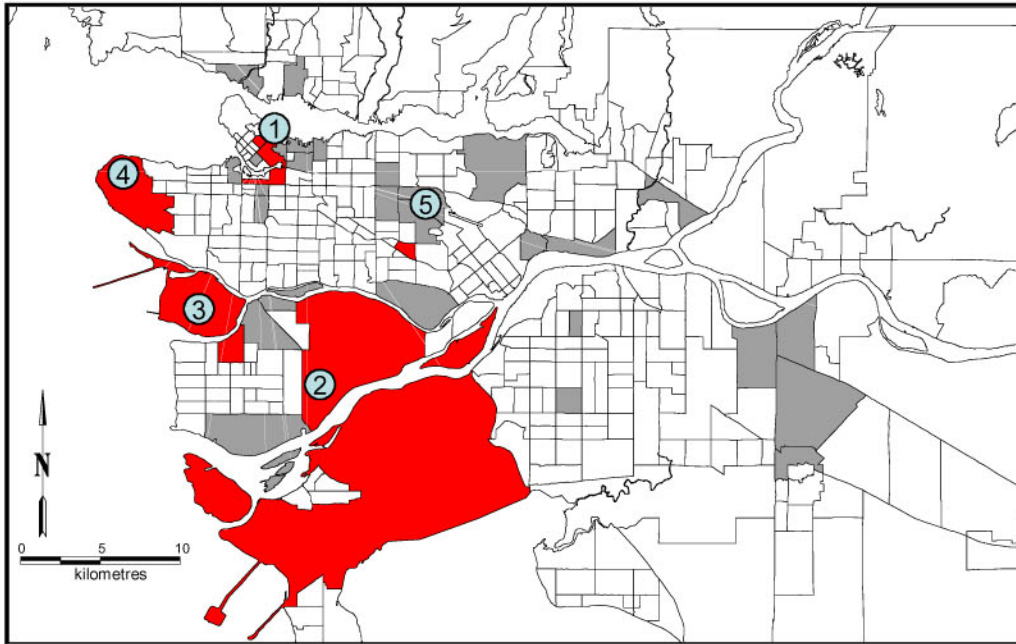
**Map 2.7: Employment clusters, Edmonton, 2001**



	# CTs	Employment (%)
1- Central Business District	5	103,100 (22.2%)
2- Edmonton West	3	37,000 (8.0%)
3- Edmonton East	5	55,900 (12.0%)
Other clusters	2	18,100 (3.9%)
Non-clusters	196	250,600 (53.9%)
Total, Edmonton	211	464,700 (100%)

Note: Employment numbers were rounded to nearest hundred.  
Source: Census 2001.

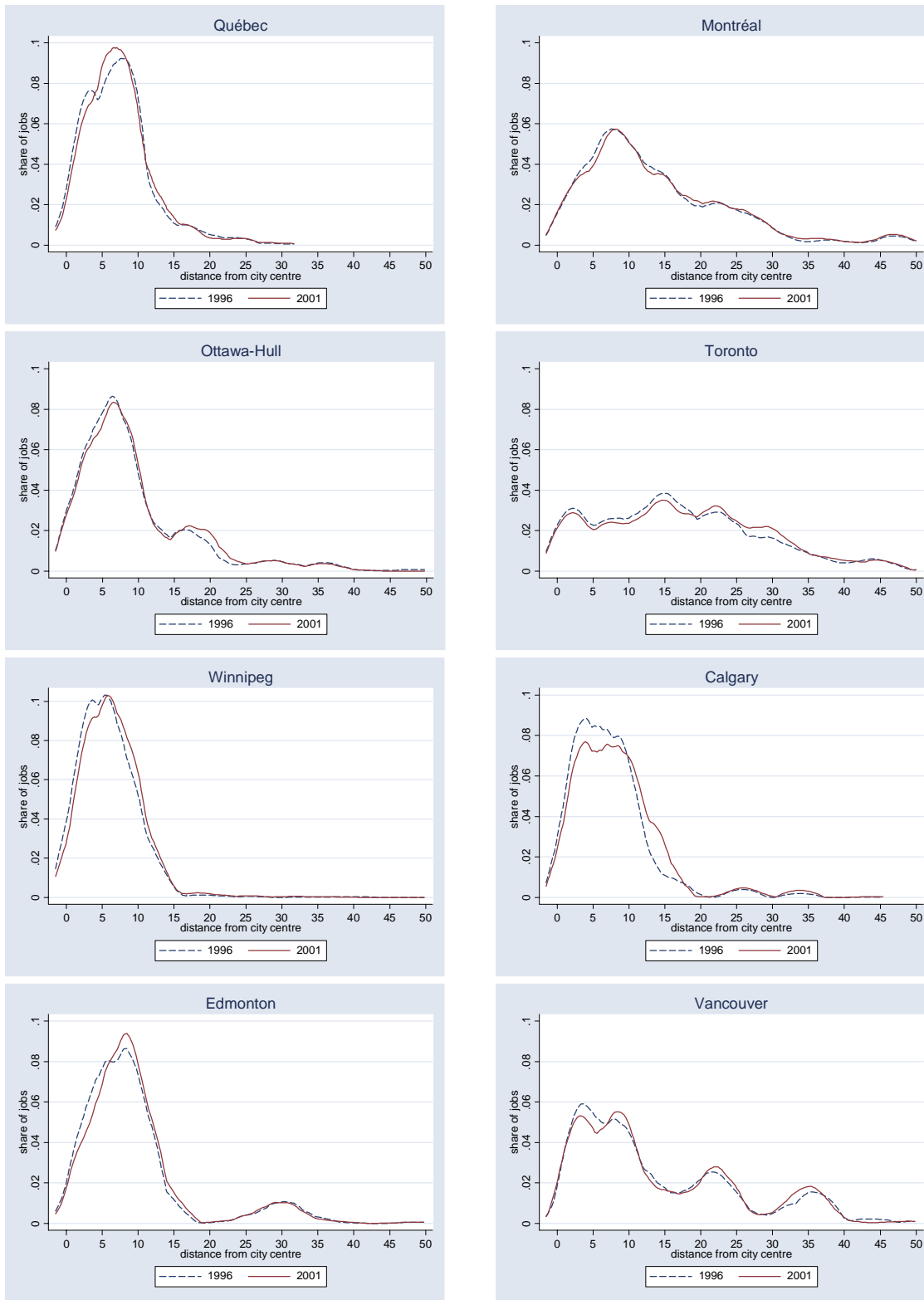
**Map 2.8: Employment clusters, Vancouver, 2001**



	# CTs	Employment (%)
1- Central Business District	11	188,500 (20.3%)
2- Richmond (East) Delta	1	28,400 (3.1%)
3- Richmond (Airport)	7	96,900 (10.4%)
4- UBC	1	15,500 (1.7%)
5- Vancouver East	5	53,000 (5.7%)
Other clusters	12	90,400 (9.7%)
Non-clusters	350	454,300 (49.0%)
Total, Vancouver	387	927,000 (100%)

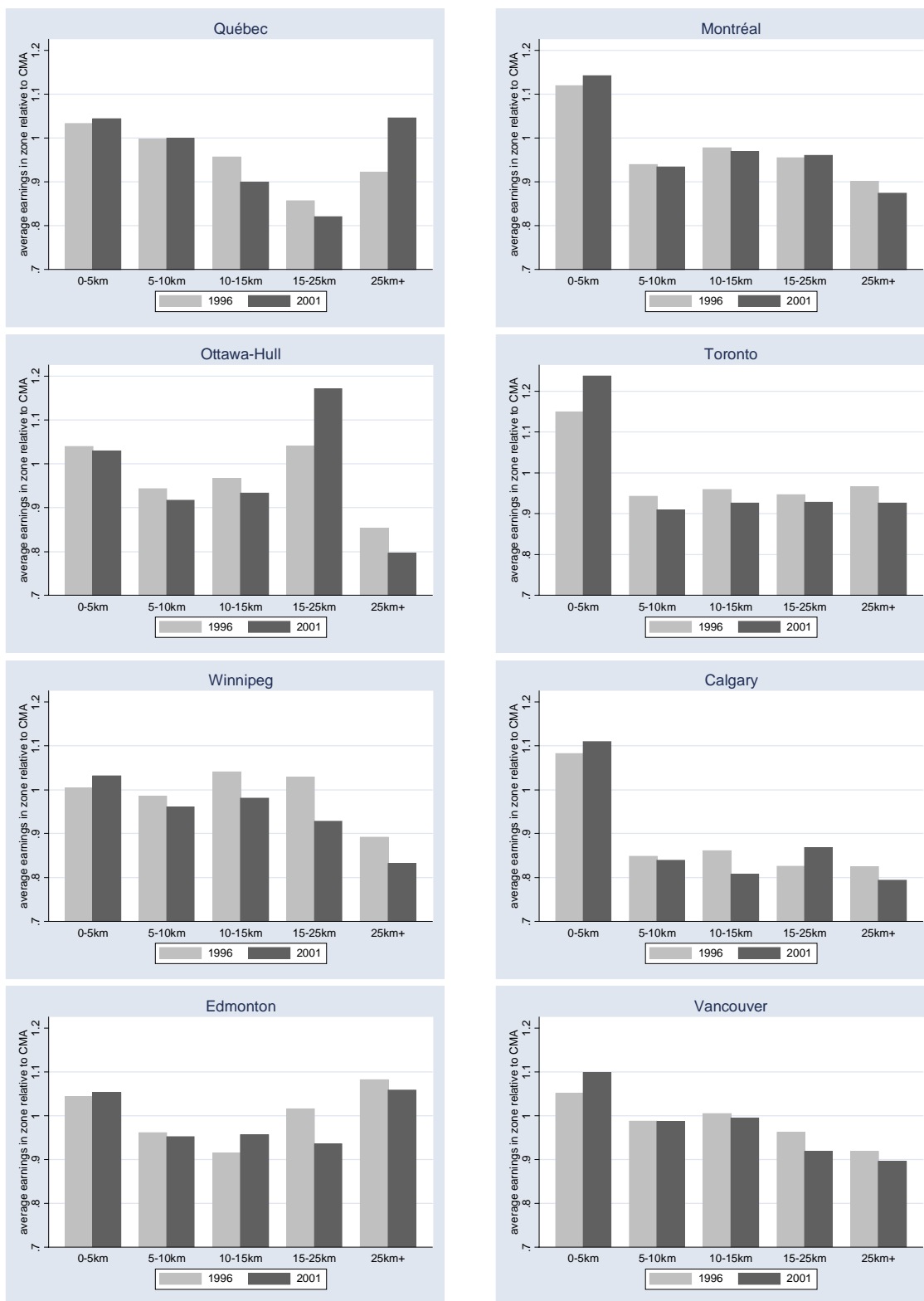
Note: Employment numbers were rounded to nearest hundred.  
Source: Census 2001.

Figure 2.1: Densities of location of retail trade (in kilometres), 1996-2001, selected CMAs



Source: Census of Canada, 1996, 2001.

**Figure 2.2: Average annual earnings by distance from city centre (in kilometres), 1996-2001, selected CMAs**



Source: Census of Canada, 1996, 2001.



## Chapter 3

### Getting to work

The locations of job and home come together in the commute. Chapter 1 of this paper discussed commute distances and showed that commute distances have not become longer in most CMAs over the 1996 to 2001 period. However, continued suburbanization of job locations and residences leads to more complex commute patterns in the city. Suburb to suburb commutes begin to dominate the traditional suburb to core routes upon which the suburb system was originally built, and which are most easily supported by a traditional central city focussed public transit system. This chapter describes workers' commute mode against this backdrop. What share of workers commute by public transit? What share commute by car? What are the demographic characteristics of these commuters and in what ways are transit commuters different from car commuters? Beyond these basic questions, the section ties commuting patterns to the location of work discussions raised in the previous chapters. It focuses on the work locations of car and transit commuters in order to identify what areas of the CMA are most successful at diverting commuting traffic from car to transit. Finally it discusses some of the implications changing work locations and commute patterns have for infrastructure in the city, focussing on public transit take-up rates.

#### 3.1 Commuting in CMAs<sup>9</sup>

The commute is a basic fact of life for most workers. In virtually all CMAs, more than half of all workers commuted more than 5 km to get to work, and for many the commute was longer than 25 km (Table 3.1). In Oshawa and Hamilton, 30.8% and 18.8% of commuters respectively travelled more than 25 km to work—probably to jobs in the nearby CMA of Toronto.

In the majority of cases, commuters drive a car to work. Ottawa–Hull, Montréal and Toronto have the best records for diverting commuters to something other than a “car as driver” mode of transport, but these CMAs still have nearly two-thirds of commuters driving to work (Table 3.2). For some other CMAs this rises to over 80% of commuters travelling to work by driving a car.<sup>10</sup>

#### 3.2 Demographic and geographic characteristics of commuters

Table 3.3 paints a statistical portrait of commuters according to the mode of transport they use to get to work. Five specific modes are offered, but this discussion focuses on the car as driver and public transit modes.

Public transit use falls with the commuter's age while car use rises. Altogether, 24.0% of commuters aged 20–24 used public transit, compared to just 17.3% aged 25–34. After age 25–34, public transit use decreases monotonically to 12.5% among those aged 65 and over. In contrast, the share driving to work

9. This sub-section is adapted from 2001 Census: Analysis Series, Where Canadians work and how they get there, Statistics Canada Catalogue No: 96F0030XIE2001010.

10. It is important to note that a transit strike was ongoing in Vancouver at the time the 2001 Census was in the field. This strike, which began April 1st 2001 and ended August 1st 2001 will undoubtedly have affected the number of commuters reporting that they usually use public transit to get to work.

rises with age, from 54.7% aged 20-24 to a peak of 75.9% aged 45-54. Driving falls after age 54, apparently in favour of walking, perhaps reflecting the resolution of work and home locational differences as workers get older.

Women were more likely to take public transit, while men were more likely to drive. Fully 19.3% of women took public transit and 62.8% drove compared to 12.5% and 74.7% respectively among men. Interestingly, public transit use was lower for married men and women, but the difference was larger for men. At 8.7%, married men were 30% less likely to take public transit to work than all men, while at 14.8%, married women were just 23% less likely to commute on public transit.

Driving to work rises as family income rises, while public transit use falls. Commuters with \$0-\$25,000 in annual family income are more than twice as likely to be found on public transit as those with \$50-\$75,000 in family income. Recent immigrants to Canada are also more likely to be found on public transit than the Canadian born, but public transit use declines for immigrants as more time is spent in Canada.<sup>11</sup> Conversely, recent immigrants are much less likely to drive to work than the Canadian born.

Workers who identified themselves as having an activity limitation were more likely to take public transit than others, but the difference was small (individuals who report sometimes or often having difficulties with daily activities and having a reduction in the amount or kinds of activities due to physical or mental conditions or health problems). University graduates were also more prone to take public transit than commuters with high school or less education.

Table 3.3 also shows commuting behaviour according to three geographic characteristics of the worker and his or her job. These are the distance from home to job, or the commuting distance; the distance from home to the city centre, which is the residence distance, and reflects the degree of suburbanization of the worker; and the distance of the job to the city centre, which is the employment distance, reflecting the degree of suburbanization of the job.

The time consumed by the commute and the convenience of the mode may shift in favour of the car as the commuting distance becomes longer. For example, it may be that obtaining a direct route (say on a single bus) by public transit becomes harder. Commuters who lived farther away from work were more likely to drive than those who lived closer, but nevertheless, 57.0% of those living less than 5 km from work drove to work. Workers who lived 5-10 km from work were the most likely to take public transit to work, those who lived farther appeared to prefer driving, and those living closer more often walked to work.

Access to public transportation is likely to be different for workers who live in the downtown core and those who live in suburban areas of the CMA. Routes in suburban areas are often local routes which feed into express routes raising the need for more than one link to the journey. Also, because public transit systems are most often city-centre oriented—with trips to and from the city centre being the best served, suburb to suburb commutes may require a less direct route and more time than what is available from the car. For similar reasons, one would expect workers who work at locations in the city centre to also be more likely to take public transit. In fact, commuters who lived farther away from the city centre were also more likely than others to drive, as were those whose job was farther away from the city centre. Public transit use peaked for those whose residence was between 5 and 10 km from the city centre, and whose employer was 0-5 km from the city centre.

Appendix Tables A-1 through A-8 replicate Table 3.3 for the eight largest CMAs. Readers who are interested in characteristics of commuters in particular CMAs are invited to examine these tables separately.

11. Heisz and Schellenberg (2004) investigate this result in more depth, finding that these results are maintained even when demographic and economic differences between recent immigrants and the Canadian born are accounted for.

### **3.3 The choice commuter**

There are likely complex interactions among and between these demographic and geographic factors. Young and single workers are likely to have lower income, leaving one to wonder if it is age, marital status or income which is the deciding factor in determining public transit use. Similarly, commuting distance, residence distance from city centre, and employment distance to city centre all combine to influence the modal choice of the commuter. Sorting out the separate influences of these factors is beyond the scope of this report and remains an interesting topic for further research.

However, some mileage can be gained by examining the behaviour of high-income commuters. High-income commuters would be those most likely to be exercising a choice between commuting by public transit or car since, presumably, they could reasonably afford either. This is in contrast to low-income commuters who may take public transit because it may be the only affordable choice.

Table 3.4 shows mode of transport choice for commuters with family income greater than \$75,000. More specifically, it focuses on mode choice for commuters working various distances from home, and living and working in more or less centralized locations. Public transit use is lower for high-income family members than it was for others, but it is lower still for those taking relatively short journeys to work. For instance, among those who lived 0-5 km from work, 9.3% of high-income workers commuted on public transit compared to 14.9% of all workers (38% fewer). Among those who lived 10-15 km from work the rates were closer, at 12.6% and 17.0% (25% fewer). The differences were negligible for those who lived farther than 20 km from work.

At the same time, high-income commuters were more likely to drive to work when the commuting distance was short, but not when the commuting distance was long. High-income family members were 16% more likely than average to drive when they lived 0-5 km from work, but only 6% more likely than average to drive when they lived 10-15 km from work, and were about equally likely to drive when they lived more than 20 km from work. It would appear that for those living near their work, driving to work might be a luxury better afforded by high-income commuters.

Similar patterns are seen when examining mode choice according to the residence distance and the employer distance. High-income commuters are less likely than average to use public transit and more likely to drive the closer their residence and work are to the city centre. This evidence is consistent with the idea that cost and availability of parking are major impediments to car use in the downtown core, as these impediments would be less binding to high-income earners.

### **3.4 Public transit use is most common among those commuting to CBD jobs. Those travelling to other clusters overwhelmingly drive to work**

The preceding analysis makes clear that the public transit option is more often passed over when the job is farther from the downtown core. However, it was shown earlier that significant shares of the workforce work in relatively concentrated cluster locations outside the city centre, and that employment growth in some CMAs was concentrated in the suburbs. Do commuters take public transit to these large suburban employment clusters?

Commuters working in the CBDs of Canada's 8 largest CMAs are more likely to choose public transit as their commute mode than those working in more suburban clusters. Taking Winnipeg as an example, 27.4% of workers in the CBD commute via public transit, compared to 12.2% in the Airport-West cluster, 11.7% in other employment clusters combined, and 11.0% in non-employment cluster locations (Table 3.5).

However, some CMAs have better records in diverting traffic from the car mode to the public transit mode when the job is located in the CBD. For example, 59.1% of commuters heading for the CBD of Toronto, and 54.9% of commuters heading for the CBD of Montréal use public transit. Among the top 8, Ottawa–Hull ranks a more distant third, with 38.0% of commuters with destinations in the CBD taking public transit. Other large CMAs had 30% or fewer workers employed in the CBD commuting on public transit.

In contrast, relatively small shares of commuters travelling to non-CBD employment clusters travel on public transit. In Montréal, the Montréal North cluster attracts 27.9% of its workers by public transit, but Montréal East ranks a distant third with 17.6% of its commuters taking public transit. The situation in other CMAs is similar with clusters outside the CBD being (with a few exceptions) relatively poorly accessed by public transit.

These patterns are partly a reflection of the central-city orientation typical of public transit systems. Figure 3.1 illustrates the central city orientation of public transit, showing the share of all public transit commuters accounted for by various employment clusters. In 7 of the 8 largest CMAs, more than one-third of public transit commuters were destined for the CBD. This is also true of Canada's largest CMAs where multiple large employment clusters were present. For example, in Toronto, 43.4% of public transit commuters were destined for that city's CBD, with the next largest share of ridership being just 5.5% going to the Airport-West cluster.

Filion and Rutherford (2000) suggest that employers in suburban clusters promote non-transit commuting through the locations that they favour and in their land-use patterns. The locations are chosen for their accessibility to major expressways, airports or other transportation nodes, rather than their proximity to local labour markets or public transit nodes. Abundant land zoned for employment purposes allows for the building of low-lying warehouses, large factory floors, and sprawling parking lots, which together contribute to low employment densities in such areas. In turn, low employment densities hamper the efficient transportation of workers to these sites on public transit.

A more subtle issue arises from the fact that public transit is relied upon by the young, lower income persons, recent immigrants, and women. In some cases, these are exactly the type of people one would expect to be searching for the types of jobs offered in the suburbs. Because public transit remains centrally-focused, people who would normally rely on public transit may have difficulty accessing jobs in the suburbs. At the same time, workers in the city centre who are concentrated in the well paid producer services industries have the best access to employment by public transit. Thus, there may be a “mismatch” between who needs public transit and where they may need to go. A large and well developed literature describing this phenomenon of “spatial mismatch” exists for the United States. However, more work would need to be done to fully understand to what extent this is a problem in Canadian cities.

### **3.5 Employment growth and infrastructure pressures**

As was shown in section 1 of this report, more employment growth between 1996 and 2001 was found in the suburbs than in the city centre, and it is to be expected that this trend would continue. That the most employment growth is happening in areas which have the lowest take-up on public transit raises a challenge to CMAs that wish to maintain or increase the share of commuters that take public transit.

Table 3.6 shows the shares of workers (with a usual place of work) taking public transit in the largest CMAs in 1996 and 2001<sup>12</sup>. In fact, despite the decentralization of jobs that took place over this period, most CMAs were able to maintain or increase the share of commuters riding on public transit. The largest increase was in Montréal where the share of commuters on public transit rose from 21.7% to 23.1%

12. Analysis in this subsection excludes results for Vancouver, as the influence of the transit strike in that CMA would misrepresent 1996 to 2001 changes.

between 1996 and 2001. The share of commuters taking public transit remained stable even in Toronto, where employment growth was more heavily concentrated in locations distant from the city centre.

Public transit ridership as a share of all commuters remained steady in the face of employment decentralization largely because public transit increased its share of ridership within most zones, offsetting the compositional shift towards zones with lower take-up rates. For example, in Montréal the share of those working in the city centre that commuted on public transit rose from 39.7% in 1996 to 44.7% in 2001. Increases were also seen in the 5-10 km and 15-20 km zones. In Toronto, the share of those working in the city centre that commuted on public transit rose from 51.7% in 1996 to 53.3% in 2001, and increases were also noted in all other zones.

Nevertheless, job growth in most CMAs was concentrated outside of the city centre. Figure 3.2 shows employment growth by distance from the city centre broken down into net changes in the mode of transport which accommodated the employment growth (or decline) in these areas. In Toronto most of the job growth was in the suburbs, with 208,300 more workers commuting to locations more than 20 km from the city centre in 2001 than there were in 1996. Nearly 90% of these workers commuted on cars, increasing the number of car commuters in the CMA of Toronto by 12% and increasing the number of car commuters destined for locations more than 20 km from the city centre by 25%.

In Montréal, where employment growth was lower, and more spread out between the city centre and the suburbs, the implications for infrastructure may be much different. In Montréal the job growth was more evenly split between the city centre (with 49,000 more commutes destined for locations within 10 km of downtown) and the suburbs (with 64,000 more commutes destined for locations more than 15 km from downtown). Most commuters heading for downtown took public transit, increasing commuter ridership by 13% overall and by 21% of those destined for locations within 5 km of downtown. Meanwhile, most commuters heading for more suburban locations drove or were passengers in cars, increasing the car commute traffic by 5% overall and by 15% among those heading to destinations beyond 15 km of downtown.

### **3.6 Non-traditional commuting patterns and public transit**

While many CMAs remain central city focussed, it is well known that commute patterns have become more complex. Compared to past decades, commutes are more often situated within or between suburban locations, or have their origin in the city centre and their destination in the suburbs (Statistics Canada Catalogue No: 96F0030XIE2001010).

Table 3.7 shows commutes in the 8 largest CMAs divided into five types: (1) within the city centre, defined as having the residence and job location within 10 km of the city centre,<sup>13</sup> (2) traditional commutes, defined as having the job location within 10 km of the city centre and the residence further than 10 km from the city centre; (3) reverse commutes, defined as having the job location beyond 10 km of the city centre and the residence within 10 km of the city centre; (4) short suburban commutes, which are those wherein both the residence and job locations are beyond 10 km from the city centre, but the commute distance is less than 10 km; and (5) long suburban commutes, which are those wherein both the residence and job locations are beyond 10 km from the city centre, but the commute distance is more than 10 km.<sup>14</sup> For the sake of this discussion we refer to categories 4 and 5 as being “within-suburb” commuting, and “between-suburb” commuting respectively.

13. The city centre is defined, as elsewhere in this report, according to where the city hall of the core municipality is located.

14. This last category also includes those who work in the CMA but live outside the CMA.

The top panel of Table 3.7 shows the share of commutes in each of these categories for 2001. As the largest CMAs, Toronto, Montréal and Vancouver have smaller shares of commutes within the city centre zone, and along the “traditional” commuting pattern of suburb to downtown, and larger shares within and between suburbs. The 8 CMAs have similar shares of workers travelling reverse commutes.

More interesting are the second and third panels of Table 3.7 which show the growth in commutes in two different ways. The second panel shows the growth in commutes by type of commute between 1996 and 2001. In some cases, there were substantial percent increases in commutes across non-traditional commute paths. For example, in Ottawa–Hull the number of reverse commuters grew by 39.7%, probably reflecting fast employment growth in the west end cluster of Kanata. Calgary likewise saw a growth in reverse commutes of 41.5 percent. Between-suburb commutes (of more than 10 km) grew in most CMAs, rising by 18.9% in Ottawa–Hull, 16.8% in Toronto, 38.3% in Calgary, and 12.8% in Edmonton.

Data in the third panel decomposes the growth in commuters between the two years into the share accounted for by each commute type. In Ottawa–Hull, 19% of the commuters added to the roads between 1996 and 2001 were reverse commuters, 22% were within-suburb commuters, and 19% commuted between suburbs. In Toronto, the lion’s share of the new commutes was outside of the downtown core, with 36% within suburbs and 37% between suburbs.

The bottom panel of Table 3.7 shows the share of commuters in each of these categories that commuted on public transit. In all CMAs, the share of commuters taking public transit was lower on non-traditional commute routes—like reverse commutes and within and between suburbs—than it was on traditional paths within the city centre and between the suburbs and downtown. This is not surprising given the city centre focus of public transit systems in the largest urban areas. It may be either that the infrastructure does not exist for providing between-suburb commuters with the public transit option, or the option exists, but driving to work is preferred because of cost, time, or convenience considerations. Given that much of the increase in commutes has taken place along these non-traditional dimensions, this reflects another challenge urban areas may face in dealing with increased commuter car traffic.

**Table 3.1: Commuting distance by CMA, 2001**

	Number of commuters	Less than 5 km (%)	5 to 14.9 km (%)	15 to 24.9 km (%)	25 km or more (%)	Median distance (km)
St. John's	70,040	47.1	40.7	7.8	4.4	5.4
Halifax	154,445	41.3	39.1	13.6	6.0	6.3
Saint John	48,120	39.0	32.1	17.8	11.2	7.0
Chicoutimi–Jonquière	58,850	51.2	34.4	8.7	5.7	4.7
Québec	302,875	37.5	48.4	8.6	5.6	6.8
Sherbrooke	65,690	49.0	34.0	9.3	7.7	5.1
Trois-Rivières	53,845	49.7	32.3	8.0	10.0	5.0
Montréal	1,472,525	34.1	41.1	16.9	7.9	7.9
Ottawa–Hull	489,800	33.2	44.1	14.8	7.9	7.8
Kingston	59,525	47.4	32.3	11.3	8.9	5.4
Oshawa	130,665	30.1	27.2	12.0	30.8	10.7
Toronto	2,046,610	28.9	40.1	18.0	13.0	9.2
Hamilton	278,395	33.0	35.9	12.4	18.8	8.2
St. Catharines–Niagara	155,025	46.1	29.7	12.7	11.5	5.5
Kitchener	190,910	45.0	35.6	10.4	9.0	5.6
London	181,710	46.3	38.3	7.3	8.0	5.4
Windsor	129,950	41.3	44.1	9.1	5.4	6.1
Greater Sudbury	61,650	41.1	36.4	15.3	7.1	6.5
Thunder Bay	49,775	51.8	36.5	5.2	6.5	4.7
Winnipeg	302,090	41.1	49.9	4.7	4.3	6.0
Regina	86,780	56.8	35.7	2.8	4.8	4.5
Saskatoon	95,950	51.5	36.3	4.7	7.6	4.8
Calgary	437,965	31.9	53.4	9.8	4.9	7.7
Edmonton	415,090	33.7	46.3	10.9	9.1	7.6
Abbotsford	53,150	38.6	27.0	8.2	26.2	7.7
Vancouver	803,405	34.8	41.2	16.2	7.7	7.6
Victoria	124,810	52.4	34.1	8.1	5.4	4.7

Source: 2001 Census analysis series: Where Canadians work and how they get there (Catalogue no. 96F0030XIE2001010).

**Table 3.2: Usual mode of transport for travel to work by CMA, 2001**

	Number of commuters*	Driver (%)	Passenger (%)	Public transit (%)	Walk (%)	Bicycle (%)	Other (%)
All CMAs	9,119,770	70.8	6.6	14.8	5.7	1.3	0.8
St. John's	75,735	77.3	12.3	2.8	5.9	0.1	1.6
Halifax	170,210	68.1	9.6	9.9	10.3	0.9	1.2
Saint John	53,050	76.5	10.5	4.3	6.9	0.4	1.4
Chicoutimi–Jonquière	62,765	85.1	4.9	2.4	5.9	0.8	0.9
Québec	325,005	76.0	5.2	9.8	7.0	1.3	0.7
Sherbrooke	70,365	80.0	5.7	5.6	7.2	0.8	0.7
Trois-Rivières	57,610	84.3	4.6	3.0	6.0	1.5	0.6
Montréal	1,580,270	65.6	4.8	21.7	5.9	1.3	0.7
Ottawa–Hull	525,070	64.6	7.4	18.5	6.8	1.9	0.8
Kingston	65,375	74.2	8.2	3.5	10.4	2.2	1.5
Oshawa	142,430	80.2	7.7	7.1	3.6	0.5	0.9
Toronto	2,248,055	65.2	6.3	22.4	4.6	0.8	0.7
Hamilton	304,900	78.2	7.1	8.0	5.1	0.9	0.7
St. Catharines–Niagara	167,980	83.8	7.4	2.0	5.0	0.9	0.9
Kitchener	206,805	81.3	8.1	3.9	4.9	1.1	0.7
London	200,125	77.9	7.8	6.0	5.9	1.5	0.9
Windsor	137,590	83.8	6.5	3.1	4.7	1.1	0.8
Greater Sudbury	67,380	78.2	8.8	4.9	6.5	0.4	1.2
Thunder Bay	54,325	82.5	7.0	3.0	5.4	1.0	1.1
Winnipeg	327,740	70.0	8.4	13.2	6.1	1.4	0.9
Regina	94,295	80.3	7.9	4.4	5.2	1.4	0.8
Saskatoon	106,025	79.7	6.6	4.1	5.8	2.5	1.3
Calgary	499,050	71.8	6.8	13.2	5.9	1.5	0.8
Edmonton	469,225	77.7	6.6	8.6	4.7	1.2	1.2
Abbotsford	61,880	84.4	8.7	1.6	3.6	0.9	0.8
Vancouver <sup>1</sup>	905,995	72.2	7.0	11.5	6.5	1.9	0.9
Victoria	140,515	67.5	6.0	9.7	10.4	4.8	1.6

1. British Columbia incurred the biggest decline in the proportion of workers using public transportation. About 128,200 workers living in British Columbia used public transit in 2001, representing 7.5% of the employed labour force that travelled to work, down from 8.8% in 1996. A bus strike in Vancouver at the time of the census could explain some of this decline.

\* Include individuals with no fixed workplace address.

Source: 2001 Census analysis series: Where Canadians work and how they get there (Catalogue no. 96F0030XIE2001010).



**Table 3.3: Percentage distribution of workers by commuting mode in 2001, selected demographic groups (all CMA workers)**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Age	15-19	22.9	35.4	25.1	12.7	2.6	1.3
	20-24	24.0	54.7	9.1	9.2	2.0	1.0
	25-34	17.3	68.7	5.7	6.0	1.6	0.7
	35-44	13.4	75.5	4.8	4.5	1.2	0.6
	45-54	12.8	75.9	5.1	4.8	0.8	0.7
	55-64	12.6	75.1	5.2	5.6	0.5	0.9
	65+	12.5	71.5	5.6	7.9	0.5	1.9
Marital status and sex	All men	12.5	74.7	4.9	5.3	1.8	0.8
	Married men	8.7	83.6	2.8	3.0	1.3	0.6
	All women	19.3	62.8	9.3	7.0	0.8	0.8
	Married women	14.8	69.1	9.6	5.2	0.5	0.7
Family income (\$)	0-25,000	28.2	48.3	6.9	12.8	2.4	1.4
	25,000-50,000	19.1	64.3	6.6	7.6	1.4	0.9
	50,000-75,000	13.6	72.3	7.1	5.1	1.1	0.7
	75,000-100,000	12.2	74.7	7.5	4.0	1.0	0.6
	100,000+	11.1	76.3	7.2	3.8	1.1	0.6
Immigration status	Canadian born	13.5	70.6	7.1	6.5	1.5	0.8
	Immigrant 0-10 years	31.8	51.3	8.9	6.3	0.9	0.8
	Immigrant 10-20 years	22.6	64.1	7.4	4.6	0.7	0.7
	Immigrant 20+ years	13.8	71.0	6.8	6.2	1.4	0.8
Disability	Disabled	17.0	66.5	7.3	6.7	1.1	1.3
	Not disabled	15.8	69.1	7.0	6.1	1.3	0.7
Education level	High school or less	15.1	65.3	10.5	6.9	1.1	1.0
	University or more	17.3	70.0	4.1	6.2	1.9	0.5
Commuting distance (residence to job) <sup>1</sup>	0-5 km	14.9	57.0	8.3	15.8	2.7	1.3
	5-10 km	19.8	70.5	7.2	0.8	1.0	0.6
	10-15 km	17.0	75.6	6.1	0.5	0.4	0.4
	15-20 km	14.5	78.6	5.8	0.5	0.2	0.4
	20-25 km	13.3	80.2	5.5	0.5	0.1	0.4
	25 km +	11.1	79.2	5.9	2.6	0.4	0.8
Residence distance (residence to city centre)	0-5 km	16.5	61.2	6.6	12.2	2.5	1.1
	5-10 km	20.7	65.3	6.8	5.0	1.4	0.7
	10-15 km	17.8	70.0	6.9	3.8	0.8	0.7
	15-20 km	15.8	71.8	7.5	3.6	0.7	0.6
	20-25 km	12.2	76.1	7.6	3.0	0.5	0.6
	25 km +	7.0	80.1	7.6	3.9	0.7	0.7
Employer distance (job to city centre)	0-5 km	24.3	58.3	6.5	8.2	1.9	0.8
	5-10 km	14.3	70.9	6.8	5.8	1.3	0.8
	10-15 km	12.3	74.7	6.9	4.5	0.9	0.8
	15-20 km	10.5	76.4	7.4	4.3	0.7	0.7
	20-25 km	7.8	79.6	8.0	3.3	0.7	0.7
	25 km +	4.1	80.7	8.4	4.9	0.8	1.0

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs.

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Source: Census of Canada, 2001.

**Table 3.4: Percentage distribution of workers living in higher income families (more than \$75,000) by commuting mode in 2001, selected demographic groups, all workers in CMAs**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Commuting distance (residence to job) <sup>1</sup>	0-5 km	9.3	66.4	9.8	11.3	2.3	1.0
	5-10 km	12.9	77.7	7.4	0.6	0.9	0.4
	10-15 km	12.6	80.2	6.2	0.4	0.4	0.3
	15-20 km	12.0	81.6	5.6	0.3	0.2	0.3
	20-25 km	12.3	81.9	5.1	0.4	0.1	0.2
	25 km +	11.8	79.4	5.3	2.4	0.4	0.7
Residence distance (residence to city centre)	0-5 km	10.5	71.2	7.0	8.5	2.0	0.8
	5-10 km	14.0	73.5	7.3	3.4	1.3	0.5
	10-15 km	13.4	75.5	7.2	2.6	0.8	0.5
	15-20 km	13.1	75.8	7.5	2.6	0.6	0.4
	20-25 km	10.9	78.8	7.3	2.1	0.4	0.5
	25 km +	7.1	81.7	7.4	2.7	0.5	0.6
Employer distance (job to city centre)	0-5 km	20.3	65.9	7.2	4.6	1.4	0.6
	5-10 km	8.3	79.3	6.9	3.9	1.0	0.5
	10-15 km	7.1	81.3	6.9	3.3	0.7	0.6
	15-20 km	5.9	82.3	7.3	3.3	0.7	0.5
	20-25 km	4.4	84.5	7.7	2.3	0.6	0.5
	25 km +	2.4	84.2	8.2	3.7	0.7	0.8

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs.

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Source: Census of Canada, 2001.

**Table 3.5: Percentage distribution of jobs across types of commute by employment cluster**

		Distribution of car commuters (incl. passengers)	Distribution of public transit commuters	Distribution of other commuters
Québec	Central Business District	59.0	26.9	14.1
	Sainte-Foy	80.0	13.4	6.6
	Other clusters	85.7	8.2	6.1
	Non-clusters	80.7	8.5	10.7
	Total, Québec	79.2	11.1	9.7
Montréal	Central Business District	38.0	54.9	7.1
	Airport-West	83.3	15.0	1.7
	Montréal North	67.8	27.9	4.4
	Laval	86.7	10.9	2.4
	Montréal East	78.3	17.6	4.0
	Other clusters	77.9	16.2	10.8
	Non-clusters	71.9	17.4	10.7
	Total, Montréal	68.7	23.0	8.3
	Ottawa–Hull	Central Business District-Ottawa	47.1	38.0
Central Business District–Hull		63.7	26.6	9.7
Kanata		87.7	8.8	3.5
West-Hunt Club		84.3	13.0	2.7
Tunney's Pasture		61.7	28.4	9.9
Industrial South		79.2	16.4	4.4
Other clusters		71.7	18.0	10.4
Non-clusters		79.0	11.5	9.4
Total, Ottawa–Hull		71.0	19.3	9.7
Toronto		Central Business District	31.9	59.1
	Airport-West	89.6	8.9	1.5
	427-Gardiner	78.3	18.4	3.3
	Vaughan	84.9	13.1	1.9
	Markham	88.8	9.6	1.6
	Don Mills	73.2	23.7	3.1
	401-404	85.2	12.9	2.0
	401-Allan Road	61.2	36.3	2.5
	Other clusters	77.8	17.9	4.3
	Non-clusters	73.7	17.7	8.6
	Total, Toronto	70.8	23.1	6.2
	Winnipeg	Central Business District	63.7	27.4
Airport-West		83.2	12.2	4.6
Other clusters		82.0	11.7	6.2
Non-clusters		78.6	11.0	10.3
Total, Winnipeg		77.1	14.3	8.6
Calgary	Central Business District	64.8	24.8	10.4
	Calgary North	88.3	8.8	2.8
	Calgary South	92.8	4.8	2.4
	Other clusters	78.7	12.0	9.3
	Non-clusters	79.4	10.0	10.7
	Total, Calgary	76.6	14.6	8.7
Edmonton	Central Business District	71.4	19.9	8.7
	Edmonton West	93.2	4.5	2.3
	Edmonton East	92.1	5.0	2.9
	Other clusters	82.5	11.6	5.9
	Non-clusters	83.8	7.4	8.8
	Total, Edmonton	82.7	9.8	7.5
Vancouver	Central Business District	56.7	29.1	14.3
	Delta	94.1	3.9	2.0
	Richmond (Airport)	90.6	5.7	3.7
	UBC	60.0	20.1	19.8
	Vancouver East	80.5	14.4	5.1
	Other clusters	89.1	5.9	5.0
	Non-clusters	80.1	9.4	10.6
	Total, Vancouver	74.4	13.0	9.6

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.  
Source: Census of Canada, 2001.

**Table 3.6: Workers by commuting mode, 1996, 2001**

		1996				2001			
		Public transit	Driver or passenger	Other	Total number	Public transit	Driver or passenger	Other	Total number
		1996 (%)				2001 (%)			
Québec	<5 km	13.9	75.2	10.9	142,700	14.8	73.0	12.2	140,500
	5-10 km	9.6	83.6	6.8	120,400	10.4	83.3	6.4	129,500
	10-15 km	6.1	82.9	11.0	33,200	6.9	83.5	9.6	36,600
	15-20 km	2.4	86.6	11.0	13,400	2.9	85.8	11.2	14,900
	20-25 km	1.4	89.2	9.3	6,400	1.5	90.5	8.0	6,300
	>25 km	1.9	88.0	10.1	8,600	2.6	87.8	9.6	10,000
	All	10.5	80.2	9.4	324,700	11.1	79.4	9.5	337,700
Montréal	<5 km	39.7	51.1	9.2	445,600	44.7	45.5	9.8	477,500
	5-10 km	23.3	68.5	8.2	396,200	24.3	66.9	8.8	413,700
	10-15 km	14.1	80.2	5.7	305,600	14.1	80.3	5.6	326,800
	15-20 km	9.3	85.4	5.3	152,200	10.1	84.9	4.9	175,600
	20-25 km	7.4	84.8	7.8	112,100	7.6	85.2	7.1	127,000
	>25 km	2.8	87.8	9.4	153,900	2.7	87.5	9.8	179,400
	All	21.7	70.5	7.8	1,565,500	23.1	68.9	8.0	1,699,900
Ottawa–Hull	<5 km	27.0	60.8	12.2	249,200	29.1	58.6	12.3	261,100
	5-10 km	11.5	80.7	7.8	148,900	13.4	79.3	7.3	166,600
	10-15 km	9.3	83.1	7.5	41,300	12.2	81.7	6.1	47,200
	15-20 km	8.9	83.2	7.9	31,900	8.9	85.2	5.9	47,200
	20-25 km	5.3	90.0	4.7	15,600	5.5	85.5	9.1	27,200
	>25 km	1.4	85.6	13.0	22,400	2.1	86.6	11.3	23,700
	All	18.1	71.8	10.0	509,400	19.4	71.1	9.5	573,000
Toronto	<5 km	51.7	38.5	9.8	495,400	53.3	36.5	10.2	568,100
	5-10 km	27.1	65.0	7.9	240,000	28.7	62.7	8.6	250,300
	10-15 km	20.5	74.8	4.7	319,100	22.6	72.4	5.0	328,300
	15-20 km	15.9	80.1	4.0	276,300	16.7	79.1	4.2	285,700
	20-25 km	9.6	88.0	2.4	408,900	9.9	87.5	2.6	501,200
	>25 km	5.3	88.7	6.1	412,100	5.7	89.5	4.8	528,100
	All	22.8	71.2	6.0	2,151,900	23.1	70.9	6.0	2,461,700
Winnipeg	<5 km	19.9	71.5	8.6	185,800	18.4	72.6	9.0	182,500
	5-10 km	9.5	83.1	7.4	108,900	10.1	82.6	7.3	124,600
	10-15 km	9.7	79.9	10.3	26,500	11.3	79.1	9.7	29,200
	15-20 km	6.1	82.1	11.8	2,000	2.6	92.9	4.5	3,600
	20-25 km	0.1	86.0	13.9	1,800	0.6	92.8	6.6	3,300
	>25 km	1.0	79.2	19.7	1,800	0.5	85.2	14.3	2,300
	All	15.3	76.2	8.4	326,800	14.3	77.3	8.4	345,400
Calgary	<5 km	17.8	74.6	7.6	250,400	19.2	71.7	9.1	280,100
	5-10 km	9.3	83.1	7.6	102,400	10.9	80.6	8.5	117,600
	10-15 km	6.2	87.9	5.9	43,400	7.6	86.1	6.2	72,400
	15-20 km	7.0	84.3	8.6	7,900	6.2	84.9	8.9	10,100
	20-25 km	0.0	0.0	0.0	0.0	3.1	88.5	8.5	2,400
	>25 km	1.0	88.4	10.6	10,100	0.5	88.0	11.5	14,000
	All	13.9	78.6	7.6	414,200	14.7	76.7	8.6	496,700
Edmonton	<5 km	17.4	73.7	8.9	153,900	17.0	73.9	9.1	158,100
	5-10 km	7.6	86.8	5.7	142,600	8.1	86.0	5.9	161,400
	10-15 km	5.8	87.8	6.4	63,900	6.4	87.6	6.1	80,100
	15-20 km	3.3	82.3	14.4	800	1.7	87.2	11.2	7,700
	20-25 km	3.4	88.3	8.3	2,800	0.2	86.9	13.0	2,500
	>25 km	0.5	93.3	6.2	43,200	0.8	92.0	7.2	53,000
	All	10.2	82.7	7.1	407,300	9.9	82.8	7.3	462,800

Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.  
Source: Census of Canada, 1996, 2001.

**Table 3.7: Commutes by origin and destination, 1996-2001**

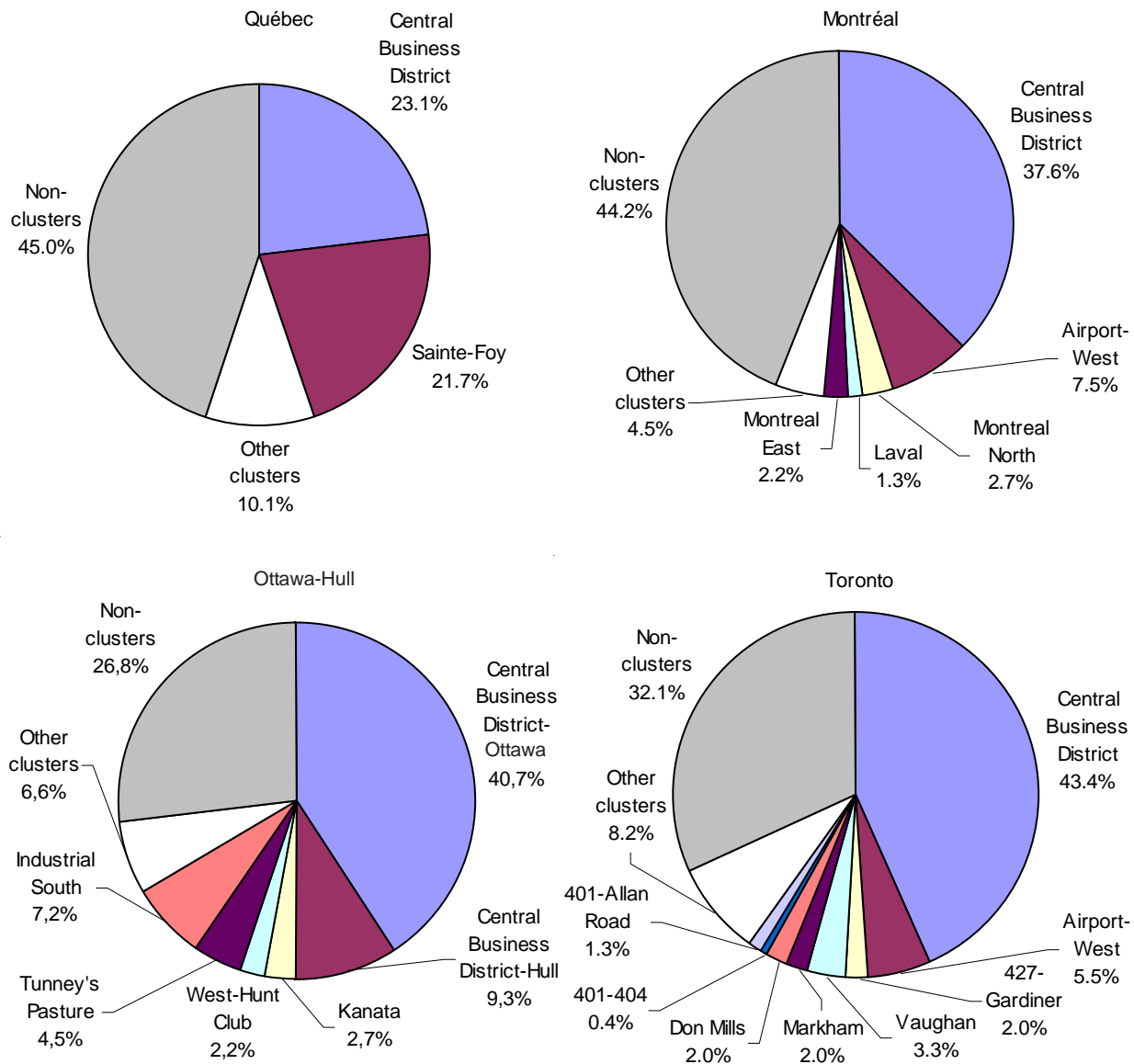
	From city centre location to city centre location <sup>1</sup>	Traditional commute (outside-to- inside city centre)	Reverse commute (inside-to- outside city centre)	Within-suburb commute (suburban commute less than 10 km)	Between suburb commute (suburban commute, more than 10 km) <sup>2</sup>	All commute types
Québec	47	28	5	10	10	100
Montréal	28	21	8	22	20	100
Ottawa–Hull	42	27	7	10	13	100
Toronto	15	16	6	30	32	100
Winnipeg	65	19	5	4	7	100
Calgary	45	31	8	8	8	100
Edmonton	43	25	9	12	12	100
Vancouver	32	22	7	22	18	100
% growth 1996-2001						
Québec	3.0	1.1	10.5	18.3	2.1	4.0
Montréal	9.0	2.0	9.7	14.9	8.6	8.6
Ottawa–Hull	7.1	6.6	39.7	32.5	18.9	12.5
Toronto	10.8	12.0	2.7	17.9	16.8	14.4
Winnipeg	8.0	-6.4	28.8	11.5	5.2	5.7
Calgary	5.9	24.7	41.5	76.9	38.3	19.9
Edmonton	7.5	9.6	24.0	45.9	12.8	13.6
Vancouver	9.5	12.0	-2.5	10.7	5.4	8.7
% of employment growth (1996-2001)						
Québec	35	8	13	38	5	100
Montréal	30	5	9	36	20	100
Ottawa–Hull	25	15	19	22	19	100
Toronto	12	14	1	36	37	100
Winnipeg	89	-24	21	7	7	100
Calgary	15	37	13	20	14	100
Edmonton	25	18	15	31	11	100
Vancouver	35	29	-2	27	12	100
Public transit use rate (% 2001)						
Québec	15	9	10	4	6	11
Montréal	42	28	23	10	6	23
Ottawa–Hull	26	20	17	7	8	19
Toronto	48	45	29	13	9	23
Winnipeg	17	10	13	6	5	14
Calgary	18	15	9	6	6	15
Edmonton	16	7	8	3	3	10
Vancouver	20	18	12	5	5	13

1. For this table, the city centre is defined as being within 10 km of the central municipality's city hall.

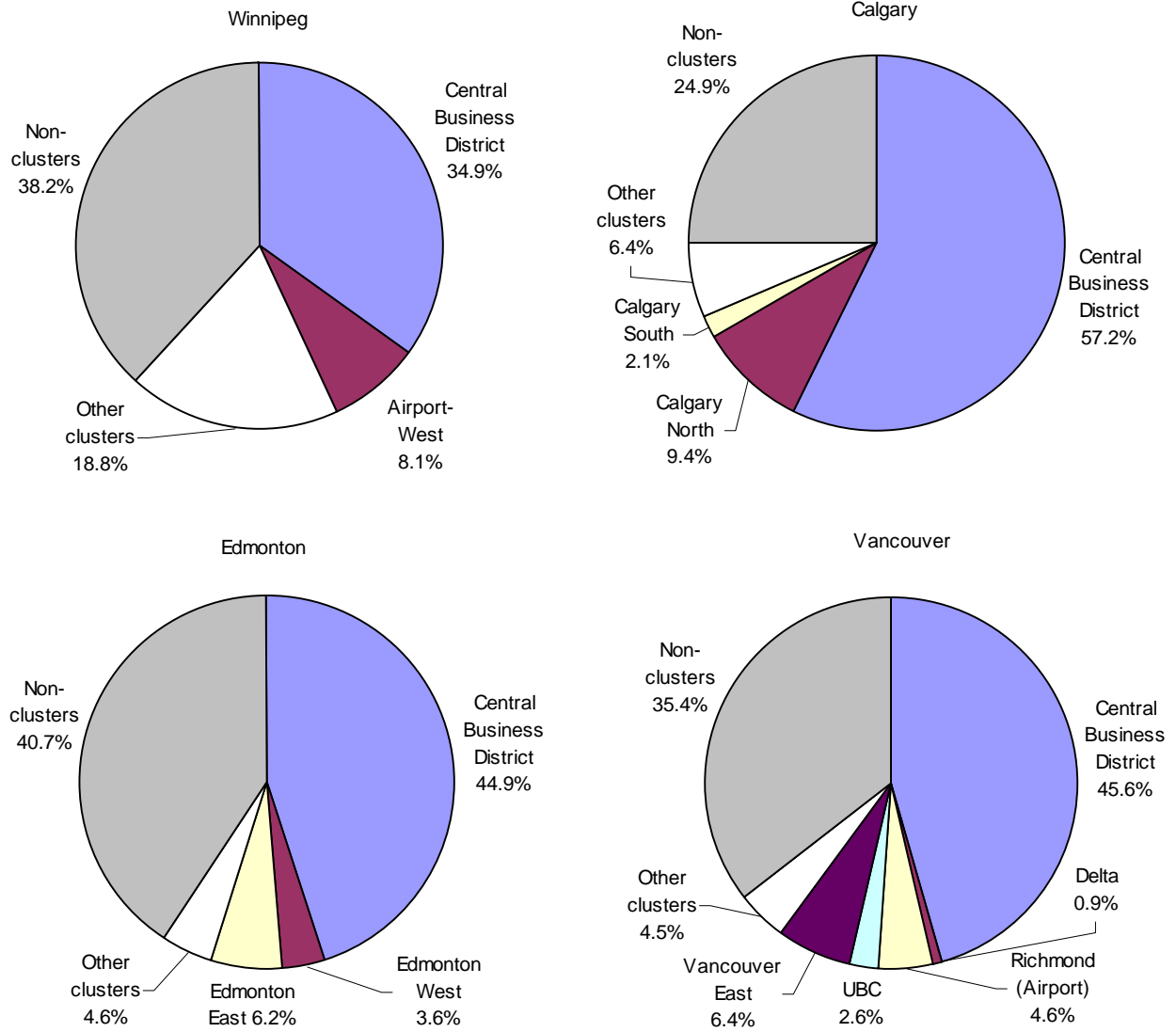
2. Includes commutes from outside CMA to inside CMA.

Source: Census of Canada, 1996, 2001.

**Figure 3.1: Public transit remains centrally-focused in most populous CMAs**

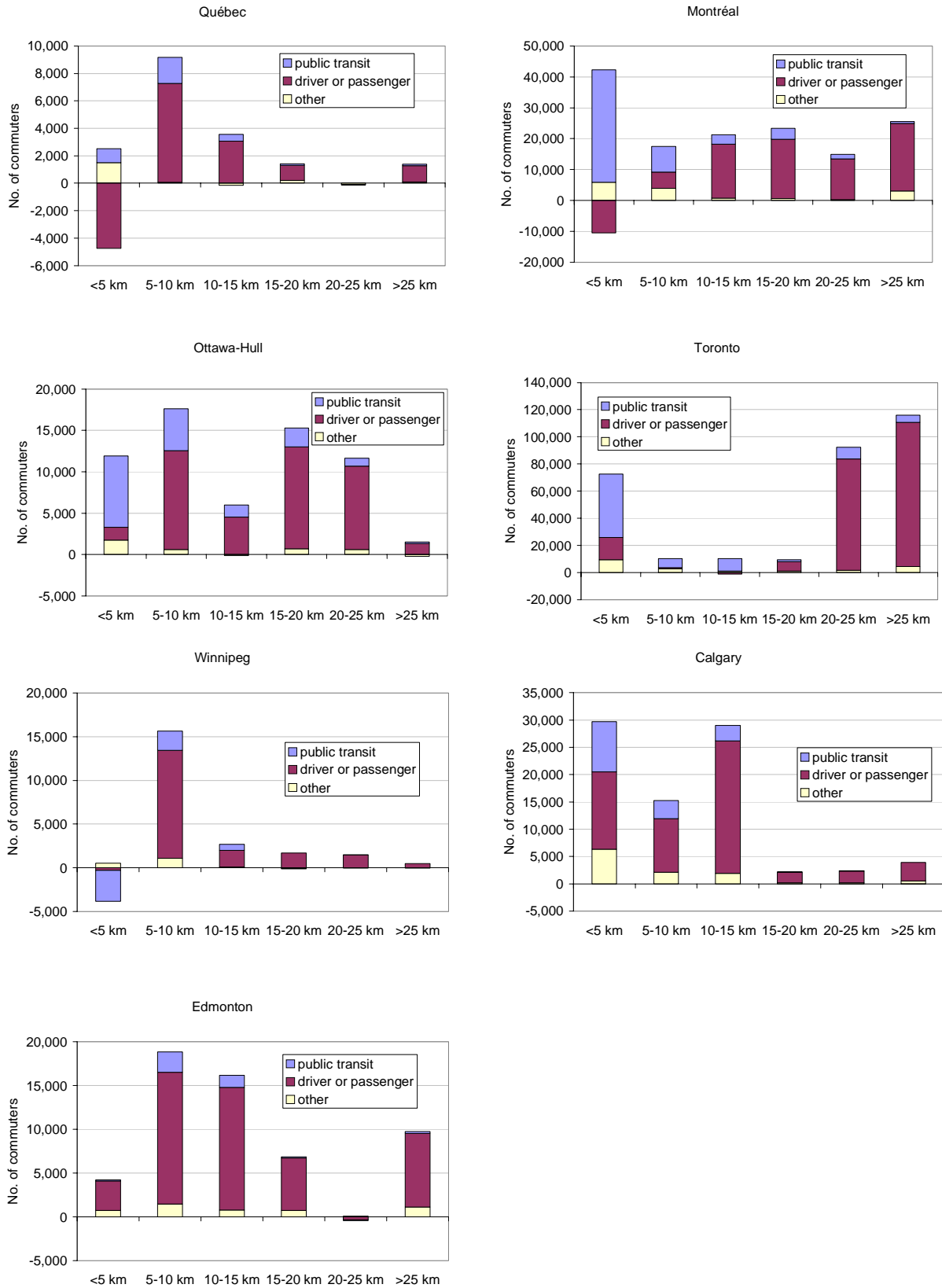


**Figure 3.1: Public transit remains centrally-focused in most populous CMAs – (concluded)**



Note: Includes all individuals aged 15 + working at a usual place of work within CMAs.  
 Source: Census of Canada, 2001.

**Figure 3.2: Net change in commuting modes by distance from city centre (in kilometres), 1996-2001**



Note: Results for Vancouver are not shown because a bus strike at the time of the Census affected public transit use data.  
Source: Census of Canada 1996, 2001.



## Conclusion

This study examined the spatial structure of employment in Canada's largest urban centres, or Census Metropolitan Areas (CMAs). It emphasised three factors: (1) the location of jobs and population in an era of CMA growth and suburbanization; (2) the nature of jobs in the city centre and suburbs; and (3), the way workers get to jobs in central and suburban employment clusters.

The results of this report point to an evolving landscape in the location of work in the CMA. Employment is increasingly located in areas distant from the city centre in most CMAs. One characteristic of this is the well-known suburbanization of manufacturing employment, but retail trade is moving away from the city centre in many CMAs as well. Employment is still "Central Business District" (CBD) oriented, but in addition, several large and distinct employment clusters exist in the CMA. Together, these clusters account for the lion's share of employment in most CMAs. Employment levels are growing faster in suburban areas, shifting employment share from the steady CBD and downtown locations, towards the faster growing suburbs.

Alongside the dynamics of job location is the fact that job characteristics are polarized by location. In fact, a skill and earnings gradient can be drawn from the city centre to the suburbs. City centre jobs are concentrated in high paid, high skilled producer services employment while lower skilled and lower paid jobs and jobs in manufacturing and consumer services are more concentrated in the suburbs. In recent years, this skill and earnings gradient has shifted more in favour of the city centre, as higher earning jobs concentrated more in the downtown between 1996 and 2001 in most large CMAs.

Workers tend to commute to these growing suburban locations by car rather than take public transit. In the 8 largest CMAs, public transit attracts the largest take-up of workers in the city centre, and attracts smaller shares of commuters destined for employment locations located further out in the suburbs. While the growing suburbanization of work has not led to longer commute distance on average (the jobs are becoming more concentrated in areas closer to where the population resides), commute patterns have become more complex, with more workers engaging in reverse commutes (from the city centre to the suburb) and between-suburb commutes. The reliance on auto travel to access these suburban jobs may have important consequences for infrastructure, traffic congestion and air pollution. Large urban areas face a challenge in promoting transit use to workers employed in suburban locations.

## **Appendix tables**

**Table A-1: Percentage distribution of workers by commuting mode in 2001, selected demographic groups (Québec)**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Age	15-19	27.4	34.1	16.8	13.9	5.9	1.9
	20-24	21.9	57.6	6.5	10.5	2.9	0.6
	25-34	8.9	77.9	4.8	6.7	1.3	0.4
	35-44	7.5	80.5	5.0	5.7	1.0	0.4
	45-54	8.9	78.5	4.4	7.1	0.7	0.5
	55-64	7.6	79.2	3.9	8.3	0.5	0.5
	65+	7.9	72.6	4.1	12.9	1.1	1.4
Marital status and sex	All men	8.6	77.8	3.4	7.0	2.3	0.6
	Married men	5.4	85.9	2.8	4.2	1.3	0.4
	All women	13.5	69.7	7.4	8.3	0.6	0.5
	Married women	8.3	76.2	8.6	6.1	0.3	0.3
Family income (\$)	0-25,000	21.3	54.7	4.4	16.0	2.6	1.0
	25,000-50,000	11.1	73.6	4.5	8.9	1.3	0.6
	50,000-75,000	9.0	77.3	6.0	6.0	1.2	0.5
	75,000-100,000	8.7	78.5	6.8	4.3	1.3	0.4
	100,000+	8.1	79.2	6.2	4.6	1.4	0.4
Immigration status	Canadian born	10.9	74.0	5.6	7.6	1.5	0.6
	Immigrant 0-10 years	26.8	55.2	4.6	11.1	1.8	0.6
	Immigrant 10-20 years	20.9	58.1	5.1	12.9	2.2	0.9
	Immigrant 20+ years	10.9	74.0	5.6	7.6	1.5	0.6
Disability	Disabled	14.1	69.2	5.0	9.3	1.3	1.0
	Not disabled	11.0	73.9	5.6	7.6	1.5	0.5
Education level	High school or less	9.7	72.9	6.9	8.3	1.5	0.7
	University or more	10.4	77.1	3.7	7.3	1.2	0.3
Commuting Distance (residence to job) <sup>1</sup>	0-5 km	11.9	60.7	5.5	18.4	2.8	0.7
	5-10 km	13.7	78.3	5.7	0.8	0.9	0.5
	10-15 km	9.6	83.7	5.6	0.5	0.3	0.2
	15-20 km	5.2	88.3	5.4	0.6	0.2	0.3
	20-25 km	2.5	90.6	5.3	0.9	0.2	0.6
	25 km +	7.2	80.4	5.3	5.3	0.8	0.9
Residence distance (residence to city centre)	0-5 km	15.4	60.7	4.7	16.2	2.2	0.8
	5-10 km	12.4	74.7	5.9	5.2	1.3	0.5
	10-15 km	9.4	79.6	5.8	3.5	1.1	0.5
	15-20 km	4.8	84.4	5.9	3.5	1.0	0.4
	20-25 km	2.4	85.8	6.0	4.2	0.8	0.9
	25 km +	2.6	83.1	5.4	6.4	2.1	0.5
Employer distance (job to city centre)	0-5 km	14.8	67.3	5.7	10.1	1.6	0.5
	5-10 km	10.4	77.9	5.3	4.7	1.2	0.5
	10-15 km	6.9	77.8	5.8	7.2	1.7	0.6
	15-20 km	2.9	79.5	6.3	8.5	1.9	0.8
	20-25 km	1.5	85.2	5.3	6.3	1.1	0.6
	25 km +	2.6	82.1	5.6	6.0	2.6	1.0

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs.

Source: Census of Canada, 2001.

**Table A-2: Percentage distribution of workers by commuting mode in 2001, selected demographic groups (Montréal)**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Age	15-19	38.3	26.0	15.7	13.5	5.2	1.4
	20-24	35.8	46.2	6.2	8.9	2.2	0.8
	25-34	24.4	63.9	4.4	5.2	1.5	0.6
	35-44	18.6	71.2	4.1	4.6	1.0	0.5
	45-54	18.8	70.3	4.2	5.4	0.8	0.5
	55-64	17.8	70.1	4.1	6.7	0.4	0.8
	65+	17.1	67.8	4.5	8.8	0.3	1.4
Marital status and sex	All men	18.4	70.6	3.3	5.2	1.8	0.7
	Married men	12.2	81.0	2.3	3.2	0.9	0.5
	All women	27.8	56.3	7.1	7.3	1.0	0.6
	Married women	21.6	63.1	8.3	5.9	0.5	0.5
Family income (\$)	0-25,000	38.7	41.3	4.4	11.9	2.6	1.1
	25,000-50,000	26.3	59.6	4.8	7.2	1.4	0.7
	50,000-75,000	19.1	68.9	5.5	4.9	1.1	0.5
	75,000-100,000	17.6	71.0	5.7	4.2	1.1	0.4
	100,000+	15.7	73.2	5.5	3.9	1.2	0.5
Immigration status	Canadian born	20.3	66.1	5.2	6.2	1.6	0.6
	Immigrant 0-10 years	48.5	36.9	5.1	8.0	0.8	0.7
	Immigrant 10-20 years	35.3	51.6	5.4	6.3	0.7	0.7
	Immigrant 20+ years	20.7	66.0	5.2	6.1	1.5	0.6
Disability	Disabled	26.9	57.5	5.8	7.3	1.4	1.1
	Not disabled	22.8	63.9	5.1	6.1	1.4	0.6
Education level	High school or less	21.0	62.8	6.9	7.2	1.4	0.8
	University or more	23.8	65.3	3.1	5.7	1.5	0.5
Commuting distance (residence to job) <sup>1</sup>	0-5 km	23.0	50.0	5.6	17.1	3.3	1.1
	5-10 km	33.1	59.6	5.1	0.7	0.9	0.5
	10-15 km	23.7	70.5	4.8	0.4	0.3	0.3
	15-20 km	15.7	78.5	5.0	0.4	0.2	0.3
	20-25 km	14.4	80.0	4.8	0.5	0.1	0.2
	25 km +	11.1	81.1	4.9	2.1	0.4	0.5
Residence distance (residence to city centre)	0-5 km	27.2	52.6	3.9	12.6	2.8	0.9
	5-10 km	36.9	49.8	4.6	6.8	1.3	0.6
	10-15 km	26.1	62.3	5.2	4.8	1.0	0.6
	15-20 km	17.2	71.9	5.9	3.6	1.0	0.5
	20-25 km	11.5	77.9	6.0	3.3	0.9	0.5
	25 km +	5.9	81.7	6.3	4.4	1.2	0.6
Employer distance (job to city centre)	0-5 km	44.7	41.7	3.8	7.2	1.9	0.7
	5-10 km	24.3	61.8	5.1	7.1	1.2	0.5
	10-15 km	14.1	75.0	5.3	4.2	0.9	0.5
	15-20 km	10.1	79.1	5.8	3.6	1.0	0.4
	20-25 km	7.6	78.1	7.1	5.0	1.5	0.7
	25 km +	2.7	80.7	6.7	7.0	1.9	0.8

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs.

Source: Census of Canada, 2001.

**Table A-3: Percentage distribution of workers by commuting mode in 2001, selected demographic groups (Ottawa-Hull)**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Age	15-19	28.5	29.6	23.4	14.2	3.1	1.2
	20-24	31.9	45.5	8.4	10.7	2.6	0.9
	25-34	18.8	64.1	7.1	7.7	1.9	0.5
	35-44	15.5	70.9	6.3	4.8	1.9	0.6
	45-54	16.9	69.0	6.7	5.3	1.5	0.6
	55-64	15.9	69.4	6.1	6.4	1.3	1.0
	65+	14.1	69.3	5.6	8.2	0.7	2.0
Marital status and sex	All men	16.5	68.9	4.9	6.4	2.6	0.8
	Married men	12.4	77.9	3.2	3.7	2.2	0.6
	All women	22.2	57.0	11.2	7.8	1.2	0.7
	Married women	16.9	63.3	13.0	5.3	0.8	0.7
Family income (\$)	0-25,000	33.2	43.0	5.8	14.0	2.8	1.2
	25,000-50,000	21.8	60.2	6.4	9.0	1.7	0.8
	50,000-75,000	17.7	65.5	8.0	6.5	1.5	0.7
	75,000-100,000	17.3	66.4	8.8	5.2	1.8	0.5
	100,000+	14.8	68.6	9.4	4.7	1.9	0.6
Immigration status	Canadian born	17.9	63.9	8.2	7.3	2.0	0.7
	Immigrant 0-10 years	33.6	50.2	7.4	6.7	1.3	0.7
	Immigrant 10-20 years	26.4	58.9	7.2	5.6	1.3	0.7
	Immigrant 20+ years	18.0	64.1	8.1	7.2	2.0	0.7
Disability	Disabled	22.2	60.2	8.1	6.9	1.4	1.2
	Not disabled	19.0	63.3	8.0	7.1	1.9	0.7
Education level	High school or less	18.9	59.1	12.0	7.6	1.3	1.0
	University or more	19.1	63.9	5.3	8.1	3.1	0.5
Commuting distance (residence to job) <sup>1</sup>	0-5 km	18.4	49.0	7.8	19.9	3.8	1.1
	5-10 km	24.9	64.2	7.9	0.8	1.7	0.5
	10-15 km	20.6	69.9	7.5	0.6	0.9	0.4
	15-20 km	22.3	69.4	7.1	0.4	0.4	0.3
	20-25 km	12.0	79.4	7.5	0.6	0.2	0.3
	25 km +	9.2	75.8	10.2	3.4	0.5	0.9
Residence distance (residence to city centre)	0-5 km	20.8	51.2	6.7	16.7	3.4	1.1
	5-10 km	23.6	61.3	7.8	4.7	2.1	0.6
	10-15 km	19.8	66.9	8.8	2.9	1.3	0.4
	15-20 km	19.5	67.6	8.2	3.3	0.9	0.5
	20-25 km	7.2	79.8	8.2	3.5	0.6	0.6
	25 km +	4.3	79.9	10.4	4.0	0.5	0.9
Employer distance (job to city centre)	0-5 km	29.1	50.3	8.3	9.1	2.5	0.7
	5-10 km	13.4	71.8	7.5	5.1	1.6	0.6
	10-15 km	12.2	73.9	7.8	4.3	1.2	0.6
	15-20 km	8.9	77.5	7.7	4.2	1.1	0.6
	20-25 km	5.5	75.1	10.4	6.5	1.3	1.3
	25 km +	2.1	78.3	8.3	8.9	1.0	1.4

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs.

Source: Census of Canada, 2001.

**Table A-4: Percentage distribution of workers by commuting mode in 2001, selected demographic groups (Toronto)**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Age	15-19	28.2	29.3	26.8	13.0	1.5	1.3
	20-24	32.6	49.7	9.4	6.4	1.0	0.9
	25-34	26.4	62.6	5.0	4.4	0.9	0.6
	35-44	20.6	70.6	4.2	3.2	0.8	0.6
	45-54	18.8	71.8	4.8	3.4	0.5	0.7
	55-64	18.6	70.8	5.2	4.1	0.4	0.9
	65+	17.6	67.2	6.1	6.7	0.4	2.0
Marital status and sex	All men	17.9	72.2	4.5	3.8	1.0	0.7
	Married men	13.2	81.2	2.3	2.1	0.7	0.5
	All women	28.5	55.7	9.0	5.5	0.5	0.8
	Married women	23.2	62.4	9.1	4.2	0.4	0.7
Family income (\$)	0-25,000	39.7	42.1	6.6	8.7	1.5	1.4
	25,000-50,000	29.6	56.1	6.4	6.0	1.0	0.9
	50,000-75,000	21.5	66.2	6.6	4.3	0.7	0.7
	75,000-100,000	18.5	70.0	7.1	3.4	0.6	0.6
	100,000+	16.5	72.5	6.6	3.3	0.6	0.6
Immigration status	Canadian born	19.5	66.7	6.7	5.2	1.0	0.8
	Immigrant 0-10 years	36.2	49.0	8.4	5.0	0.6	0.7
	Immigrant 10-20 years	26.6	61.9	6.8	3.6	0.5	0.6
	Immigrant 20+ years	19.5	67.9	6.2	4.7	0.9	0.8
Disability	Disabled	23.9	62.2	6.9	5.1	0.7	1.2
	Not disabled	23.0	64.3	6.6	4.6	0.8	0.7
Education level	High school or less	21.0	60.7	11.0	5.6	0.6	1.0
	University or more	26.4	63.9	3.5	4.6	1.2	0.5
Commuting distance (residence to job) <sup>1</sup>	0-5 km	22.6	49.8	9.0	15.1	2.1	1.5
	5-10 km	28.3	62.6	7.1	0.8	0.7	0.5
	10-15 km	24.8	68.3	5.7	0.6	0.2	0.4
	15-20 km	22.7	71.0	5.3	0.5	0.1	0.4
	20-25 km	21.0	73.2	5.1	0.4	–	0.3
	25 km +	16.9	76.2	4.9	1.2	0.2	0.6
Residence distance (residence to city centre)	0-5 km	31.6	48.2	4.7	11.7	2.6	1.1
	5-10 km	36.7	51.6	4.4	5.3	1.2	0.7
	10-15 km	30.9	58.6	5.8	3.5	0.4	0.7
	15-20 km	25.1	63.6	7.4	3.0	0.3	0.6
	20-25 km	17.5	71.3	8.2	2.3	0.2	0.6
	25 km +	9.9	77.7	8.1	3.2	0.4	0.7
Employer distance (job to city centre)	0-5 km	53.3	32.9	3.6	7.4	2.0	0.7
	5-10 km	28.7	57.3	5.4	7.0	0.9	0.7
	10-15 km	22.6	66.2	6.2	4.0	0.4	0.6
	15-20 km	16.7	71.8	7.3	3.3	0.3	0.6
	20-25 km	9.9	79.3	8.2	1.9	0.2	0.5
	25 km +	5.7	80.5	9.0	3.5	0.4	0.9

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs.

Source: Census of Canada, 2001.

**Table A-5: Percentage distribution of workers by commuting mode in 2001, selected demographic groups (Winnipeg)**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Age	15-19	21.8	41.4	22.2	12.0	1.9	0.6
	20-24	20.2	58.3	10.4	8.5	1.7	0.9
	25-34	14.3	68.9	7.9	6.4	1.8	0.8
	35-44	11.9	73.8	6.7	5.3	1.6	0.7
	45-54	12.4	73.6	7.5	5.0	0.9	0.7
	55-64	12.8	72.8	7.2	6.0	0.5	0.6
	65+	11.1	73.0	7.0	6.7	0.4	1.8
Marital status and sex	All men	11.3	74.7	5.5	5.7	2.1	0.7
	Married men	7.4	83.7	3.6	3.1	1.6	0.6
	All women	17.3	62.0	12.1	7.2	0.7	0.8
	Married women	12.4	67.1	13.6	5.5	0.6	0.7
Family Income (\$)	0-25,000	29.1	44.8	8.2	14.0	2.6	1.4
	25,000-50,000	16.9	64.4	8.5	7.8	1.6	0.8
	50,000-75,000	11.9	72.0	9.4	4.7	1.3	0.7
	75,000-100,000	9.8	75.8	9.2	3.9	0.9	0.5
	100,000+	6.0	81.0	8.6	3.1	0.8	0.5
Immigration status	Canadian born	13.8	69.1	8.2	6.6	1.6	0.7
	Immigrant 0-10 years	24.7	51.0	14.6	7.9	0.7	1.1
	Immigrant 10-20 years	16.2	64.7	12.6	5.0	0.5	1.0
	Immigrant 20+ years	13.7	69.3	8.3	6.4	1.5	0.7
Disability	Disabled	18.1	63.4	9.3	6.8	1.1	1.3
	Not disabled	13.8	68.9	8.8	6.4	1.4	0.7
Education level	High school or less	16.2	61.7	11.8	7.9	1.4	1.0
	University or more	10.6	76.0	5.7	5.4	1.8	0.5
Commuting distance (residence to job) <sup>1</sup>	0-5 km	15.8	55.8	10.0	14.7	2.5	1.1
	5-10 km	16.9	72.4	8.6	0.7	0.9	0.5
	10-15 km	12.0	79.8	7.3	0.3	0.3	0.3
	15-20 km	3.7	89.2	5.7	0.6	0.1	0.6
	20-25 km	1.5	91.1	5.9	0.9	–	0.6
	25 km +	4.8	82.8	7.9	2.9	0.4	1.2
Residence distance (residence to city centre)	0-5 km	18.5	59.1	8.9	10.5	1.9	1.0
	5-10 km	13.5	70.9	9.1	4.5	1.2	0.7
	10-15 km	11.0	75.8	8.2	3.3	1.0	0.6
	15-20 km	6.8	79.6	8.8	2.8	0.3	1.7
	20-25 km	1.2	86.8	8.6	2.4	0.4	0.5
	25 km +	0.9	86.0	7.8	4.3	0.3	0.6
Employer distance (job to city centre)	0-5 km	18.4	63.4	9.2	7.1	1.3	0.6
	5-10 km	10.1	74.2	8.4	5.2	1.5	0.7
	10-15 km	11.3	70.8	8.3	6.8	1.8	1.1
	15-20 km	2.6	83.9	9.1	3.1	0.4	1.0
	20-25 km	0.6	83.5	9.3	3.7	1.7	1.2
	25 km +	0.5	79.5	5.7	12.7	0.7	0.9

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs.

Source: Census of Canada, 2001.

**Table A-6: Percentage distribution of workers by commuting mode in 2001, selected demographic groups (Calgary)**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Age	15-19	24.6	37.7	23.5	11.3	1.8	1.0
	20-24	20.9	58.2	8.8	9.3	1.9	1.0
	25-34	14.2	68.8	6.5	7.9	1.9	0.8
	35-44	12.2	76.3	4.6	4.5	1.6	0.8
	45-54	12.4	76.9	4.9	4.2	1.1	0.6
	55-64	11.4	76.8	5.5	5.0	0.3	1.1
	65+	12.6	73.1	5.3	6.0	0.7	2.5
Marital status and sex	All men	12.0	74.5	4.7	5.7	2.3	0.8
	Married men	9.1	83.1	2.3	3.0	1.9	0.6
	All women	17.3	64.2	9.8	7.1	0.7	0.8
	Married women	13.9	68.6	10.8	5.2	0.6	0.8
Family income (\$)	0-25,000	22.9	53.7	7.3	12.7	2.1	1.3
	25,000-50,000	16.5	66.1	6.4	8.4	1.6	1.0
	50,000-75,000	13.5	71.9	6.8	5.5	1.5	0.7
	75,000-100,000	13.2	73.0	7.7	4.3	1.1	0.7
	100,000+	10.8	75.6	7.9	3.6	1.5	0.6
Immigration status	Canadian born	13.5	70.0	7.2	6.7	1.7	0.8
	Immigrant 0-10 years	25.9	55.3	10.0	7.1	0.8	0.9
	Immigrant 10-20 years	17.3	69.1	7.7	4.4	0.7	0.8
	Immigrant 20+ years	13.5	70.6	7.0	6.5	1.6	0.8
Disability	Disabled	15.6	68.1	6.8	6.9	1.1	1.5
	Not disabled	14.5	69.6	7.3	6.3	1.6	0.7
Education level	High school or less	16.1	63.9	11.2	6.6	1.1	1.1
	University or more	13.5	71.4	4.6	7.5	2.4	0.5
Commuting distance (residence to job) <sup>1</sup>	0-5 km	12.7	56.8	7.9	18.3	2.9	1.4
	5-10 km	18.1	72.3	7.0	0.7	1.4	0.5
	10-15 km	17.5	73.8	7.2	0.4	0.6	0.4
	15-20 km	12.0	81.3	5.8	0.2	0.2	0.6
	20-25 km	2.9	90.5	5.5	0.7	0.1	0.4
	25 km +	6.5	80.1	7.3	4.2	0.5	1.4
Residence distance (residence to city centre)	0-5 km	14.6	58.3	5.6	17.5	3.0	1.0
	5-10 km	17.3	68.5	7.4	4.4	1.6	0.8
	10-15 km	14.5	74.0	7.9	2.2	0.8	0.6
	15-20 km	11.8	77.5	7.5	2.1	0.4	0.7
	20-25 km	1.9	81.6	8.9	6.2	0.8	1.0
	25 km +	1.5	81.6	8.9	6.2	0.8	1.0
Employer distance (job to city centre)	0-5 km	19.2	64.7	7.1	6.7	1.8	0.7
	5-10 km	10.9	73.6	7.1	6.4	1.3	0.8
	10-15 km	7.6	78.6	7.5	4.3	1.1	0.9
	15-20 km	6.2	76.4	8.5	7.0	0.9	1.0
	20-25 km	3.1	75.2	13.3	3.6	0.4	4.5
	25 km +	0.5	79.0	9.0	9.2	1.3	1.0

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs.

Source: Census of Canada, 2001.



**Table A-7: Percentage distribution of workers by commuting mode in 2001, selected demographic groups (Edmonton)**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Age	15-19	17.0	42.4	26.0	11.1	2.1	1.4
	20-24	15.9	63.0	9.6	8.1	2.1	1.3
	25-34	9.5	77.4	5.3	5.3	1.6	0.8
	35-44	7.2	83.5	4.0	3.5	1.1	0.7
	45-54	7.7	83.0	4.4	3.4	0.8	0.7
	55-64	8.0	81.0	4.7	4.9	0.3	1.0
	65+	8.3	79.0	4.3	6.5	0.4	1.5
Marital status and sex	All men	7.2	80.3	5.4	4.5	1.8	0.9
	Married men	4.0	89.6	2.4	2.1	1.3	0.6
	All women	12.4	71.1	8.7	6.1	0.7	0.9
	Married women	8.5	77.3	8.5	4.5	0.5	0.8
Family income (\$)	0-25,000	21.4	55.5	7.2	12.0	2.3	1.6
	25,000-50,000	12.3	72.3	6.9	6.0	1.5	1.0
	50,000-75,000	7.7	79.1	7.0	4.3	1.1	0.8
	75,000-100,000	6.3	81.6	7.4	3.1	0.9	0.7
	100,000+	4.9	83.7	6.9	3.0	0.9	0.6
Immigration status	Canadian born	9.3	75.9	7.0	5.5	1.4	0.9
	Immigrant 0-10 years	19.7	61.6	10.6	5.9	1.1	1.1
	Immigrant 10-20 years	11.9	75.5	7.3	3.8	0.9	0.6
	Immigrant 20+ years	9.1	76.5	6.8	5.3	1.3	0.9
Disability	Disabled	12.7	72.6	6.7	5.6	1.1	1.4
	Not disabled	9.4	76.1	7.1	5.3	1.3	0.8
Education level	High school or less	11.1	69.4	11.0	6.2	1.1	1.2
	University or more	7.8	80.0	3.8	6.0	2.1	0.4
Commuting distance (residence to job) <sup>1</sup>	0-5 km	11.7	62.1	8.4	13.7	2.7	1.4
	5-10 km	12.6	78.0	7.0	0.9	0.9	0.6
	10-15 km	9.3	83.4	5.9	0.6	0.3	0.4
	15-20 km	4.0	89.4	5.5	0.5	0.1	0.5
	20-25 km	1.0	92.1	5.5	0.6	0.2	0.6
	25 km +	3.1	86.7	6.1	2.4	0.4	1.3
Residence distance (residence to city centre)	0-5 km	14.9	63.9	5.8	11.4	2.7	1.2
	5-10 km	13.1	73.9	7.2	3.9	1.1	0.8
	10-15 km	7.6	80.3	8.0	2.8	0.6	0.7
	15-20 km	3.4	81.7	7.0	5.3	1.8	0.8
	20-25 km	0.8	87.7	6.2	3.5	0.5	1.3
	25 km +	0.5	86.7	6.6	4.7	0.5	1.0
Employer distance (job to city centre)	0-5 km	17.0	67.6	6.3	6.8	1.7	0.6
	5-10 km	8.1	78.8	7.2	3.9	1.2	0.8
	10-15 km	6.4	79.4	8.2	4.4	0.8	0.9
	15-20 km	1.7	79.5	7.7	6.7	3.1	1.4
	20-25 km	0.2	81.0	5.9	10.5	1.8	0.6
	25 km +	0.8	84.7	7.3	5.0	0.6	1.5

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs.

Source: Census of Canada, 2001.

**Table A-8: Percentage distribution of workers by commuting mode in 2001, selected demographic groups (Vancouver)**

		Public transit	Driver	Passenger	Walk	Bicycle	Other
Age	15-19	16.3	43.6	26.2	11.0	1.8	1.1
	20-24	18.1	60.8	9.4	8.4	2.4	0.9
	25-34	14.3	67.3	6.5	8.1	2.9	0.8
	35-44	11.8	74.8	5.2	5.6	1.9	0.7
	45-54	10.6	76.5	5.6	5.4	1.2	0.8
	55-64	10.8	74.9	6.2	6.2	0.7	1.2
	65+	12.0	70.1	5.9	8.6	0.6	2.8
Marital status and sex	All men	10.1	75.5	5.1	5.9	2.5	0.9
	Married men	7.7	82.5	3.3	3.7	2.0	0.8
	All women	15.8	64.3	9.9	7.9	1.2	0.9
	Married women	13.1	68.6	10.5	6.0	0.9	0.8
Family income (\$)	0-25,000	21.7	51.5	8.5	13.3	3.5	1.6
	25,000-50,000	16.0	64.6	7.6	8.8	2.0	1.0
	50,000-75,000	11.7	72.5	7.6	5.8	1.6	0.8
	75,000-100,000	10.3	75.9	7.3	4.5	1.3	0.7
	100,000+	7.8	79.3	6.9	4.0	1.4	0.6
Immigration status	Canadian born	11.3	71.0	6.9	7.6	2.4	0.9
	Immigrant 0-10 years	20.9	58.7	11.3	7.0	1.2	1.0
	Immigrant 10-20 years	14.7	70.2	8.6	5.0	0.9	0.7
	Immigrant 20+ years	11.2	72.0	6.7	7.1	2.1	0.9
Disability	Disabled	14.7	68.1	7.1	7.5	1.4	1.2
	Not disabled	12.7	70.1	7.5	6.8	1.9	0.8
Education level	High school or less	12.5	66.9	11.5	6.8	1.2	1.1
	University or more	13.1	71.3	6.2	6.8	1.7	0.9
Commuting distance (residence to job) <sup>1</sup>	0-5 km	11.2	57.0	8.6	18.5	3.4	1.4
	5-10 km	15.3	73.2	8.0	0.9	1.9	0.6
	10-15 km	12.6	79.4	6.4	0.5	0.7	0.5
	15-20 km	12.2	80.2	6.3	0.5	0.4	0.5
	20-25 km	15.1	77.6	6.2	0.4	0.2	0.5
	25 km +	12.8	76.6	6.2	2.4	0.8	1.2
Residence distance (residence to city centre)	0-5 km	18.1	54.3	6.7	15.5	4.1	1.3
	5-10 km	17.3	66.1	7.5	6.2	2.2	0.8
	10-15 km	12.4	73.6	8.1	4.1	1.2	0.7
	15-20 km	11.7	75.3	7.4	3.9	0.9	0.8
	20-25 km	10.4	76.6	8.5	3.2	0.6	0.7
	25 km +	5.0	82.1	7.3	3.9	0.9	0.8
Employer distance (job to city centre)	0-5 km	25.2	53.0	6.9	11.0	2.9	0.8
	5-10 km	11.6	73.0	7.5	5.2	2.1	0.7
	10-15 km	8.2	78.3	7.1	4.4	1.2	0.9
	15-20 km	7.3	77.4	7.7	5.6	1.0	1.0
	20-25 km	4.8	81.8	8.0	3.7	0.9	0.7
	25 km +	2.3	81.5	8.9	5.2	1.2	0.9

1. Some individuals reside in a different CMA from which they work. Consequently, these results must be interpreted with caution.

Note: Includes all individuals aged 15 + working at a usual place of work in CMAs. A bus strike in Vancouver at the time of the census may have affected the results.

Source: Census of Canada, 2001.

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