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Geographic Structures As Census Variables:
Using Geography to Analyse Social and Economic Processes

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ABSTRACT

Traditionally, Statistics Canada uses standard geographic areas as "containers" for the dissemination of statistical data. However, geographic structures are often used as variables in general applications, for example, to document the rural and urban population in a specific area such as an incorporated municipality (census subdivision). They are not often cross-tabulated with each other to illustrate and analyse specific social and economic processes, for example, the settlement patterns of the population inside and outside of larger urban centres broken down by urban and rural areas. The introduction of the census metropolitan area and census agglomeration influenced zone (MIZ) concept presents additional opportunities to use geographic structures as variables to analyse census data.

The objectives of this working paper are to illustrate the advantages of using geographic structures as variables to better analyse social and economic processes and to initiate a discussion in the user community about using these variables and the potential of this largely untapped capability of the Census databases. In order to achieve these objectives, four examples of geography as a variable are presented. The examples include Aboriginal persons living on-reserve and off-reserve in urban and rural areas in Canada, the unemployment rate of persons living in urban and rural areas in Canada, the gross rent of renter households in urban and rural areas in Canada, and the migration flows of persons 15 to 24 years of age between major urban centres and rural and small town areas (MIZ).

Our intent is to encourage the use of geographic structures as census variables in order to provide users with the tools that will enable them to more accurately analyse the social and economic processes that take place in the geographic areas of Canada.

1. INTRODUCTION

Traditionally, Statistics Canada uses standard geographic areas as "containers" for the dissemination of statistical data. A simple example illustrates the use of standard geographic areas in this way. In Table 1, population counts are displayed by four levels of geographic areas: Canada, the province of Newfoundland, census division No. 1 within Newfoundland, and three of the census subdivisions (incorporated municipalities) within Division No. 1.

**Table 1. Population Counts, for Census Divisions
and Census Subdivisions, 1996 Census**

The geographic areas are Canada, province, census division and census subdivision.

Geographic area	Variable
	Population
Canada	28,846,761
Newfoundland	551,792
Division No. 1	251,523
Admiral's Beach	255
Aquaforte	172
Arnold's Cove	1,115
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.	

The census variable is population.

Source: Statistics Canada. *A National Overview, Population and Dwelling Counts*. 1996 Census of Canada. Catalogue No. 93-357-XPB.

Certain standard geographic areas have a history of being used as variables[1] in census tabulations. For example, urban areas and rural areas have been used in this way to present the theme of urban/rural differences in population. In Table 2, Canada, province, census division and census subdivision are still used as geographic areas to show population location, but the urban and rural standard geographic areas are used as variables to reveal more information about the population distribution.

**Table 2. Urban and Rural Population, for Census Divisions and
Census Subdivisions, 1996 Census**

The geographic areas are Canada, province, census division and census subdivision.

Geographic area	Variables		
	Population		
	Urban	**Rural**	**Total**
Canada	22,461,210	6,385,551	28,846,761
Newfoundland	313,819	237,973	551,792
Division No. 1	176,588	74,935	251,523
Admiral's Beach	-	255	255
Aquaforte	-	172	172
Arnold's Cove	1,115	-	1,115
.			
.			

The census variable is population; the geography variables are urban and rural areas.

Source: Statistics Canada. *A National Overview, Population and Dwelling Counts*. 1996 Census of Canada. Catalogue No. 93-357-XPB.

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[1] For the purpose of this working paper, the term "variable" refers to "a subject about which information can be retrieved from the census database" (1996 Census Handbook, p.87). **Direct** variables such as citizenship, legal marital status and mode of transportation are tabulated from the actual responses to specific questions on the census. **Derived** variables such as age, disability and total income are calculated from the responses to one or more questions. Current place of residence is an example of a derived geography variable.

Geography variables have also been cross-classified with census variables and with each other. For example, the mobility variable results when the geography variable of location is used to identify a person's usual place of residence at the current census and that person's place of residence 5 years ago (mobility 5) or place of residence one year ago (mobility 1). Table 3 is a simple example that shows the "flow" of internal migrants to and from census metropolitan areas (CMA) and non-census metropolitan areas (non-CMA) geographic areas. There were 686,670 people who lived in a CMA in 1991 and migrated to another CMA in 1996 and 757,240 people who lived in a CMA in 1991 migrated to a non-CMA area in 1996.

Table 3. Internal Migrants 5 Years and Over, by CMA and Non-CMA Place of Residence in 1991 and 1996, for Canada, 1996 Census

The geographic area is Canada.

The census variable is internal migrants; the geography variables are CMA, non-CMA and 1996 place of residence.

The census variable is internal migrants; the geography variables are CMA, non-CMA and 1991 place of residence.

Place of Residence in 1996 (Destination)	Internal Migrants[†]		
	Place of Residence in 1991 (Origin)		
	CMA	Non-CMA	Total In Migrants
CMA	686,670	600,810	1,287,480
Non-CMA	757,240	1,100,765	1,858,005
Total Out Migrants	1,443,910	1,701,575	3,145,485
Net Migration	-156,430	+156,430	0

† Data exclude migrants within the same census metropolitan area and institutional residents.
Source: Statistics Canada. 1996 Census. Custom tabulation.

Other examples where the geographic attributes of the data can be used as variables include census subdivision type, workplace location, and postal code.

Census subdivision type is a variable that identifies whether a census subdivision is a city, town, village, or one of 43 types of municipal or federally regulated areas. When census subdivision type is cross-tabulated with other census variables it is possible to determine additional information about the population who live in different types of municipalities. For example, the census subdivision type for Indian reserve can be used to determine on-reserve and off-reserve population.

The workplace location variable illustrates the relationship between a person's usual place of residence and place of work. Census data may be tabulated based on workplace location only or by residence and workplace location.

The postal code is captured from census questionnaires. The first three characters of the postal code identify the forward sortation area (FSA). Starting with the 1996 Census, the FSA was classified as a variable on the census database. By itself, the FSA is an area. When the FSA is cross-tabulated with other census variables, it is possible to determine the characteristics of the population that live in FSAs.

The introduction of the new geography variable, metropolitan influenced zone (MIZ)[2], presents additional opportunities to use geographic structures as variables to analyse census data.

The objectives of this working paper are to illustrate the advantages of using geographic structures as variables to better analyse social and economic processes and to initiate a discussion in the user community about using these variables and the potential of this largely untapped capability of the Census databases.

In order to achieve these objectives, four examples using standard geographic areas as variables are presented. The examples include Aboriginal persons living on-reserve and off-reserve in urban and rural

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[2] The official name of this geography concept is *census metropolitan area and census agglomeration influenced zone*. The term *metropolitan influenced zone* (MIZ)—the name given to the concept in the early research stage—is used in this paper for ease of reading.

areas in Canada; the unemployment rate of persons living in urban and rural areas in Canada; the gross rent of renter households in urban and rural areas in Canada; and the migration flows of persons 15 to 24 years of age between major urban centres and rural and small town areas (MIZ). The working paper concludes by asking the reader for his/her opinions on the use of geographic structures as variables as well as other geographic structures that could be placed on the 2001 Census database.

2. DEFINITIONS

Statistics Canada disseminates census data for a number of standard geographic areas that are either administrative (i.e., usually defined by federal and provincial statutes) or statistical (defined by Statistics Canada for collection and dissemination of data). This section provides brief definitions of the geographic areas that are used in the examples in this working paper.

Census subdivision (CSD) is the general term applying to municipalities (as determined by provincial legislation) or their equivalent (for example, Indian reserves, Indian settlements and unorganised territories). CSDs are classified into various types, according to official designations adopted by provincial or federal authorities. The **census subdivision types** help distinguish CSDs from each other (for example, the city of North Vancouver and the district municipality of North Vancouver). In 1996, there were 5,984 CSDs classified into 43 CSD types.

Urban and rural areas are statistical areas that Statistics Canada defines based on population concentration and density. An **urban area** (UA) has a population concentration of 1,000 people with a density of at least 400 persons per square kilometre based on previous census counts. There were 929 UAs in 1996. All territory outside urban areas is considered **rural area**. Taken together, urban and rural areas cover all of Canada. **Urban population size group** refers to specific standard population size groups of urban areas by which census data may be tabulated.

A **census metropolitan area** (CMA) or a **census agglomeration** (CA) is a large **urban area** (known as the **urban core**) together with adjacent urban and rural areas (known as **urban fringe** and **rural fringe**) that have a high degree of social and economic integration with the urban core. A census agglomeration has an urban core population of at least 10,000, based on the previous census. A census metropolitan area has an urban core population of at least 100,000, based on the previous census. CMAs and CAs are delineated using adjacent census subdivisions (CSDs) as building blocks according to a set of rules. In 1996, there were 25 CMAs and 112 CAs; they included 1,049 CSDs and almost 78 percent of the population. The term, **non-CMA/CA**, is used to describe the sum of all census subdivisions outside of CMAs and CAs (4,935 CSDs in 1996). The description "small town and rural Canada" is sometimes used to refer to this area.

Urban areas and CMAs/CAs are not synonymous and neither are rural areas and non-CMA/CA areas. Rural areas exist within CMAs and CAs (where they are called rural fringe) and outside them. Rural fringes of CMAs or CAs may contain estate lots, agricultural, undeveloped and non-developable lands. Likewise, smaller urban areas (with population less than 10,000) exist in non-CMA/CA areas. Rural areas include remote and wilderness areas and agricultural lands, as well as small towns, villages and other populated places with less than 1,000 population according to the previous census.

While CMAs and CAs include CSDs with a high degree of social and economic integration with a *single* large urban area, the **census metropolitan area and census agglomeration influenced zone (MIZ)** concept was developed to classify CSDs in non-CMA/CA areas according to the degree to which they are influenced by *any* nearby CMAs and CAs. Commuting flows from CSDs in non-CMA/CA areas to the urban core of any CMA or CA are used to measure the influence. The **strong MIZ** category includes CSDs with a commuting flow of 30% or more. The **moderate MIZ** category includes CSDs with a commuting flow percentage between 5% and 30%. The **weak MIZ** category includes CSDs with a commuting flow percentage more than 0% but less than 5%. The **No MIZ** category includes those CSDs with either no people commuting to work in CMA/CA urban cores or fewer than 40 people in the resident labour force. When data are tabulated by MIZ categories, they represent the sum of the values for all the CSDs in each category.

3. EXAMPLES OF HOW GEOGRAPHY VARIABLES CAN BE USED TO ANALYSE SOCIAL AND ECONOMIC ISSUES

This section describes four simplified examples of geographic areas used as variables to illustrate the significance of using geographic structures to analyse social and economic processes. Each example begins by showing how geographic structures are usually used as **areas** to present data and then shows how they can be used as **variables** to reveal more detailed information about the data.
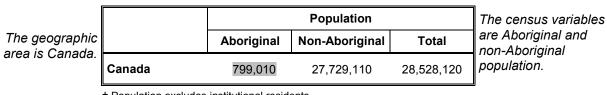
3.1 Example 1 — Aboriginal People Living On-reserve and Off-reserve in Urban and Rural Areas

It has been the Canadian experience that many people think of Aboriginal people as living on reserves or at least in rural areas. Yet the Royal Commission on Aboriginal People found that many Aboriginal people live in urban areas where they tend to be socially and economically disadvantaged relative to their non-Aboriginal neighbours (1996 Report of the Royal Commission on Aboriginal Peoples).

In order to design and implement solutions to Aboriginal social and economic problems, it is first necessary to determine the population dynamics that are occurring in Aboriginal populations. For example, are there more or fewer Aboriginal people residing on Indian reserves? Is the Aboriginal population becoming more concentrated in urban areas? If there is an urban concentration of Aboriginal people, is the concentration located in the urban areas of metropolitan areas (census metropolitan areas and census agglomerations) or in the smaller urban areas outside of metropolitan areas? By cross-tabulating various geography variables from the 1996 Census, it is possible to begin answering some of these questions.

3.1.1 Geography as an Area

The census variable, **Aboriginal population**, is derived from those persons who reported identifying with at least one Aboriginal group (North American Indian, Métis or Inuit) in the 1996 Census. Table 4 is an example of geography used as an area to show the Aboriginal population in Canada.

Table 4. Aboriginal and Non-Aboriginal Population, Canada, 1996 Census[†‡]

The geographic area is Canada.

	Population			
	Aboriginal	Non-Aboriginal	Total	
Canada	799,010	27,729,110	28,528,120	

The census variables are Aboriginal and non-Aboriginal population.

† Population excludes institutional residents.
‡ Data may not add up due to random rounding.
Source: Statistics Canada, 1996 Census, custom tabulation.

The Aboriginal population accounted for approximately 799,000 or 2.8 percent of the Canadian population in 1996.

3.1.2 Geography as a Variable

The geography variable, **census subdivision type**, can be used to show whether there are more or fewer Aboriginal people residing on Indian reserves. The derived variable, on-reserve population, includes all persons who lived in census subdivisions (CSD) with the types: Indian reserve, Terres réservées, Indian government district, Indian settlement or Village cri. Table 5 cross-tabulates on-reserve and off-reserve population with Aboriginal and non-Aboriginal population to show that more Aboriginal people lived off-reserve than on-reserve in 1996 (almost 567,000 or 71 percent of the total).

Table 5. Aboriginal and Non-Aboriginal Population, by On-reserve and Off-reserve Status, Canada, 1996 Census[†‡]

The geographic area is Canada.

The census variables are Aboriginal and non-Aboriginal population.

	Population		
	On-reserve	**Off-reserve**	**Total**
Aboriginal	232,145	566,865	799,010
Non-Aboriginal	27,840	27,701,275	27,729,115
Total	259,985	28,268,140	28,528,120

The geography variable, CSD type, defines the on and off reserve status of the population.

† Population excludes institutional residents.
‡ Data may not add up due to random rounding.
Source: Statistics Canada, 1996 Census, custom tabulation.

The geography variables, **urban area** and **rural area**, can be used to show whether the Aboriginal population is more concentrated in urban areas. Table 6 shows that in 1996, almost 410,000 or over 51 percent of the Aboriginal population lived in urban areas.

Table 6. Aboriginal and Non-Aboriginal Population Living in Urban and Rural areas, Canada, 1996 Census[†‡]

The geographic area is Canada.

The census variables are Aboriginal and non-Aboriginal population.

	Population		
	Urban	**Rural**	**Total**
Aboriginal	409,825	389,185	799,010
Non-Aboriginal	21,776,330	5,952,785	27,729,110
Total	22,186,155	6,341,970	28,528,120

The geography variables, urban and rural areas, define the urban and rural status of the population.

† Population excludes institutional residents.
‡ Data may not add up due to random rounding.
Source: Statistics Canada, 1996 Census, custom tabulation.

To answer the question about where urban Aboriginal population is concentrated the information in Tables 5 and 6 can be cross-tabulated with the CMA, CA, and non-CMA/CA geography variables. By so doing, Table 7 gives us a more complete picture of the Aboriginal population in urban and rural areas and allows us to better see the potential relationships between the geography and population variables. From Tables 5 and 6, we learn that the majority of Aboriginal people in Canada lived off-reserve and in urban areas in 1996. From Table 7, we learn that Aboriginal people were divided fairly equally between urban areas inside and outside of CMAs. In 1996, 55 percent (223,930) of the urban Aboriginal population lived in CMAs while 45 percent of the urban Aboriginal population lived in urban areas outside of CMAs (CA – 113,350 and non-CMA/CA – 72,545). On the other hand, only 4 percent (15,915) of rural Aboriginal people lived on the rural fringes of CMAs while 96 percent of the rural Aboriginal population lived in rural areas outside of CMAs (CA – 33,665 and non-CMA/CA – 339,605). If we look at both CMAs and CAs, the picture changes. When the two geographic structures are combined we see that 83 percent (337,280) of the urban Aboriginal population lived in CMA/CAs while 17 percent (72,545) of the urban Aboriginal population lived in urban areas outside of CMA/CAs in 1996. On the other hand, 13 percent (49,550) of rural Aboriginal people lived on the rural fringe of CMA/CAs and 87 percent (339,605) of rural Aboriginal people lived in rural areas outside of CMA/CAs in 1996. This table also reveals the contrast in the spatial distribution of Aboriginal and non-Aboriginal populations in Canada.

Table 7. Aboriginal and Non-Aboriginal Population in Census Metropolitan Areas (CMA), Census Agglomerations (CA) and Non-CMA/CA Areas, by On-reserve and Off-reserve Status, Urban and Rural, Canada, 1996 Census[†][‡]

The geographic area is Canada.

The census variables are Aboriginal and non-Aboriginal population; the geography variables are census metropolitan areas, census agglomerations and non-census metropolitan areas / census agglomerations.

The census variable is population; the geography variables are on-reserve, off-reserve, rural, and urban.

	Population					
	Urban			Rural		
	On-Reserve	Off-Reserve	Total	On-Reserve	Off-Reserve	Total
CMA						
Aboriginal	2,640	221,290	223,930	4,770	11,145	15,915
Non-Aboriginal	5,700	16,308,925	16,314,625	2,345	1,132,330	1,134,675
Total	8,340	16,530,215	16,538,555	7,115	1,143,475	1,150,590
CA						
Aboriginal	6,080	107,270	113,350	15,590	18,075	33,665
Non-Aboriginal	9,205	3,520,235	3,529,440	3,180	837,620	840,800
Total	15,285	3,627,505	3,642,790	18,770	855,695	874,465
CMA/CA Total						
Aboriginal	8,720	328,560	337,280	20,360	29,220	49,580
Non-Aboriginal	14,905	19,829,160	19,844,065	5,525	1,969,950	1,975,475
Total	23,625	20,157,720	20,181,345	25,885	1,999,170	2,025,055
Non-CMA/CA Total						
Aboriginal	5,820	66,725	72,545	197,245	142,360	339,605
Non-Aboriginal	745	1,931,520	1,932,265	6,665	3,970,640	3,977,305
Total	6,565	1,998,245	2,004,810	203,910	4,113,000	4,316,910
Canada Total						
Aboriginal	14,540	395,285	409,825	217,605	171,580	389,185
Non-Aboriginal	15,650	21,760,680	21,776,330	12,190	5,940,590	5,952,780
Total	30,190	22,155,965	22,186,155	229,795	6,112,170	6,341,965

† Population excludes institutional residents.
‡ Data may not add up due to random rounding.
Source: Statistics Canada, 1996 Census, custom tabulation.

From the progression of the tables, we observe how geography variables can be used to begin to analyse social and economic processes. It would be possible to cross tabulate various social and economic variables (such as level of schooling, employment and unemployment rates, occupation and income) with geography variables to begin to determine the social and economic characteristics of Aboriginal people.

A number of organisations in the public and private sectors of the economy are either using or would be interested in using this type of data tabulation. Government agencies, such as Canada Mortgage and Housing Corporation (CMHC) use geography variables to explore the relationships between residential mobility and housing consumption patterns of the Aboriginal population. Public and private research groups such as the Housing, Family and Social Statistics Division at Statistics Canada and the Institute of Urban Studies, University of Winnipeg use geography variables in their research of the demographic and economic situation of Aboriginal people in Canada. Given the on-going land claim treaty process in Canada, Aboriginal groups themselves will need to use geography variables to better understand the current location and migratory patterns of their population and to plan for the economic development of their lands.

3.2 Example 2 — Unemployment Rates in Urban and Rural Canada

This example illustrates the utility of the new geography concept, MIZ (metropolitan influenced zones), to enhance the study of urban and rural Canada.[3] Organisations that use urban and rural data on a consistent basis include: the Rural Secretariat of Agriculture and Agri-Food Canada, provincial ministries of agriculture, Canada Mortgage and Housing Corporation, Agriculture Division of Statistics Canada, Indian and Northern Affairs Canada, as well research groups such as the Rural Development Institute, Brandon University.

An often-requested set of characteristics of the population is levels of employment/unemployment in the total labour force population. Knowing the areas where the unemployment rate is high can enable service providers and planners (for example, employment service providers, economic development planners) to plan for more jobs in those areas. For example, are unemployment rates in Canada higher in or out of CMAs and CAs? Are unemployment rates higher in urban or rural areas? What size of urban area outside of CMA/CAs contains the highest unemployment rates? Does the influence of CMAs/CAs affect the unemployment rates in non-CMA/CA areas? When we cross-tabulate geography variables by the rate of unemployment, we are able to see the spatial pattern of unemployment/employment.

The metropolitan influenced zones (MIZ) categories provide a more detailed geographic breakdown of the area outside CMAs and CAs than the traditional urban area and rural area breakdown.

3.2.1 Geography as an Area

As shown in the first example (section 3.1), a simple picture of the population is obtained when geography is used as an area to tabulate census variables. The same concept can be illustrated by comparing the census variable, unemployment rate, in CMA/CAs and non-CMAs/CAs and in urban areas and rural areas. The data in Table 8 and Table 9 show that lower unemployment rates were found in CMA/CA and urban areas and that there were higher unemployment rates in non-CMA/CA areas and rural areas.

Table 8. Unemployment Rates in Census Metropolitan Areas and Census Agglomerations, Canada, 1991 Census[†‡]

The geographic area is Canada subdivided into CMA/CA and non-CMA/CA areas.

	Unemployment Rate (%)
CMA/CA	9.6
Non-CMA/CA	12.1
Total	10.2

The census variable is unemployment rate.

† Population excluding institutional residents.
‡ Based on preliminary 1996 Census boundaries.
Source: Statistics Canada, 1991 Census, custom tabulation.

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[3] The data examples provided here are custom tabulations from the 1991 Census database, but they use CMA, CA, and MIZ definitions that were based on the preliminary boundaries of CMAs and CAs for the 1996 Census. Therefore, the CMA/CA data shown here may not correspond exactly to published 1991 CMA/CA data.

Table 9. Unemployment Rates in Urban and Rural Areas, Canada, 1991 Census[†][‡]

The geographic area is Canada subdivided into urban and rural areas.

	Unemployment Rate (%)
Urban	9.9
Rural	11.2
Total	10.2

The census variable is unemployment rate.

† Population excluding institutional residents.
‡ Based on preliminary 1996 Census boundaries.
Source: Statistics Canada, 1991 Census, custom tabulation.

A more detailed analysis of the data is possible when census variables are cross-tabulated with a more detailed breakdown of geography variables.

3.2.2 Geography as a Variable

As Table 10 shows, by cross-tabulating CMA/CA and non-CMA/CA areas with unemployment rates and the geography variables, urban and rural areas, we learn that there was *less* unemployment in the rural areas of CMA/CAs than in the urban areas of CMA/CAs. There was also *more* unemployment in the rural areas than in the urban areas of non-CMA/CAs during the same period. A labour analyst might use data cross-tabulated in this way to study whether more jobs were created in the urban parts of non-CMA/CAs and the rural fringes of CMA/CAs in Canada.

Table 10. Unemployment Rates in Census Metropolitan Areas and Census Agglomerations, by Urban and Rural Areas, Canada, 1991 Census[†][‡]

The geographic area is Canada.

The geography variables are CMA/CA and non-CMA/CA.

	Unemployment Rate (%)	
	Urban	Rural
CMA/CA	9.7	8.8
Non-CMA/CA	11.2	12.5
Total	9.9	11.2

The census variable is unemployment rate; the geography variables are urban and rural areas.

† Population excluding institutional residents.
‡ Based on preliminary 1996 Census boundaries.
Source: Statistics Canada, 1991 Census, custom tabulation.

Until the creation of metropolitan influenced zones (MIZ), it was impossible to compare non-CMA/CA areas in Canada with any other geography variables except urban and rural. For the 2001 Census, it will be possible to compare non-CMA/CA areas with MIZ. Using MIZ as a geography variable will enable the analyst to determine the characteristics of the population living in zones that are influenced by CMA/CA areas. The next two tables illustrate how non-CMA/CA areas, subdivided into MIZ categories, can be compared with other geography variables.

The data in Table 11 show that unemployment rates in both urban and rural MIZ categories generally became higher as the degree of influence on them by CMA/CAs decreased. Therefore, we see that in rural areas, the unemployment rate was 9.5 percent in Strong MIZs and rose to 17.2 percent in MIZs that were not influenced by CMA/CAs. In urban areas, the unemployment rate ranged from 9.4 percent in Strong MIZs to 12.9 percent in MIZs that were not influenced by CMA/CAs in 1991.

Table 11. Unemployment Rates in Urban and Rural Areas, by MIZ Categories, 1991 Census[†‡]

The geographic area is the non-CMA/CA part of Canada.

The geography variable is MIZ.

	Unemployment Rate (%)	
	Urban	Rural
Strong MIZ	9.4	9.5
Moderate MIZ	11.9	13.3
Weak MIZ	11.2	13.3
No MIZ	12.9	17.2
Total MIZ (Non-CMA/CA)	11.2	12.5

The census variable is unemployment rate; the geography variables are urban and rural areas.

† Population excluding institutional residents.
‡ Based on preliminary 1996 Census boundaries.
Source: Statistics Canada, 1991 Census, custom tabulation.

We can focus in more detail on unemployment rates in urban areas by using the geography variable, urban size groups. In Table 12, we see that small towns (urban areas in the 5,000 to 9,999 population range) had the lowest overall unemployment rates in strong, moderate and weak MIZ. This finding could indicate that economic growth is taking place in small towns close to both larger and smaller metropolitan areas.

Table 12. Unemployment Rates, Showing Urban Population Size Groups, for MIZ Categories, 1991 Census[†‡]

The geographic area is the non-CMA/CA part of Canada.

The geography variable is MIZ.

	Unemployment Rate (%)			
	Urban Areas			
	Less than 2,500	2,500 to 4,999	5,000 to 9,999	Total
Strong MIZ	9.8	9.8	8.3	9.4
Moderate MIZ	12.7	12.1	11.1	11.9
Weak MIZ	12.2	11.2	10.8	11.2
No MIZ	11.7	22.5	15.5	12.9

The census variable is unemployment rate; the geography variable is urban areas classified by population size groups.

† Population excluding institutional residents.
‡ Based on preliminary 1996 Census boundaries.
Source: Statistics Canada, 1991 Census, custom tabulation.

From the progression of tables in this example, it is clear that cross-tabulating geography variables, including the new MIZ variable, gives the analyst a much more detailed picture of the labour force unemployment rates that exist in the urban and rural areas of Canada. Having access to the detailed labour force distribution enables the analyst to begin to analyse the processes that result in the distribution.

3.3 Example 3 — Gross Rent of Renter Households in Urban and Rural Canada

Canada Mortgage and Housing Corporation (CMHC) uses census data to gain insights into the social, demographic and economic forces that shape the relationship between the housing stock in Canada and the citizens it serves. In order to determine the housing needs of Canadians and the housing market trends in Canada, CMHC uses census variables that indicate housing supply and demand (rent, mortgage and tax payments, income, dwelling stock, tenure, type of dwelling, value of dwelling and period of construction) by various geographic breakdowns. With this information, CMHC is able to plan and deliver federal and provincial social housing assistance.

Rural and remote communities have long posed a challenge for CMHC. Households in rural and remote communities do not have access to the same variety of housing as households living in or close to metropolitan centres (CMA/CAs). CMHC has been trying for many years to operationalise a definition of

"remoteness" for use in its program planning and delivery (see Canada Mortgage and Housing Corporation, 1998). The development of the MIZ concept promises to provide organisations such as CHMC with a method of defining and analysing rural and remote Canada.

This example uses 1991 Census data (gross rent of renter households) to illustrate the utility of the MIZ classification as a geography variable to study the non-CMA/CA area of Canada.

3.3.1 Geography as an Area

As discussed in the previous two examples, using geography only as an area to tabulate census variables gives a simple picture of the spatial distribution of a population. The same concept can be illustrated with the gross rent of renter households in CMA/CA and non-CMA/CA areas. Tables 13 and 14 show that the percentage of households in Canada that paid more than $600 per month for rent was lower in non-CMA/CAs (13.5 percent) than in CMA/CAs (33.9 percent) and lower in rural areas (18.7 percent) than in urban areas (32.5 percent) according to the 1991 Census.

Table 13. Gross Rent of Renter Households[†] in Census Metropolitan Areas/Census Agglomerations and Non-CMA/CA[‡] Areas, Canada, 1991 Census

The geographic area is Canada subdivided into CMA/CA and non-CMA/CA areas.

	Renter Households by Rent Categories (%)	
	<$600	$600+
CMA/CA	66.1	33.9
Non-CMA/CA	86.5	13.5

The census variable is renter households classified by rent categories.

† Households in non-farm, non-reserve dwellings.
‡ Based on preliminary 1996 Census boundaries.
Source: Statistics Canada, 1991 Census, custom tabulation.

Table 14. Gross Rent of Renter Households[†] in Urban and Rural Areas, Canada, 1991 Census[‡]

The geographic area is Canada subdivided into urban and rural areas.

	Renter Households by Rent Categories (%)	
	<$600	$600+
Urban	67.5	32.5
Rural	81.3	18.7

The census variable is renter households classified by rent categories.

† Households in non-farm, non-reserve dwellings.
‡ Based on preliminary 1996 Census boundaries.
Source: Statistics Canada, 1991 Census, custom tabulation.

A more detailed analysis of the data is possible when census variables are cross-tabulated with a more detailed breakdown of geography variables.

3.3.2 Geography as a Variable

If we cross-tabulate the CMA/CA and non-CMA/CA variables with the urban and rural variables, we learn that the percentage of renter households that paid more than $600 per month for housing was considerably greater in both the urban (33.9 percent) and rural areas (32.2 percent) of CMA/CAs than in the urban (14.0 percent) and rural areas (12.9 percent) of non-CMA/CAs (Table 15). Cross-tabulating geography variables in this way indicates to the housing analyst that while rental housing in Canada is more costly in urban areas in general, rental housing costs more in the rural areas (rural fringe) of CMA/CAs than in the rural areas of non-CMA/CAs.

Table 15. Gross Rent of Renter Households[†] in Census Metropolitan Areas/Census Agglomerations and Non-CMA/CAs[‡], Urban and Rural Areas, Canada, 1991 Census

The geographic area is Canada.

The geography variables are CMA/CA and non-CMA/CA classified into urban and rural areas

	Renter Households by Rent Categories (%)	
	<$600	$600+
CMA/CA		
Urban	66.1	33.9
Rural	67.8	32.2
Non-CMA/CA		
Urban	86.0	14.0
Rural	87.1	12.9

The census variable is renter households classified by rent categories.

† Households in non-farm, non-reserve dwellings.
‡ Based on preliminary 1996 Census boundaries.
Source: Statistics Canada, 1991 Census, custom tabulation.

The same data can be viewed in more detail by using MIZ categories to subdivide non-CMA/CA areas. Table 16 shows that the percentage of renter households in rural areas that paid more than $600 per month generally became smaller as the degree of influence on them by CMA/CAs decreased. The percentage was 19.8 in strong MIZs, 12.0 in moderate MIZs, 10.3 in weak MIZs and 5.7 in MIZs that were not influenced by CMA/CAs. The pattern was similar in urban areas where the percentage of renter households that paid more than $600 per month on rent ranged from 20.9 percent in strong MIZs down to 7.7 percent in MIZs that were not influenced by CMA/CAs. The exception was the weak MIZ category, where there was a jump in the percentage of renter households that paid more than $600 per month.

Table 16. Gross Rent of Renter Households[†] in Census Metropolitan Areas/Census Agglomerations and MIZ[‡], by Urban and Rural Areas, Canada, 1991 Census

The geographic area is Canada.

The geography variables are CMA/CA and MIZ categories classified by urban and rural areas.

	Renter Households by Rent Categories (%)	
	<$600	$600+
Total CMA/CA		
Urban	66.1	33.9
Rural	67.8	32.2
Total Strong MIZ		
Urban	79.1	20.9
Rural	80.2	19.8
Total Moderate MIZ		
Urban	88.3	11.7
Rural	88.0	12.0
Total Weak MIZ		
Urban	85.9	14.1
Rural	89.7	10.3
Total No MIZ		
Urban	92.3	7.7
Rural	94.3	5.7

The census variable is renter households classified by rent categories.

† Households in non-farm, non-reserve dwellings.
‡ Based on preliminary 1996 Census boundaries.
Source: Statistics Canada, 1991 Census, custom tabulation.

From the progression of tables in this example, it is clear that cross-tabulating geography variables, including MIZ, has the potential for presenting a much clearer picture of the distribution of renter households in urban and rural Canada. The same analytic process could be used with such variables as the age of primary household maintainer and household income.

3.4 Example 4 — Population Migration In and Out of Census Metropolitan Areas and Census Agglomerations in Canada

Population change has always held great interest to persons who plan for and provide Canada's housing, education, social services and employment. Data that show population trends regarding age, level of schooling, income, occupation, place of work and mode of transportation, are valuable to the planner and service provider.

"With fertility and mortality having reached significantly low levels and now being rather stabilised, geographic mobility has become a critical source of regional, provincial, municipal and local population change. … In the Canadian censuses, this concept [of mobility] is measured by comparing a person's usual place of residence on census day with residence on the same day five years earlier. … If someone's place of residence five years prior to the census was different from his/her residence on the census day, then this person was designated as a mover…" (Ram, Shin and Pouliot, 1994, p 3). A person is designated a migrant if he/she moved across a census subdivision (municipal) boundary. The difference between the number of in-migrants and the number of out-migrants is known as net migration.

Population migration patterns are of special interest to persons who plan for and provide services in the rural areas and small towns of Canada, as the migration process is essentially a demographic phenomenon, measured by the "back and forth" movement of people. Given that the population outside of census metropolitan areas and census agglomerations (CMA/CAs) declined by over 19 percent from 7.8 million in 1971 to 6.3 million in 1996, it is necessary to look at the characteristics of the migrating population in order to better understand the contribution that migration has on the decline of population in rural areas and small towns (Mendelson and Bollman, 1998). As people often migrate to take a job or to attend school, this example will focus on persons between 15 and 24 years of age. It is important for regions to maintain their levels of population in this age group to facilitate growth and high levels of economic development. In order to take into account those individuals that migrate between the urban and rural parts of CMA/CAs, the data in the example include migrants within the same CMA and CA as well as inter-CMA and CA migrants.

The previous examples in this paper showed how it is possible to refine social and economic analysis by looking at the same processes using different geography variables from the census and by cross-tabulating census variables with geography variables. The same technique can be used with migration. Unlike other examples, migration provides us with the ability to show "flows" of population between one geographic area and another. In the migration example, we will look at migration between CMA/CAs (larger urban centres) and non-CMA/CAs (rural areas and small towns) in the 1991-1996 period. From this perspective we can ask the question: Where did persons migrate to and from in Canada between 1991 and 1996 — the rural areas and small towns or the larger urban centres? We will then look at migration between the urban and rural parts of both larger urban centres and rural areas and small towns in Canada between 1991 and 1996. From this perspective we can ask the question: Did more people migrate in to or out of the urban and rural parts of larger urban centres and rural areas and small towns between 1991 and 1996? Finally, we will cross-tabulate CMA, CA and non-CMA/CA with urban and rural by age groups in order to determine the net migration of persons between 15 and 24 years of age in to and out of rural areas and small towns (non-CMA/CA areas) in Canada. Migration data tables can be complex to read; for a guide to reading migration tables, see Appendix 1.

3.4.1 Geography as an Area

As illustrated in previous examples, a simpler picture of the population is obtained when geography is used only as an area to tabulate population variables. The same concept can be illustrated with the population flows between large urban areas (CMA/CAs) and rural areas and small towns (non-CMA/CAs). As Table 17 shows, more people migrated out of CMAs (2,763,715) between 1991 and 1996 than migrated into CMAs (2,607,245) during the same period of time, giving a net migration of -156,470. On

the other hand, 104,115 more people migrated into rural areas and small towns (non-CMA/CA) between 1991 and 1996 than migrated out of rural areas and small towns during the same period.

Table 17. Internal Migrants 5 Years and Over[†] by Place of Residence in 1991, Showing Place of Residence in 1996, Canada, 1996 Census[†† ‡]

	Internal Migrants			
Place of Residence in 1996 (Destination)	**Place of Residence in 1991[‡‡] (Origin)**			
	CMA	**CA**	**Non-CMA/CA**	**Total In-Migrants**
CMA	2,006,485	282,395	318,365	2,607,245
CA	326,645	231,530	230,965	789,140
Non-CMA/CA	430,585	222,860	415,410	1,068,855
Total Out-Migrants	2,763,715	736,785	964,740	4,465,240
Net Migration	-156,470	52,355	104,115	0

The geographic area is Canada.

The census variable is internal migrants; the geography variables are CMA, CA and non-CMA/CA.

The census variable is internal migrants; the geography variables are CMA, CA and non-CMA/CA.

†   Data exclude external migrants from outside of Canada.
††   Data include migrants within the same CMA and CA as well as inter-CMA and CA migrants.
‡   Population excluding institutional residents.
‡‡   Based on 1996 Census boundaries.
Source: Statistics Canada, 1996 Census, custom tabulation.

Table 17 also illustrates that more people migrated into rural areas and small towns (non-CMA/CAs) from larger urban centres (430,585 from CMAs and 222,860 from CAs) than migrated out of rural areas and small towns into larger urban centres (318,365 to CMAs and 230,965 to CAs) between 1991 and 1996. However, Table 17 does not show whether the migration flow into rural areas and small towns (non-CMA/CAs) came from the rural or urban parts of the CMAs and CAs or from the rural or urban parts of non-CMA/CAs.

3.4.2   Geography as a Variable

If we cross-tabulate the CMA, CA and non-CMA/CA variables with the urban and rural variables, we can begin to determine more precisely where people were migrating from and where they were migrating to between 1991 and 1996. Table 18 shows that the rural parts of CMAs, CAs and non-CMA/CA areas all had a net gain in population while the urban parts of CMA, CA and non-CMA/CA areas all had a net loss in population due to migration. The greatest gain was in the rural parts of non-CMA/CA (+151,850) and the greatest loss was in the urban parts of CMAs (-229,390).

Table 18. Internal Migrants 5 Years and Over[†] by Census Metropolitan Area, Census Agglomeration and Non-CMA/CA of Residence 5 Years Ago, Showing CMA, CA and Non-CMA/CA of Residence in 1996, Urban and Rural, Canada, 1996 Census[††‡]

The geographic area is Canada.

The census variable is internal migrants; the geography variables are CMA, CA, non-CMA/CA and rural and urban areas.

Place of Residence in 1996 (Destination)	Place of Residence in 1991[‡‡] (Origin)						Total In-Migrants
	CMA		CA		Non-CMA/CA		
	Urban	Rural	Urban	Rural	Urban	Rural	
CMA							
Urban	1,739,430	91,195	239,770	26,990	137,815	154,010	**2,389,210**
Rural	165,065	10,795	13,905	1,730	11,220	15,320	**218,035**
CA							
Urban	258,670	13,945	142,125	32,090	94,035	103,705	**644,570**
Rural	51,315	2,715	50,025	7,290	15,000	18,225	**144,570**
Non-CMA/CA							
Urban	137,280	9,910	73,705	9,065	67,160	92,385	**389,505**
Rural	266,840	16,555	125,210	14,880	112,010	143,855	**679,350**
Total Out-Migrants	**2,618,600**	**145,115**	**644,740**	**92,045**	**437,240**	**527,500**	**4,465,240**
Net Migration							
Urban	-229,390		-170		-47,735		0
Rural		+72,920		+52,525		+151,850	0

The census variable is internal migrants; the geography variables are CMA, CA, non-CMA/CA and rural and urban areas.

† Data exclude external migrants from outside of Canada.
†† Data include migrants within the same CMA and CA as well as inter-CMA and CA migrants.
‡ Population excluding institutional residents.
‡‡ Based on 1996 Census boundaries.
Source: Statistics Canada, 1996 Census, custom tabulation.

An even clearer picture of mobility patterns would emerge if CMAs, CAs and non-CMA/CAs were cross-tabulated with urban population size groupings. Including urban population size groupings would enable the analyst to determine the flow of in- and out-migrants from various size urban communities outside of the larger urban centres.

If we cross-tabulate the geography variables with an age variable, we notice that young people in the 15 to 24 year age group set a pattern that is opposite to the migrant population as a whole (see Table 19). Between 1991 and 1996, there was a net out-migration of 62,485 people aged 15 to 24 from non-CMA/CA areas (29,525 from rural areas and 32,960 from urban areas) in Canada. The urban parts of CMAs showed the largest net gain of migrant population in the 15 to 24 year age group (+70,245). This finding is consistent with the theory that young people move out of rural areas and small towns to attend school and to find jobs.

Table 19. Internal Migrants Age 15 to 24 Years[†] by Census Metropolitan Area, Census Agglomeration and Non-CMA/CA of Residence 5 Years Ago, Showing CMA, CA and Non-CMA/CA of Residence in 1996, Urban and Rural, Canada, 1996 Census[†† ‡]

The geographic area is Canada.

The census variable is internal migrants; the geography variables are CMA, CA, non-CMA/CA and rural and urban areas.

The census variable is internal migrants; the geography variables are CMA, CA, non-CMA/CA and rural and urban areas.

Place of Residence in 1996 (Destination)	Place of Residence in 1991[‡‡] (Origin)						Total In-Migrants
	CMA		CA		Non-CMA/CA		
	Urban	Rural	Urban	Rural	Urban	Rural	
CMA							
Urban	238,560	19,110	59,045	6,465	40,120	45,660	**408,960**
Rural	15,590	1,335	1,825	225	1,695	2,485	**23,155**
CA							
Urban	35,120	2,580	25,885	6,460	22,475	26,250	**118,770**
Rural	5,100	300	6,430	1,005	2,230	3,090	**18,155**
Non-CMA/CA							
Urban	16,990	1,835	11,470	1,575	12,475	19,320	**63,665**
Rural	27,355	2,415	17,600	2,280	17,630	25,965	**93,245**
Total Out-Migrants	**338,715**	**27,575**	**122,255**	**18,010**	**96,625**	**122,770**	725,950
Net Migration							
Urban	+70,245		-3,485		-32,960		0
Rural		-4,420		+145		-29,525	0

† Data exclude external migrants from outside of Canada.
†† Data include migrants within the same CMA and CA as well as inter-CMA and CA migrants.
‡ Population excluding institutional residents.
‡‡ Based on 1996 Census boundaries.
Source: Statistics Canada, 1996 Census, custom tabulation.

From the progression of tables in this example, it is clear that cross-tabulating geography variables gives the analyst a much more detailed picture of the population flows and possibly the social and economic processes that have been taking place in urban and rural areas of Canada. From the tables in this example, we learn that overall, between 1991 and 1996, more people migrated from CMAs and CAs into rural areas and small towns (non-CMA/CAs) than migrated from non-CMA/CAs into larger urban centres (CMA/CAs). The tables also illustrate that over 56 percent of the people who migrated into rural areas and small towns (non-CMA/CA) came from the urban parts of CMAs and CAs. Finally, when we focus in on the 15 to 24 year age group, we see that the migration flows are reversed—the young, working-age population flowed between rural areas and small towns and larger urban centres and a large proportion of these migrants, flowed into the urban parts of larger urban centres.

4. SUMMARY

The four examples presented in this working paper are intended to show how various geographic structures can be used as census variables to analyse social and economic processes. It is our intention to encourage the expanded use of geography variables with the 2001 Census. Therefore, we would appreciate receiving feedback from users with comments and suggestions on the utility and usefulness of the geographic structure as a census variable approach. For example:

- Does your organisation use geographic structures as areas or as variables?
- Are the current geography variables suitable for your purpose (see Appendix 2)?
- Would the new *census metropolitan area and census agglomeration influenced zone (MIZ)* variable be useful to your organisation?
- If yes, how would it benefit your organisation?
- If no, what changes or clarifications would you like?

- Are there any other geographic structures that should be placed on the 2001 Census database as variables, e.g., Designated Places (submunicipal/unincorporated areas created by provinces to provide services and to structure fiscal arrangements)?

Our intent is to encourage the use of geographic structures as census variables in order to provide users with the tools that will enable them to more accurately analyse the social and economic processes that take place in the geographic areas of Canada.

Please send your comments to:

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Ottawa, Ontario K1A 0T6

E-mail: geohelp@statcan.ca

ACKNOWLEDGEMENTS

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Appendix 1

Reading the Migration Tables

To assist the reader in understanding the data in a typical migration table, the following example is provided.

In general, reading **down the columns** gives the number of **out-migrants** *from* the area specified in the column heading (the place of residence in 1991) *to* the area specified in the row heading (the place of residence in 1996). Reading **across the rows** gives the number of **in-migrants** *to* the area specified in the row heading (the place of residence in 1996) *from* the area specified in the column heading (the place of residence in 1991). The **net migration** number (at the bottom of each column) for the area specified in the column heading is calculated by subtracting the total number of out-migrants from the total number of in-migrants. The area specified in the column heading therefore will have either a **net gain** of population (more in-migrants than out-migrants) or **net loss** of population (more out-migrants than in-migrants).

Place of Residence in 1996 (Destination)	Place of Residence in 1991 (Origin)			
	CMA	CA	Non-CMA/CA	Total In-Migrants
CMA	2,006,485	282,395	318,365	2,607,245
CA	326,645	231,530	230,965	789,140
Non-CMA/CA	430,585	222,860	415,410	1,068,855
Total Out-Migrants	2,763,715	736,785	964,740	4,465,240
Net Migration	-156,470	52,355	104,115	0

In the above table, reading the first four numbers in the CMA **column** from top to bottom, we see the following.

- Between 1991 and 1996, there were 2,006,485 persons who migrated *within* CMAs—that is, they resided in a CMA in 1991 and they resided in another census subdivision within the same CMA or in another CMA in 1996.
- Between 1991 and 1996, there were 326,645 persons who migrated *from* a CMA *to* a CA—that is, they resided in a CMA in 1991 and they resided in a CA in 1996.
- Between 1991 and 1996, there were 430,585 persons who migrated *from* a CMA *to* a non-CMA/CA area—that is, they resided in a CMA in 1991 and they resided in a non-CMA/CA area in 1996.
- The three numbers in the CMA column added together give a total of 2,763,715 **out-migrants** from a CMA between 1991 and 1996.

Now, reading the four numbers in the CMA **row** from left to right, we see the following.

- Between 1991 and 1996, there were 2,006,485 persons who migrated *within* CMAs—that is, they resided in a CMA in 1996 and they resided in another census subdivision within the same CMA or in another CMA in 1991.
- Between 1991 and 1996, there were 282,395 persons who migrated *to* a CMA *from* a CA—that is they resided in a CMA in 1996 and they resided in a CA in 1991.
- Between 1991 and 1996, there were 318,365 persons who migrated *to* a CMA *from* a non-CMA/CA area—that is, they resided in a CMA in 1996 and they resided in a non-CMA/CA area in 1991.
- The three numbers in the CMA row added together give a total of 2,607,245 **in-migrants** to a CMA between 1991 and 1996.

Finally, the **net migration** number of –156,470 persons at the bottom of the CMA column is calculated by subtracting the total number of CMA out-migrants (2,763,715) from the total number of CMA in-migrants (2,607,245). In other words, there was a net loss of population due to migration to and from CMAs between 1991 and 1996.

1996 Census Geography Variables

The following table describes geography variables that are publicly available from the 1996 Census on the Computer Assisted Product Specification System (CAPSS) database. For additional information on these variables, see the CAPSS Electronic Dictionary.

Variable	Description
PCSD - Census subdivision of current residence.	Refers to the person's usual census subdivision (CSD) of current residence (1996).
PCD - Census division of current residence.	Refers to the person's usual census division (CD) of current residence (1996).
CMA - Census metropolitan area or census agglomeration of current residence.	Refers to the usual census metropolitan area (CMA) or census agglomeration (CA) of current residence (1996).
CSDTypeH - Type of census subdivision of current residence.	The type indicates the municipal status of a census subdivision (CSD) according to official designations adopted by provincial or federal authorities. There were 43 CSD types in 1996.
POP - Population size group of current census subdivision of residence.	Refers to the population size group of the census subdivision where the person currently resides on May 14, 1996.
FSACode - Forward sortation area.	The Forward Sortation Area (FSA) is the first three digits of the postal code.
LDUCode - Local Delivery Unit.	The Local Delivery Unit (LDU) is the last three digits of the postal code.
CO1 - Mobility 1: Country of residence 1 year ago (1995).	Mobility 1: Refers to the country where the person usually resided on May 14, 1995, one year prior to the census day.
CSDType1 - Mobility 1: CSD Type of Residence 1 year ago (1995).	Mobility 1: Refers to the municipal type of the census subdivision (incorporated municipality) where the person usually resided on May 14, 1995 – one year prior to the Census Day. There were 43 CSD types in 1996.
PCSD1 - Mobility 1: Census subdivision of residence 1 year ago (1995).	Mobility 1: Refers to the municipality or census subdivision (CSD) where the person usually resided on May 14, 1995, one year prior to census day.
PCD1 - Mobility 1: Census division of residence 1 year ago (1995).	Mobility 1: Refers to the census division (CD) where the person usually resided on May 14, 1995, one year prior to census day.
CMA1 - Mobility 1: Census metropolitan area or census agglomeration of residence 1 year ago (1995).	Mobility 1: Refers to the census metropolitan area (CMA), census agglomeration (CA) or non-CMA/CA where the person usually resided on May 14, 1995, one year prior to census day.
POP1 - Mobility 1: Population size group of census subdivision of residence 1 year ago (1995).	Mobility 1: Refers to the population size group of the census subdivision (CSD) where the person usually resided on May 14, 1995, one year prior to census day. The size of the census subdivision is based on the 1996 population.
PR1 - Mobility 1: Province or territory of residence 1 year ago (1995).	Mobility 1: Refers to the person's usual province or territory of residence on May 14, 1995, one year prior to census day.
RUUB1 - Mobility 1: Rural-Urban Place of Residence 1 year ago (1995).	Mobility 1: Refers to the urban or rural classification of the municipality or census subdivision (CSD) where the person usually resided on May 14, 1995, one year prior to census day.
CA1 1996 (Derived) – Mobility 1: Census agglomeration of residence 1 year ago (1995).	Mobility 1: Refers to census agglomeration (CA) or non-census agglomeration where the person usually resided on May 14, 1995, one year prior to census day. Shows intra- and inter-provincial migration between CAs and CAs and non-CAs.
CMA1 1996 (Derived) - Mobility 1: Census metropolitan area of residence 1 year ago (1995).	Mobility 1: Refers to census metropolitan area (CMA) or non-census metropolitan area where the person usually resided on May 14, 1995, one year prior to census day. Shows intra- and inter-provincial migration between CMAs and CMAs and non-CMAs.
CO5 - Mobility 5: Country of residence 5 years ago (1991).	Mobility 5: Refers to the country where the person usually resided on May 14, 1991, five years prior to the census day.
CSDType5 - Mobility 5: Census subdivision type of residence 5 years ago (1991).	Mobility 5: Refers to the census subdivision (CSD) type classification of the CSD where the person usually resided on May 14, 1991, five years prior to the census day.

Variable	Description
PCSD5 - Mobility 5: Census subdivision of residence 5 years ago (1991).	Mobility 5: Refers to the municipality or census subdivision (CSD) where the person usually resided on May 14, 1991, five years prior to census day.
PCD5 - Mobility 5: Census division of residence 5 years ago (1991).	Mobility 5: Refers to the person's usual census division (CD) of residence on May 14, 1991, five years prior to census day.
CMA5 - Mobility 5: Census metropolitan area or census agglomeration of residence 5 years ago (1991).	Mobility 5: Refers to the census metropolitan area (CMA), census agglomeration (CA) or non-CMA/CA where the person usually resided on May 14, 1991, five years prior to census day.
CA5 1996 (Derived) - Mobility 5: CA of residence 5 years ago.	Mobility 5: Refers to CA or non-CA where the person usually resided on May 14, 1991. Shows intra- and inter-provincial migration between CAs and CAs and non-CAs.
CMA5 1996 (Derived) - Mobility 5: CMA of residence 5 years ago.	Mobility 5: Refers to CMA or non-CMA where the person usually resided on May 14, 1991. Shows intra- and inter-provincial migration between CMAs and CMAs and non-CMAs.
CMACA5 1996 (Derived) - Mobility 5: CMA/CA of residence 5 years ago.	Mobility 5: Refers to CMA, CA or non- CMA/CA where the person usually resided on May 14, 1991. Shows intra- and inter-migration between CMAs and CAs and CAs and CMAs.
PR5 - Mobility 5: Province or territory of residence 5 years ago (1991).	Mobility 5: Refers to the province or territory where the person usually resided on May 14, 1991, five years prior to census day.
RUUB5 - Mobility 5: Rural-urban place of residence 5 years ago (1991).	Mobility 5: Refers to the rural or urban classification of the municipality or census subdivision (CSD) where the person usually resided on May 14, 1991, five years prior to census day.
POP5 - Mobility 5: Population size group of census subdivision of residence 5 year ago (1991).	Mobility 5: Refers to the population size group of the census subdivision (CSD) where the person usually resided on May 14, 1991, five years prior to census day. The size of the CSD is based on the 1991 population.
All Persons 1996 (Derived) - Urban Population Size Group.	Refers to whether or not a person or household usually resided in a rural or urban area on May 14, 1996. Groups persons and households by urban size groupings for persons who usually resided in urban areas on May 14, 1996.
PWEA - Enumeration area of work.	Refers to the enumeration area (EA) geographic location of the workplace of non-institutional residents 15 years of age and over (15+) who have worked since January 1, 1995.
PWCD - Census division of work.	Refers to the census division (CD) geographic location of the workplace of non-institutional residents 15 years of age and over who worked since January 1, 1995.
PWCTNamx - Census tract name of work.	Refers to the census tract (CT) name of the workplace of non-institutional residents 15 years of age and over who worked since January 1, 1995.
PWStat - Place of work status.	Refers to the usual place of work of non-institutional residents 15 years of age and over who have worked since January 1, 1995. Respondent-completed responses include: worked at home; worked outside Canada; no fixed workplace; and worked at usual place.
PWDISTx - Commuting Distance to Work.	Refers to the distance, in kilometres, between the respondent's residence and his or her usual workplace location. The variable relates to non-institutional residents 15 years of age and over who have worked since January 1, 1995.
POW17 - Place of work status by CD/CSD and sex.	Refers to the place of work of persons who have worked since January 1, 1995. Respondent completed responses include worked at home; worked outside Canada; no fixed workplace address; and usual workplace address.

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