PCCF + VERSION 4E USER'S GUIDE

AUTOMATED GEOGRAPHIC CODING BASED ON THE STATISTICS CANADA POSTAL CODE CONVERSION FILES

INCLUDING POSTAL CODES TO JULY 2004

by

Russell Wilkins

Health Analysis and Measurement Group
Statistics Canada
Ottawa

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ABSTRACT

PCCF+ Version 4 consists of a SAS control program and a series of reference files derived from the most recent Statistics Canada Postal Code Conversion File (PCCF) and a 2001 postal code population weight file (WCF). It automatically assigns a full range of geographic identifiers (down to dissemination area, block, and latitude, longitude) based on postal codes. It is consistent and logical in the way it does this. Any incorrect coding due to errors in the underlying reference files can easily be corrected once identified. To do such coding by manual methods would require highly skilled coders with much time and access to the full mailing address or property description. Even so, the results of manual coding would tend to be less accurate (particularly in urban areas), and they could inadvertently introduce systematic bias (especially in rural areas).

As long as the postal codes on the incoming file are valid for the corresponding addresses, *PCCF+* will usually generate highly accurate geographic coding. Manual geographic coding is no longer required except in very rare circumstances. Records for most postal codes which serve more than one dissemination area--including most rural postal codes and several classes of urban postal codes—are assigned geographic codes based on a population-weighted random allocation among the possible dissemination areas and blocks. This produces an unbiased allocation of events in relation to the resident population. However, because of the nature of the postal code conversion files, a few classes of valid postal codes cannot be assigned full geographic identifiers corresponding to a place of residence or business. In such cases, as well as for postal codes that do not match exactly to the PCCF or WCF, the first two or three characters of the postal code are used to try to assign partial geographic identifiers to the extent possible. This takes care of many situations where the last one, two, or three characters of the postal code are invalid, but the first two or three characters are valid. Problem records include full diagnostic and reference information. Business and institutional addresses are clearly identified, which facilitates determining if the postal code corresponds to the client's usual place of residence (or business), or was the result of a keying or reporting error. An alternate version of the control program is also provided for better coding of the location of health facilities and professionals, as opposed to places of residence, where that is desired.

Note: For authorized university research and teaching purposes, *PCCF+* is available under the Data Liberation Initiative (DLI). For general information on the DLI, including contact persons at each participating university, see the Statistics Canada website: www.statcan.ca (Learning resources / Postsecondary/Data Liberation Initiative). On the DLI FTP site, the *PCCF+* filenames are shown in the directory -/health/pccf4e-fccp4e. [Ressources éducatives / Niveau postsecondaire / l'initiative de démocratisation des données]

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GETTING STARTED

Introduction

To do automated geographic coding based on postal codes using *PCCF+*, all you need to do is follow Steps 1, 2 and 3 below. The rest of the documentation provides supplementary detail and background information which should be read eventually, but it is not essential to getting started. A list of **Abbreviations** begins on page 17, the **References** begin on page 18, and a **List of Appendices** available can be found on page 22.

If you want to find out what the program does and how it works before getting started, skip Steps 1-3, and begin reading at the section entitled **Origins and objectives of *PCCF+***. Then come back to Step 1 when you are ready to begin coding.

Step 1: Getting set up

The *PCCF+* package consists of five SAS control files (the programs) plus several reference files derived mainly from the Statistics Canada Postal Code Conversion File (PCCF) and Weighted Conversion File (WCF). To use the programs, you must first have installed SAS on your mainframe or personal computer (PC) and copied all of the files shown in Table 1(on page 7) into your own directory. For residence coding, edit the program GEORES4x.SAS. For coding of health facilities or office locations, edit the program GEOINS4x.SAS.

Step 2: Identifying your input file (with postal codes to be assigned geography)

Your incoming data to be coded will be known to the programs as HLTHDAT. You must indicate to the program where to find your income file, by changing the shaded filename shown below to your own incoming *filename.ext* at the following line:

```
filename HLTHDAT 'c:\pccf4a\sampldat.can'; /* your input file       */
```

Your incoming file can be sorted in any order or unsorted. Each logical record of the incoming file must contain a unique identifier (ID), plus a postal code (PCODE) if available. The postal code can have a space or hyphen between the first 3 characters (FSA) and the last 3 characters (LDU), or no space. Those fields can be anywhere in the file, but you must tell SAS where to find them, as in the following example:

```
DATA HLTHDAT0; INFILE HLTHDAT MISSOVER;
INPUT
 @  1  ID        $CHAR12.  /* UNIQUE IDENTIFIER OR REGISTRAT NUMBER   */
                           /* IT CAN BE UP TO 12 CHARACTERS IN LENGTH */
 @ 11  FSA       $CHAR3.   /* FSA (ANA)--FIRST 3 CHARACTERS OF PCODE  */
 @ 14  LDU       $CHAR3.;  /* LDU (NAN)--LAST 3 CHARACTERS OF PCODE   */
PCODE=FSA||LDU;            /* POSTAL CODE (ANANAN)                    */
```

The ID can be numerical, alphabetic or mixed. It can be up to 12 characters in length, and can be found anywhere in your file, as specified in the INPUT statement. If ID is more than 12 characters in length, the output file formatting would have to be modified. Records with the same ID but different postal codes will each be assigned geographic codes. *However, if the same ID and postal code appear in combination more than once, only one example of each combination will be retained.* The postal code can also be found anywhere in the file, with the FSA optionally separated from the LDU, or together.

Step 3: Naming the two output files produced

PCCF+ will produce two output files, one for all of the coded data, and a subset of that which contains the problem records (errors, warnings and notes). You must specify the name of these output files by changing the shaded filenames to the names you want your output files to be called. We suggest using the extensions GEO and PRB for these files, but you can use any extensions you wish.

```
filename HLTHOUT 'c:\pccf4a\sampldat.geo'; /* the main output file */
filename GEOPROB 'c:\pccf4a\sampldat.prb'; /* the problem file     */
```

The first of these two output files, known to SAS as HLTHOUT, will contain the ID and postal code from your incoming HLTHDAT file, plus all of the geographic codes which the programs could successfully determine, and diagnostic fields to help you understand how the coding proceeded in each case.

The second output file, known to SAS as GEOPROB, will contain a subset of the HLTHOUT records, for any cases identified as errors, warnings or notes. To facilitate checking and correction, it will be sorted by type of problem (errors first, followed by warnings, followed by notes), then by delivery mode type (DMT), then by postal code. In the unlikely event that none of the HLTHOUT records were identified as potential problems (errors, warnings, or notes), then the GEOPROB dataset and corresponding file would be empty.

When Steps 1, 2 and 3 are completed, you will be ready to start assigning geographic identifiers to your file based on postal codes. If you are eager to get started, go right ahead. Just submit the SAS program. The rest of the documentation can be read later.

Step 4 (optional): Getting appropriate geographic coding for FSAs which were moved (V1H & V9G)

After completing Step 3 (running the program), check the printed output. Immediately following the Summary of Automated Coding Results (at the beginning of the .LST output), if your data contained any postal codes beginning with V1H or V9G, you will see a table showing how many postal codes with each of those two FSA were involved. *If* that table is present (and non-blank), then to get the appropriate geographic coding for those postal codes, you may need to run a supplemental program (R4xOLD for residential coding, or I4xOLD for institutional coding). Whether or not you need to run the supplemental program depends on the vintage of your postal codes (see Appendix C for how the vintage of a postal code is defined). *If the vintage of your postal codes is 1 April 1999 or later, then use of the supplemental programs is unnecessary and will have no effect on the data.* In all other cases, if the results of Step 3 show postal codes beginning in V1H or V9G, you should run the supplemental program to ensure that the appropriate geographic codes are assigned.

First identify your input file, as you did in Step 2, except that this time the input filename will be the same as the HLTHOUT filename which you identified in Step 3.

Assuming that each record in your data has approximately the same vintage of postal code, then check the first input data step in R4xOLD or I4xOLD, and modify the value of PCVDATC if required, as shown in the shaded area below. If your data contain no postal codes of vintage later than 1 June 1996, then do not change the value of PCVDATC.

```
/* ONLY CHANGE DATE BELOW IF VINTAGE IS LATER THAN 19970601: */
PCVDATC='19970601';  /* YYYYMMDD VINTAGE OF PCODES      */
                     /* MM=01-12; DD=01-31 ONLY-NOT OO OR 99 */
```

When you have completed the above, submit the supplemental program. Depending on the vintage of your postal codes, some, none or all of the geographic coding for postal codes beginning with V1H and/or V9G may be changed to correspond to their former location.

The rest of this step is needed only if each record of your data may have a different vintage of postal code, so that the global change of the PCVDATC as shown above is not appropriate. But if (as will most often be the case) the global change was appropriate, then stop here.

If each record of your data may have a different vintage of postal code, then append that date to the end of each HLTHOUT record output by GEORES4x or GEOINS4x, and then revise the first input data step in R4xOLD or I4xOLD to include the following line:

```
@ nnn PCVDATC $CHAR8.;  /* YYYYMMDD VINTAGE OF PCODE */
```

And in that case, don't forget to delete the semicolon at the end of the old input statement, and to comment out the line (just below the end of the input statement) that defines PCVDATC as a constant. Do the latter by adding the SAS comment characters as shown in the shaded text below:

```
/* PCVDATC='19970601'; */ /* YYYYMMDD VINTAGE OF PCODES      */
```

Table 1
Files included in PCCF+ Version 4

Filename / PC filename (if different)	Description
GEORES4x.SAS	SAS PROG (RESIDENCE CODES)
GEOINS4x.SAS*	ALT SAS PROG (OFFICE CODES)
R4xOLD.SAS#	SAS PROG OLD FSAs (RESIDENCE CODES)
I4xOLD.SAS#*	ALT SAS PROG OLD FSAs (OFFICE CODES)
DIST4x.SAS	CALCULATES MINIMUM DISTANCE TO CLOSEST OF MANY LAT LONG
BLDG9606.EGMRES.CAN	POSSIBLE RES FOR DMT E G M
BLDG0302.TXTF1EZ.CAN	BLDG NAMES & ADDRESSES
CPADR.NADR0302.CAN	NUMBER ADDRESS RANGES FOR PCODE
GEOREF01.ARDEF.CAN	AGRICULTURAL REGION (CROP DISTRICT) DEFINITIONS
GEOREF01.ARNAMES.CAN	AGRICULTURAL REGION (CROP DISTRICT) NAMES
GEOREF01.BL01EA96.CAN	2001 DISSEMINATION BLOCK TO 1996 ENUMERATION AREA
GEOREF01.CCSSAC.CAN	CENSUS CONSOLIDATED SUBDIVISION DEFS, SACTYPE, SAC
GEOREF01.CCSNAMES.CAN	CENSUS CONSOLIDATED SUBDIVISION NAMES
GEOREF01.CDNAMES.CAN	CENSUS DIVISION NAMES
GEOREF01.CSDNAMES.CAN	CENSUS SUBDIVISION NAMES
GEOREF01.CSIZE01.CAN	COMMUNITY SIZE BASED ON 2001 CMACA POP (INCL CMA NAMES)
GEOREF01.DABLK.CAN	BLOCKS WITHIN DISSEMINATION AREAS
GEOREF01.DABLKPNT.CAN	POINTER TO BLOCKS WITHIN DISSEMINATION AREAS
GEOREF01.DPLNAMES.CAN	DESIGNATED PLACE NAMES
GEOREF01.ERDEF.CAN	ECONOMIC REGION DEFINITIONS
GEOREF01.ERNAMES.CAN	ECONOMIC REGION NAMES
GEOREF01.FEDNAMES.CAN	FEDERAL ELECTORAL DISTRICT--1996 LIST NAMES
GEOREF01.FED03DEF.CAN	FEDERAL ELECTORAL DISTRICT--2003 LIST DEFINITIONS
GEOREF01.FED03NAM.CAN	FEDERAL ELECTORAL DISTRICT--2003 LIST NAMES
GEOREF01.GTF01B.CAN	GEOGRAPHIC ATTRIBUTES AT BLOCK LEVEL
GEOREF01.HRDEF.CAN	HEALTH REGIONS DEFINITIONS
GEOREF01.HRNAMES.CAN	HEALTH REGION NAMES AND POPULATIONS
GEOREF01.INSTFLG.CAN	INSTITUTIONAL FLAG
GEOREF01.NSREL96.CAN	NORTH SOUTH RELATIONSHIP (BASED ON 1996 PRCDCSD)
GEOREF01.SUBDEF.CAN	HEALTH DISTRICT DEFINITIONS
GEOREF01.SUBNAMES.CAN	HEALTH DISTRICT NAMES
GEOREF01.THDIST2.COD	TORONTO HEALTH PLANNING AREA NAMES AND CODES
GEOREF01.THPA01DA.DEF	TORONTO HEALTH PLANNING AREA DEFINITIONS
MSWORD.FCCP4x.PDF	*PCCF+* USER GUIDE-FRENCH
MSWORD.FMT4xGEO.DOC	MS Word SHELL FOR PRINTING THE MAIN OUTPUT FILE (.GEO)
MSWORD.FMT4xPRB.DOC	MS Word SHELL FOR PRINTING THE PROBLEM FILE (.PRB)
MSWORD.PCCF4x.PDF	*PCCF+* USER GUIDE-ENGLISH
PCCFyymm.BCVUNIQ.CAN#	PCODES PRIOR TO MOVE--OLD FSAs
PCCFyymm.CPCOMM.CAN	CANADA POST COMMUNITY NAMES
PCCFyymm.DUPS.CAN	ALL OCCURRENCES DUPLICATE PCODES
PCCFyymm.FSAGEOG.CAN	GEOGRAPHY AT EACH FSA
PCCFyymm.FSAGEO1.CAN#	GEOGRAPHY AT EACH FSA–OLD FSAs
PCCFyymm.FSA12GEO.CAN	GEOGRAPHY AT EACH FSA12
PCCFyymm.FSA12GE1.CAN#	GEOGRAPHY AT EACH FSA12–OLD FSAs
PCCFyymm.POINTDUP.CAN	POINTER TO 1ST DUPLICATE PCODE
PCCFyymm.RPO.CAN*	RURAL POST OFFICE LOCATIONS
PCCFyymm.UNIQ.CAN	PCODES UNIQUE ON PCCF
PCCFyymm.WCFPOINT.CAN	POINTER TO 1ST DUPLICATE PCODE ON WCF
PCCFyymm.WCFUDUPS.CAN	ALL OCCURRENCES DUPL+UNIQUE PCODES ON WCF
PCCFC01.WCFBLK.CAN	BLOCKS SERVED BY WCF POSTAL CODES
PCCFC01.WCFBLKPT.CAN	POINTER TO BLOCKS SERVED BY WCF POSTAL CODES
PCCFC01.FSAPOINT.CAN	POINTER TO 1ST DUPLICATE FSADABLK
PCCFC01.FSAUDUPS.CAN	ALL OCCURRENCES DUPL+UNIQUE FSADABLK
SAMPLEDAT.CAN	SAMPLE DATA FOR TESTING PROGRAMS
SERVICES.IGE	TEST DATA FOR PROGRAM DIST4x.SAS
SESREF.QAIPE01.CAN	IPPE QUINTILES WITHIN CMACA (BASED ON 2001 CENSUS DATA)

Note: Provincial or regional subsets of the reference files will end with one of the following extensions in place of CAN: NF NS PE NB PQ ON MB SK AB BC YT NT NU ATL PRA WES. (For the meanings of the filename extensions, see page 17.) Provincial or regional subsets will only be able to find geographic codes for postal codes occurring within the same province or region. For best results, all of the files used should have the same extensions.

* An asterisk following a filename indicates that it is only needed for office coding.

\# A number sign following a filename indicates that it is only needed for coding FSAs which have been moved. PCCFyymm replaced by PCCF0209 (Sept 2002), etc.
GEORES4x GEOINS4x replaced by GEORES4A GEOINS4A (Version 4A), etc.

HOW THE PACKAGE WORKS

Origins and objectives of *PCCF+*

PCCF+ consists of two SAS control programs (GEORES4x for residential coding, GEOINS4x for office coding) and a series of reference files derived from the Statistics Canada *Postal Code Conversion File* (PCCF), the *Postal Code Population Weight File* (WCF) and other sources. It automatically assigns a full range of geographic identifiers (PR CD CSD CMA CT DA BLK LAT LONG etc.) based on postal codes. It is consistent and logical in the way it does this. *PCCF+* uses techniques developed over a period of years for research studies at Statistics Canada. Any incorrect coding due to errors in the underlying reference files can easily be corrected once identified. To do such coding by manual methods would require highly skilled coders with much time and access to full mailing addresses. Even so, the results of manual coding would tend to be less accurate (particularly in urban areas), and they could inadvertently introduce systematic bias (especially in rural areas).

Version 1: 1986 Census geography; equal weight to each duplicate record
Version 2: 1991 Census geography; 2B (20% sample) household weights for most duplicate records
Version 3: 1996 Census geography; 2A (100% count) population weights for most duplicate records
Version 4: 2001 Census geography, 2A (100% count) population weights for most duplicate records

Objectives

At their place of residence, 24% of the Canadian population use postal codes which are vague and ambiguous with respect to location (see **Table 2**, page 21, or which are only linked to post office location. This is the biggest problem facing geographic coding from Canadian postal codes. For example, about 20% of the population uses rural postal codes (which each serve an average of about 1100 persons), 3% use rural route services from urban post offices, and 1% use small post office boxes. For the other 76% of Canadians, the vast majority use postal codes presenting little or no problem with respect to geographic coding, which can usually be done with great precision. For example, for the most common category of service—letter carrier delivery to a private dwelling—only about 30 people share the same postal code. However, a few classes of urban postal codes are primarily used by business and institutions, and may or may not be valid as a place of residence. It is important to identify and deal with the various sorts of problems represented by each of the above categories, and that is what *PCCF+* does, as summarized below.

- Deal with community mail boxes and other sources of duplicate records on PCCF (DMT A, B).
- Identify postal codes which may be used by businesses or institutions (DMT E, G, M).
- Provide geographically unbiased coding despite the great ambiguity of rural postal codes and rural routes from urban post offices (DMT W, H, T).
- Provide geographically unbiased coding for persons or organizations using small PO boxes at urban post offices (DMT K), and for those using General Delivery at urban post offices (DMT J).
- Provide client site coding (vs PO location) for institutions using large PO boxes (DMT M).
- Deal with retired postal codes, taking into account problems related to previous DMT.
- Provide for translation across different vintages of census geography.

Bells and whistles

- Use the FSA to impute or partially impute geographic coding where the postal code is not found or is only linked to post office geography.
- Use the first 1 or 2 characters of the postal code for partial imputation if FSA not found.
- Provide information which may help in correcting erroneous or problematic postal codes, or for finding geographic codes by other means (if possible); try to furnish enough information so that the user can decide whether to accept or reject the coding suggested (if correction of the underlying problem is not possible or feasible).
- For postal codes which may or may not refer to a place of business (DMT E, G, or M), flag records for postal codes known to serve non-residential addresses, and flag those known to serve residential addresses.
- For areas consisting primarily of collective dwellings, indicate the predominate type of dwelling (hospital, nursing home, prison, etc.).

Operational requirements

- Provide detailed diagnostics indicating how the coding was done, what problems were encountered, and how ambiguous the postal code was (especially re CD and CSD codes).
- Document everything in a detailed *User's Guide*.
- Make it simple to use by persons with little or no previous knowledge of geography or computers, and small enough to run regional subsets on unsophisticated personal computers.
- Update semi-annually following release of new vintages of the PCCF.

What's new in Version 4D?

In Version 4D, a new field has been added at the end of the main output file for the Federal Electoral District--2003 Representation Order (FED2003). Those were the ridings used for the June 2004 federal election.

The Health District (SUB) field once again identifies CLSCs in Québec, based on the best fit of each census dissemination area.

Numerous corrections to programming and files have resulted in better coding for urban and rural areas.

What was new in Version 4A?

In Version 4, coding is to 2001 census standard geography, using 2001 census population weights when required. By contrast, Version 3 coding was to 1996 census geography, using 1996 census population weights when required.

For 2001 census, the dissemination area has replaced the enumeration area as the lowest standard level of geography for most data dissemination purposes. However, dissemination areas are built up from census blocks, which are the basic geographic units required for the definition of health regions, health districts, federal electoral districts, designated places, and the census urban and rural area typology, as well as for best fit correspondence to previous census geographies. So for geographic coding purposes, the dissemination area plus census block replaces the enumeration area, and that change is reflected in *PCCF+* Version 4. Block-level coding is much more precise than enumeration area-level coding, but the file sizes are much larger now than previously (478,707 blocks versus 49,361 EAs in 1996), so execution time of the programs has noticeably increased.

In previous census geographies, the federal electoral district code was an integral part of the enumeration area code (PRFEDEA), which was lowest standard level of geography for both geographic coding and data dissemination purposes. For the 2001 census geography, the enumeration area is used only for data collection purposes, so it has been dropped from *PCCF+* Version 4. The federal electoral district code has been retained, but it has been moved to near the end of the file. Note that for the 1996 census, the federal electoral district representation order was that of 1987, while for the 2001 census, it changed to the 1996 representation order.

The 2001 census population weight file allows for population-weighted random allocation among multiple dissemination areas served by a single postal code. As with previous versions of *PCCF+*, this is done for several classes of postal codes (those with delivery mode types of H through Z) which mainly provide service to rural residents. Then within the randomly selected dissemination area, an additional population-weighted random allocation is performed to select a single block from among the multiple census blocks in that dissemination area. The latter routine is new for Version 4, as it is required for defining several of the geographic levels of major interest to users.

When imputations of geographic coding are required based on the first three characters of the postal code (the forward sortation area or FSA), a complete set of geographic codes down to dissemination area and block are imputed from rural as well as urban FSAs. Previously, a complete set of codes was only imputed for urban FSAs.

The definitions of health regions (HR) and health districts (SUB) have been updated to reflect recent changes in some provinces, as well as the new census geographic concepts.

An updated neighbourhood income quintile field (QAIPPE) is based on 2001 census data by dissemination area.

The community size field (CSIZE) has been updated, based on 2001 census populations. This field classifies census metropolitan areas and census agglomerations by population size, and the residual area not in any census metropolitan area or census agglomeration--also known as "rural and small town Canada".

A new field for the statistical area classification type (SACTYPE) has been added. This field distinguishes among census metropolitan areas (all of which are tracted), tracted versus untracted census agglomerations, and the residual area not in any census metropolitan area or census agglomeration ("rural and small town Canada"), with the latter further classified by the relative importance of commuting flows to work in any census metropolitan area or census agglomeration--also known as "metropolitan influence zones" or MIZ.

A new field defining the North-South relationship (NSREL) in Canada has been added. This field distinguishes South from South transition, North transition and North. It is based on methods described by Puderer and McNiven (2000).

A new field for the rural-urban block (BLKURB) has been added. This is an alternate way of defining urban and rural, based on the population density of each census block, which permits both urban and rural areas to be defined within as well as outside of census metropolitan areas and census agglomerations. Note however that in the vast majority of rural areas, the census block and dissemination area are imputed based on population-weighted random allocations among the many such units known to fall within the postal code service area, so this field should only be used with due caution for the definitional difficulties. Classification based on urban postal codes is much more certain, as the specific block is almost always known

with much greater certainty. This field is defined as follows: `IF UARA GE 9910 THEN BLKURB=0; ELSE IF UARA NE . THEN BLKURB=1.`

A new field for economic region (ER) has been added. Economic regions (formerly known as "subprovincial regions") are defined as aggregates of adjacent complete census divisions except in Ontario, where in one case an ER is defined as an aggregate of adjacent census subdivisions, but splitting census division boundaries.

A new field for census agricultural region (AR) has been added. ARs are defined as aggregates of complete adjacent census divisions, except in Saskatchewan, where they are defined as aggregates of adjacent census consolidated subdivisions, without respect to census division boundaries.

A new field for census consolidated subdivision (CCS) has been added. CCSs are defined as aggregations of adjacent census subdivisions within a given census division.

The various categories of the representative point flag field (RPF) have been redefined to correspond with the new 2001 census geography concepts.

The enumeration area collective dwelling field (EACOLL) and the enumeration area comment flag field (EACMTFLG) have been deleted, since enumeration areas are now used only for data collection purposes, and no longer appear on the PCCF+ output files. In its place, a new field (INSTFLG) has been added to help identify records likely to be for institutional residents.

A supplemental program (DIST4x.SAS) has been added to calculate distances from each postal code on one output file (usually the result of GEORES4x.SAS), to the closest of many postal codes on another file (which would usually be the output of GEOINS4x.SAS). Typically this would be used for calculating distances from residences to some kind of health facility or health professional. Basic familiarity with SAS programming is required for use of this supplementary program.

What was new in version 3E?

Health regions (HR) and health district (SUB) codes were assigned based on the enumeration area code, if present. If an enumeration area code was not present, then the program attempted to assign health region and health district codes based on the census subdivision code, if known, as long as 90% or more of the census subdivision population resided in a single health region or health district.

Canada Post recently moved two FSAs in British Columbia: 100km south in the case of V9G, and 400 km south in the case of V1H. This means that the vintage of the postal code must now be taken into account in order to correctly assign geography in such cases. Thus, the main programs (GEORES3E & GEOINS3E) were revised to assign only the most current geographic codes for those cases, and supplementary programs (R3EOLD & I3EOLD) were written to assign the old geographic coding where required, depending on the vintage of the postal codes (which can be specified). The supplementary programs also print out a summary of the corrections and problems encountered in the recoding, if any, and merge the corrections back into a revised main file. To explain how to use the supplementary programs, and to determine whether or not their use is required, a new Step 4 (optional) was added to the Getting Started section of the documentation.

To further increase the functionality of the output files, community size (CSIZE) codes were now assigned based on the census metropolitan area and census agglomeration code (the CMA field, which includes CA codes). Also, to demonstrate the ease of attaching geographically-coded variables from other data sets (such as summary data from the quinquennial census), neighbourhood income quintile (QAIPPE) codes were now assigned, based on the enumeration area code.

The CPCCODE field (a sequential numeric code corresponding to the Canada Post Community Name) was fully implemented. In previous versions, records which were coded by the weighted conversion file (WCF) were not assigned a CPCCODE, but beginning with Version 3E, all records with a valid postal code have had it assigned.

The main output files (dataset HLTHOUT) were identical in format to those produced by Version 3D, except for the addition of the 4 new fields (HR SUB CSIZE QAIPPE) appended to the end of the record, as noted in the revised documentation. The output of the supplementary programs (R3EOLD and I3EOLD) also included 3 additional fields (BTHDATEC RETDATEC PCVDATC) appended to the end of the record.

The problem file output was modified slightly by reducing the latitude and longitude fields each to 2 digits in order to leave enough room to show the HR and SUB fields.

The documentation was revised to reflect the above changes.

What was new in Version 3 (all other updates)?

- Version 3 produced output coded to 1996 Census standard geography, whereas Version 2 coded to 1991 census standards, and Version 1 coded to 1986 census standards.
- Whenever possible, 1996 2A (100%) population weights were used for postal codes served by rural post offices, or by rural routes, PO boxes, and suburban route service from urban post offices. However, 1991 2B (20% sample) household weights were used for such postal codes if they were not part of the 1996 census population weight file.
- EAs were imputed for rural as well as most urban postal codes. However, imputation of EA from urban FSAs (new in Version 2) was no longer performed for postal codes linked to post office geography, for which the service area or users might be outside the nominal FSA boundaries.
- New fields were added, but all of the former fields were retained, as was the "look and feel" of the programs. The only change to the definitions of former fields is for problem (PROB) type 2 (unused since Version 1), which was redefined as a Warning (rather than Error as formerly) when the postal code was improbable as a place of residence. The PROB field has been renamed LINK, so that the meaning of the field values will be intuitive: LINK=0 means no link, and LINK=9 means best link. Latitude and longitude were shown with much greater precision (degrees + 6 places after the decimal rather than degrees + 4 places previously). The field CCSUM was no longer written to the files, but it was still calculated for the printouts.

DPL — A field for Designated Place (DPL) code was added. This was a new sub-municipal level of geography with the 1996 census.

RESFLG — Postal codes for addresses which were improbable as a place of residence were now flagged (RESFLG), as are postal codes for business and institutional type addresses which appeared to be possible places of residence.

EACOL — A field for Enumeration Area Collective Dwelling (EACOL) type was added. This field identified EAs which were specific to hospitals, nursing homes, prisons, etc.

EACMT — An Enumeration Area Comment (EACMT) could occur in the problem file output if other address information was not available. The comment field usually named the collective dwelling, business or institution specific to that EA. A flag field (EACMTFLG) identified EAs for which such comments were available in the G96EACMT file.

Five new diagnostic fields were added. The first three were derived from the PCCF, while the last two were derived from other sources:

DMTDIFF — A new field based on the previous DMT (DMTDIFF) allowed retired postal codes to be used without fear of overlooking problems related to the previous DMT.

RPF — The Representative Point Flag (RPF) indicated the precision of the underlying geographic linkage (to BLKFACE or EA, and single or multiple links in each case).

SERV — The Canada Post Service Type code (SERV) distinguished route service with street address from route service without street address.

PREC — The precision (PREC) of latitude and longitude coordinates was indicated with respect to the service area of the postal code, as well as with respect to the blockface or EA nature of the coordinates, and with respect to the nature of the imputation required (if any). 0=least precise; 9=most precise.

NADR — The number of address ranges (NADR) served by a postal code was usually one, but might be many. For example, community mail boxes and rural route services usually refer to several address ranges, while most other urban postal codes refer to only one address or address range.

Because of these changes, the record layout for the last section of both output files was changed.

The source program code was still written in SAS, and was easily modifiable—for example, to reduce the printed output by deleting frequency tabulations of each field. As before, the source program was self-documenting to facilitate understanding of what the program actually did and didn't do.

Preliminary versions of supplemental files and model programs were made available for translating back and forth between 1991 and 1996 census geographies.

What was new in Version 2?

Version 2 of *PCCF+ (Geocodes/PCCF)* incorporated several significant improvements over the original version.

- Manual geographic coding was no longer required for records with valid postal codes, except in very rare circumstances (< 1%). Previously, about 10-15% of records with valid postal codes could not be coded to census tract and enumeration area without manual intervention. Now most postal codes for rural routes from urban post offices, for post office boxes (group of boxes), as well as for suburban service and general delivery, could automatically be assigned the full complement of geographic codes available for other types of postal codes.
- Records with postal codes which serve more than one enumeration area--including most rural postal codes and several classes of urban postal codes—were assigned geographic codes based on a household-weighted random allocation among the possible locations. This produced an unbiased allocation of events in relation to the resident population. An alternative program could be chosen which would assign all rural postal codes to village centres.
- Problem records now included better diagnostic and reference information. Fields indicating the source of the matching and the number of different levels of geographic codes assigned were added, in addition to the previously available fields which indicated the type of problem, the number of census divisions and census subdivisions served by the postal code, and the DMT.
- Business and institutional addresses were more clearly identified. The problem records for most such cases showed the building, company, or institutional establishment name and brief address--which helped determine if the postal code corresponds to the client's usual place of residence (or business), or was the result of a keying or reporting error.
- "Most likely" partial geographic coding based on the first two characters of the postal code was suggested (where possible) for records with invalid postal codes. Previously, such coding was attempted only if the first three characters were valid.
- For geographic coding of the location of health facilities and health professionals, an alternate SAS control program (GEOINS4x) and one additional file (RPO) were provided. With the alternate program and file, records with rural postal codes were assigned to the same enumeration area as the rural post office.

How the reference files were produced

To develop the reference files used, the PCCF was pre-processed as follows. First the file was analyzed to determine which postal codes were unique, and which occurred more than once on the file (linked to more than one dissemination area, block or blockface). The unique postal codes were then separated from the duplicate codes. Only the essential fields of the PCCF were retained, to reduce disk storage and memory requirements. Canada Post community names were assigned numeric codes so the names could be moved off to a much smaller, non-redundant auxiliary file. Census subdivision names (but not the corresponding numeric SGC codes) were also removed to a much smaller, non-redundant auxiliary file. Additional reference files were created to show the relationship of the first three characters of the postal code to corresponding census divisions, census subdivisions, census metropolitan areas/census agglomerations, census tracts, enumeration areas, and latitude/longitude. A similar file was created showing the relationship of the first 2 characters of the postal code to the most frequently corresponding census geography and latitude/longitude. Other files were created for matching postal codes to a subset of the 1991, 1996 and 2001 Postal Code Population Weight Files or Weighted Conversion Files (WCF), which are based on census population or household counts by postal codes and census geography. For Version 4, missing block codes are assigned by population-weighted imputation from dissemination area, if available. A building name and address file was constructed to help check the validity of postal codes for problem records related to business, commercial and institutional establishments. Using census data plus visual inspection of building names, postal codes for addresses which are improbable as a place of residence were flagged, as were postal codes for business and institution-type addresses which appear to be possible places of residence. Health region and health district codes were obtained from provincial health departments. When necessary, dissemination area and block approximations to the definitions were created. A file showing neighbourhood income quintiles within each census metropolitan area or census agglomeration (CMACA) or provincial rural and small town areas was created, based on dissemination area summary data from the 2001 census. Community size groups were determined, based on the 2001 census population in each CMACA. Areas outside of any CMACA were taken as the smallest community size group ("rural and small town Canada").

What the package does

The result is a set of related files, which together with the SAS control programs provided, can be used for automated coding of most records with a valid postal code. As long as the postal codes on your incoming file are valid for the addresses, *PCCF+* will generate highly accurate geographic coding for your data. However, because of the nature of the PCCF and WCF, a few classes of valid postal codes still cannot be assigned full geographic identifiers corresponding to a place of residence or place of business. In such cases, as well as for postal codes that do not match exactly to the PCCF or WCF, the first three characters of the postal code are used to try to assign partial geographic identifiers to the extent possible. If that fails, then the first two characters of the postal code are tried.

In each case where *PCCF+* encounters a possible problem with its automated coding, diagnostic codes are output to the problem file, together with any partial geographic identifiers which may have been determined. The program listing prints out the problem records grouped by type of problem; the records themselves follow a brief printed message describing the problem and suggesting how to correct it. Usually the first thing to do is to check the postal code to make sure that it was correctly entered, and to see that the postal code shown is the correct one for the address.

Why it is important to have accurate postal codes

The coding produced by *PCCF+* is only as good as the postal codes on your incoming data file. The *Postal Code Directory* issued by Canada Post, or computerized versions of the directory (available from various sources), can be used to find missing postal codes as well as to validate or correct existing postal codes on your file. With computerized versions, the reverse lookup of address ranges from postal codes is an effective and efficient way of validating postal codes for incomplete or incorrectly spelled addresses. Note that in addition to its troublesome consequences for geographic coding, the absence of a valid postal code on your file could adversely affect any later follow up which might be required. Moreover, the delivery of mail by Canada Post may be delayed or impossible without a valid postal code.

How the matching process works

The routines in GEORES4x are for assigning geographic codes for places of usual residence. Similar routines in GEOINS4x can be used to assign geographic codes for locations of health facilities or offices of health professionals.

The SAS control program for residential coding is explained below; procedures which apply only to office coding are shown in italics:

(1) First, rural postal codes and postal codes served by rural route delivery or suburban services from urban post offices, or which indicate a group of post office boxes or a single post office box are matched to a subset of the Weighted Conversion File (WCF)--consisting of about 75,000 records for 12,000 different postal codes. As most such codes serve more than one dissemination area, the geographic codes are assigned randomly in proportion to the distribution of population with that postal code, as seen in the WCF. *For coding of office locations, etc., the GEOINS4x program omits the rural postal codes from this step, so that they can all be assigned to the same dissemination area as the rural post office.*

(2) Second, remaining postal codes which are unique on the PCCF (only linked to a single dissemination area, block or blockface) are matched to corresponding codes on the incoming HLTHDAT file. There are about 560,000 of these unique codes for all Canada, including most urban postal codes. *For coding of office locations, rural postal codes together with their corresponding post office geography (File RPO) are added at this point, since those records are also unique.*

(3) Then postal codes which are not unique on the PCCF (over 260,000 different postal codes for which about 1.4 million PCCF records exist, including each of the multiple occurrences of the same postal code) are matched to the remaining records from the HLTHDAT file. Most urban postal codes and some rural postal codes which are not unique on the PCCF (in the sense that they link to more than one dissemination area, block or blockface) are nonetheless not ambiguous in terms of higher levels of geography such as CD, CSD or CMA, CT. To avoid "many-to-many" matching, the matching in this part of the program is done in two steps: (a) Each remaining HLTHDAT record (not already matched to the WCF or to the PCCF unique file) is matched by postal code to a pointer file (POINTDUP) which contains a single record for each postal code which occurs more than once on the PCCF. The pointer file shows how many times the postal code occurs, and the physical location (observation number) of the first occurrence of that postal code on the DUPS file. (b) The information on the POINTDUP file is used to match each successive HLTHDAT record with the next occurrence of that postal code on the DUPS file. This has the

effect of distributing events for such postal codes across all possible dissemination areas, blocks or blockfaces which are served by that postal code--with equal weight assigned to each PCCF record.

(4) Because block codes are required for coding of HR SUB FED UARA, missing block codes are now assigned based on population-weighted imputation from the dissemination area code, if that is available.

(5) Error records are then identified and processed as follows: (a) Any record with a postal code which did not match on all 6 characters to the PCCF is identified as an error record (LINK=0). (b) Records with postal codes which matched to the PCCF or WCF, but whose DMT is M or X are also identified as error records (LINK=1), since the PCCF only indicates their post office location. (c) The geographic codes for error records are set to missing values. (d) Using auxiliary files, an attempt is then made to assign highly probable CMA, CD and CSD codes, plus CT and DA for urban postal codes. Coding will be suggested based on the first 3 characters of the postal code (FSA), or failing that, based on the first 2 characters of the postal code. PR (only) may be assigned based on the first character of the postal code.

(6) Health region and health district codes are then assigned by matching to DA, or to DA and BLK, if required.

(7) Neighbourhood income quintiles within each CMA or CA (QAIPPE) are then assigned, based on the DA. Note that neighbourhood income data are not available for DAs made up of institutional collective dwellings.

(8) Community size codes (CSIZE) are then assigned, based on CMA or CA populations from the 2001 census. Statistical area classification type (SACTYPE) codes are assigned, based on the CMA or CA code (for SACTYPEs 1-4) plus the PRCDCSD (for SACTYPEs 5-8). Economic region (ER) codes are assigned, based on the PRCD (or PRCDCSD in Ontario only). Agricultural region (AR) codes are assigned based on PRCD (or PRCDCCS in Saskatchewan only). A residence flag is assigned by matching to PCODE to identify non-residential versus residential postal codes among postal codes whose DMT is E, G or M.

(8b) 1996 enumeration area codes (FEDEA96) codes are assigned using 2001 block to 1996 EA correspondence files.

(9) All records with their corresponding geography (to the extent found) are output to the HLTHOUT file. If some or all geographic codes could not be determined, those fields are set to missing values before writing to the HLTHOUT file. See **Appendix A** for the record layout, and **Appendix C** for an explanation of the fields and codes.

(10) A smaller file (GEOPROB) is then created containing: records with postal codes which could not be matched on all 6 characters (LINK type 0: error); records with postal codes for a Delivery Mode Type (DMT) which is only linked to post office location on the PCCF (LINK type 1: error), and for which census location data were not available on the WCF; records where the DMT frequently indicates a non-residential address (LINK types 3 and 4: warning); records for postal codes known to indicate a non-residential address (LINK type 2: warning); records which could have been assigned more than one CSD based on the unweighted PCCF (LINK type 5: note); records which could have been assigned to more than one CSD based on the WCF (LINK type 6: note). See **Appendix B** for the record layout, and **Appendix C** for an explanation of the fields and codes.

(11) A one page summary of what happened, including the number of records in each link type above is printed in the program listing, together with suggestions as to what to do in each case. The summary also shows the distribution of records by the number of geographic codes which were assigned. See **Appendix D** for sample output.

(12) Frequency counts of the occurrence of each value of the main fields are printed out. This is done first for the entire HLTHOUT dataset, and then for the GEOPROB subset.

(13) The entire problem dataset (GEOPROB) is printed out. In this case, the spacing of the printout mirrors that of the corresponding file. See **Appendix D** for sample output.

(14) The first 500 records from the output dataset (HLTHOUT, including fully coded, partially coded, and uncoded records) are printed out. The printout includes one field which is not present in the output dataset: DISTANCE, which was calculated for illustrative purposes only. See **Appendix D** for sample output.

How the programs deal with multiple matches

Version 4 of *PCCF+* has two different ways of dealing with multiple matches--where a single postal code can be linked to more than one dissemination area, block or blockface. (1) For rural postal codes (with a 0 in the second position) and for urban postal codes with a delivery mode type (DMT) of H, K, M,T and Z, a subset of the WCF is used whenever possible to make a population-weighted random distribution of records among the applicable geographic areas served. In this way, if 75% of the population served by a postal code was known to be in DA 1001, then on average, 75% of the records will be assigned to that DA. Next, within the randomly selected DA, a specific block is selected, using weights based on total block population in the blocks served in whole or in part by the postal code. (2) For other types of postal codes with multiple matches possible, equal weight is given to each dissemination area, block or blockface. Successive events at such a postal code are coded in turn to each applicable dissemination area, block or blockface. *For office coding only, rural postal codes are always assigned to the dissemination area and block to which the PCCF single link indicator (SLI) is assigned.*

In most cases, a full mailing address would not allow any greater accuracy in the determination of CSD, and using only the city or community name line of the address for coding purposes would tend to bias the results towards whichever CSD had a name most similar to that of the postal community. The result would be the often-noted "hot spots" surrounded by "cold spots".

In summary, then, whenever a postal code can be linked to more than one CSD, an explanatory message is printed, the record is output to the problem file (as a Note only), and a systematically selected CSD code is written out to both the main file (HLTHOUT) and the problem file (GEOPROB). *For office coding, links to more than one CSD are rare, since rural postal codes are assigned to the dissemination area and block to which the PCCF SLI is assigned.*

How the programs deal with reuse of postal codes (beginning with Version 3E)

After a period of retirement, postal codes are sometimes rebirthed by Canada Post for reuse at a new location. Such reuse may also entail a change of DMT. Reuse of postal codes occurs most frequently, but not exclusively, in areas undergoing rapid expansion which was not foreseen by Canada Post planners when the FSA structure was initially created. However, in almost all cases, reuse of postal codes occurs within the same FSA, and most frequently within a very short distance of the former use. Thus, reuse of postal codes is not normally a problem, and the birth date and retirement date of postal codes is not part of the usual processing of postal codes in the GEORES4x and GEOINS4x programs. In the late 1990s however, two entire FSAs in British Columbia were first retired, and then moved by Canada Post (approximately 100 km south in the case of V9G, and 400 km south in the case of V1H). So the main programs (GEORES4x and GEOINS4x) were revised to assign only the most current geography to records with those two FSAs. Supplemental programs (R4xOLD and I4xOLD) were written to read the output of the main program, and reassign the old geographic coding where required, based on the vintage of the postal codes (which may be specified by the user). Users with less than current data from British Columbia will thus need to run the main program (eg, GEORES4x) followed by the supplemental program (eg, R4xOLD). The results from the supplemental program are automatically merged back into the data output from the main program. However, if your data do not include postal codes with those FSAs, or if you data only contain postal codes of vintage 19990401 or later, then use of the alternate programs is unnecessary and will have no effect on the coding produced by the regular programs GEORES4x and GEOINS4x.

How to indicate unknown or partially unknown postal codes

If the postal code for a given record does not match exactly to any postal code on the PCCF, *PCCF+* will attempt to assign partial geography based on the first 1, 2 or 3 characters the unmatched postal code. Thus, you should give some thought to how unknown or partially complete postal codes should be indicated on your incoming file. If you were to assign the non-existent postal code H0H0H0 (ho-ho-ho!) to records with missing (and unfindable) postal codes, then those records would all be assigned PR 24 and CMA 462, since nearly all postal codes beginning with H are from metropolitan Montréal, Québec. Even worse, the non-existent postal code H9H9H9 would be assigned to PR 24, CMA 462 and CD 65 (Île de Montréal), since that is the only place legitimate codes beginning with H9H are found. If only the province of residence is known, be sure to indicate the corresponding first letter (for example, B for Nova Scotia) in the initial position of the postal code field, so that the province and region code (PR) will be generated and written to the output files and listings.

How to run *PCCF+*

To do automated geographic coding based on postal codes using *PCCF+* all you need to do is follow steps 1, 2 and 3 at the beginning of this *User's Guide*. The rest of the documentation provides supplementary detail and background information which should be read eventually, but which is not essential to getting started.

Future versions of *PCCF+*

For each new version of the PCCF, which is to be released semi-annually, a corresponding update of *PCCF+* will be produced. Preliminary versions of supplementary files and sample programs for EA<=>DA+BLK translation across census years are now available for testing (contact Russell Wilkins for more information).

Verification of geographic coding produced by *PCCF+*

Table 3 (page 21 shows the population-based error percentages for each level of geography, for coding produced by *PCCF+* Version 3 (R3A) compared to coding from the PCCF Single Link Indicator (SLI), and compared to population-weighted coding from FSA only. In each case, the "gold standard" is a 1% sample of the census population and corresponding postal codes collected in the 1996 Census of Canada. The error percentages are consistently smaller for the *PCCF+* method, compared to the SLI method, at all levels of geography. At the CSD level, for example, the SLI error percentage is three times higher than that produced by *PCCF+*. At the CT level (mostly in urban postal codes areas), the SLI did much better than at the CSD level, but the error percentage was still over 40% higher compared to *PCCF+*.

However, if the only objective is to assign codes as close as possible to the real census DA centroids (whether or not the population is distributed among all applicable areas), then the SLI method may be somewhat more accurate, at least beyond the 75th percentile of distance.

WHERE TO GET HELP

Technical assistance

Any technical problems noted with the functioning of these programs or suggestions for improvements to the programs or documentation should be addressed to Russell Wilkins, Health Analysis and Measurement Group, Statistics Canada, RHC-24A, Ottawa, Ontario K1A 0T6, telephone 1-613-951-5305, fax 1-613-951-3959, email wilkrus@statcan.ca. If corresponding by email, be sure to include your telephone number and mailing address.

Canadian Vital Statistics and Cancer Registry users *only*: For copies of the control programs and/or provincial or regional subsets of the Canada files, or operational problems getting started using the programs, please contact Colette Brassard, Operations and Integration Division--Health, Statistics Canada, JT2-B20, Ottawa, Ontario K1A0T6; telephone 1-613-951-1850, fax 1-613-951-0709, email brassar@statcan.ca. Colette can also handle technical questions related to PC-SAS running under UNIX, DOS or Windows.

Suspected problems with the PCCF

If you have identified possible errors in coding, please look at the SOURCE diagnostic code. If the SOURCE code is F, D or V you may have identified possible errors on the Postal Code Conversion File, so please report these to the Geography Division of Statistics Canada, which is responsible for the creation, maintenance and updates to the PCCF. Include a list of the postal codes which you find suspicious, the geography assigned by the PCCF, and an indication of the nature of the problem (which fields appear to be wrong?). Contact the GeoHelp desk, Geography Division, Statistics Canada, JT3-B6, Ottawa, Ontario K1A0T6, telephone 1-613-951-3889, fax 1-613-951-0569, email geohelp@statcan.ca.

If on the other hand the SOURCE code is C, I , 3, or 2, the problem is not with the PCCF itself, but rather with the supplementary files created by the Health Analysis and Measurement Group. The same applies to problems with the RESFLG or diagnostic codes (LINK, SOURCE, NCSD, NCD, RPF, PREC, NADR, CODER, CPCCODE). For all such cases, contact Russell Wilkins at the address noted above.

ADDITIONAL REFERENCE INFORMATION

Acceptable characters and numbers in Canadian postal codes

The first character must be in A B C E G H J K L M N P R S T V X Y. The third an fifth characters may be any character valid for the first position, plus W and Z. The second, fourth and sixth positions may be any single numeric digit (0-9). Acceptable syntax does not guarantee that the postal code will be valid; many combinations have never been used. See Appendices F1, F2 and F3 for acceptable characters or combinations of characters in the first 1, 2 or 3 positions, respectively.

Filename extensions

The filename extensions have the following meaning:

CAN	Canada
NF or NL	Newfoundland and Labrador
PE	Prince Edward Island
NS	Nova Scotia
NB	New Brunswick
QC	Québec
ON	Ontario
MB	Manitoba
SK	Saskatchewan
AB	Alberta
BC	British Columbia (including data for YT and NT)
YT or YK	Yukon
NT	Northwest Territories
NU	Nunavut
ATL	Atlantic region (NF NS PE NB)
PRA	Prairie region (MB SK AB)
WES	Western region (MB SK AB BC YT NT NU)
DOC	Documentation (in MS Word format)

Abbreviations

Some of the abbreviations used in this documentation and programs are as follows:

ANANAN	Alpha numeric alpha numeric alpha numeric (format of Canadian postal codes)
AR	Census agricultural region (short for PRAR)
BLK	Census block (new for 2001); short for PRCDDA+BLK
BLKF	Blockface (not identified except by latitude longitude and RPF)
BLKURB	Urban block within CMACA area or non-CMACA area
CA	Census agglomeration (included in CMA field)
CCHS	Canadian Community Health Survey
CCS	Census consolidated subdivision (short for PRCDCCS)
CD	Census division (a county-level code; short for PRCD)
CMA	Census metropolitan area (this field also includes CAs)
CODER	*PCCF+* program, version and release (eg, R4A=GEORES4A)
CPCCODE	Canada Post community code (corresponding to a postal community name)
CSD	Census subdivision (a municipal-level code; short for PRCDCSD)
CSDNAME	Name of CSD (unique within province and CSDTYPE).
CSDTYPE	Type of CSD.
CSIZE	Community size code (based on 2001 CMACA population)
CT	Census tract (a neighborhood-level code; unique within CMA)
DA	Census dissemination area; also short for PRCDDA (replaces enumeration area for 2001)
DIAG	Diagnostic fields (in HLTHOUT and GEOPROB files)
DISTANCE	Distance in km between two centroids (shortest or "great circle" distance)
DMTDIFF	Previous DMT if different than current DMT.
DMT	Delivery mode type (specified by Canada Post)
DPL	Designated place (a sub-municipal level code used for unincorporated places; unique within PR)
DPLTYPE	Designated place type.
EA	Enumeration area (also short for PRFEDEA)--only shown for 1996 census geography

EA96UID	1996 enumeration area (PRFEDEA for 1996).
ER	Economic region (formerly "subprovincial region"; short for PRER)
FED	Federal electoral district (unique within PR)
FSA	Forward sortation area (first three characters of postal code)
GEOPROB	SAS dataset name used for the output file containing all problem records (including errors, warnings and notes)
HLTHDAT	SAS dataset name used for the incoming records to be coded
HLTHOUT	SAS dataset name used for the output records after processing
HR	Health region (as defined by provincial health departments)
ID	Identifier (unique identifier or registration number, as defined by user)
INSTFLG	Institutional flag
IPPE	Neighbourhood income per person equivalent (based on 2001 DA summary data)
JCL	Job Control Language (for mainframe computers)
LAT	Latitude (North)
LDU	Local delivery unit (last three characters of the postal code)
LL	Latitude and longitude
LONG	Longitude (West)
NSREL	North-South relationship
OBS	Observations (records in SAS dataset)
PCCF	Postal Code Conversion File
PCODE	Postal code
PR	Province and region
QAIPPE	Quintile of neighbourhood income per person equivalent (within CMACA or residual)
PREC	Precision of geographic coding
PRCDDA	Province, census division and dissemination Area
PRFEDEA	Province, federal electoral district, and enumeration area--latter not shown for 2001
RESFLG	Residence flag
RPF	Representative point flag (indicates if latitude longitude refer to DA, BLK or BLKF)
SACTYPE	Statistical area classification type
SAS	Statistical Analysis System
SERV	Canada Post service type
SGC	Standard Geographic Classification code (PR CD CSD)
SOURCE	Source of geographic codes assigned (C D F I 3 2 I 0 or .)
SLI	Single link indicator (used mainly to avoid multiple matches when weights not used)
SUB	Health district (as defined by provincial health departments)
TRACTED	If centroid is in a census tracted area, then TRACTED=1.
UARA	Urban area, rural area code
WCF	Weighted Conversion File (PCCF-style records with PRCDDA and population-based weights derived from the 2001 and 1996 censuses, and household-based weights derived from the 1991 census)

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Warning and disclaimer

PCCF+ is intended only for authorized users of the PCCF. Installation, use and/or modification of the control program and related files are solely the responsibility of the user. The accuracy and consistency of the geographic coding generated by the package should be tested thoroughly and evaluated by the user--prior to employing the package for production runs.

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Table 2
Distribution of postal codes and census population by delivery mode type (DMT), September 2002 PCCF and May 2001 Census.

Delivery mode type (DMT)	PCCF					Census				
	Pcodes		Records		Rec/Pc	Pcodes		Population		Pop/Pc
	n	%	n	%	av	n	%	n	%	av
Total	823,556	100.0	1,987,055	100.0	2.4	671,797	100.0	29,779,095	100.0	44
Urban post office										
Urban services										
A (ordinary urban)	717,537	87.1	1,264,191	63.6	1.8	638,936	95.1	20,115,945	67.6	31
B (apartments)	17,291	2.1	27,361	1.4	4.6	16,329	2.4	2,561,093	8.6	157
E (business, etc)	9,193	1.1	25,003	1.3	2.7	2,364	0.4	28,803	0.1	12
G (gov, inst, etc)	8,284	1.0	24,299	1.2	2.9	2,303	0.3	83,971	0.3	36
M (single PO box)	5,052	0.6	19,690	1.0	3.9	900	0.1	16,438	0.1	18
Rural services from urban PO										
H (rural route from urban PO)	996	0.1	58,459	2.9	58.7	1,014	0.2	859,807	2.9	848
J (general delivery)	645	0.1	2,425	0.1	3.8	282	0.0	3,311	0.0	12
K (group of PO boxes)	7,239	0.9	31,681	1.6	4.4	4,402	0.7	231,686	0.8	53
T (suburban service)	77	0.0	1,357	0.1	17.6	60	0.0	15,044	0.1	251
X (mobile route)	1	0.0	62	0.0	62.0	1	0.0	179	0.0	179
Z (retired)	52,064	6.3	203,759	10.3	3.9	15	0.0	282	0.0	19
Rural post office										
W (rural PO, *all service types*)	5,177	0.6	328,768	16.5	63.5	5,191	0.8	5,862,536	19.7	1,129

Note: PCCF Sept 2002. May 2001 census postal codes (with DMT from May 2001).

Table 3
Comparison of population-based coding errors using *PCCF+* Version 3 (GEORES3A) versus coding errors using the PCCF single link indicator (SLI), versus coding errors using FSA-based imputation (FSA)

Level		FSA %	SLI %	R3A %	Diff SLI-R3A	Ratio SLI/R3A
PR	Province	0.0	0.1	0.1	0.0	1.00
CD	Census Division	0.5	0.6	0.3	0.3	2.00
CSD	Census Sub-division	4.7	9.4	3.2	6.2	2.94
CMA	Census Metropolitan Area /Census Agglom.	0.3	0.4	0.2	0.2	2.00
CT	Census Tract	11.6	2.7	1.9	0.8	1.42
EA	Enumeration Area	41.8	33.6	15.8	17.8	2.13
DPL	Designated Place – applicable areas only	30.3	50.9	20.0	30.9	2.55

Note: Population-based coding errors were defined as the sum over all areas at this level of the absolute value of the population coded less the population known from the census sample, expressed as a percentage of the total population in all areas at this level. Based on simple 1% sample of individuals in the 1996 total population. Error percentages calculated after improbable census postal codes excluded from sample.

LIST OF APPENDICES

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APPENDIX A:
RECORD LAYOUT OF THE HLTHOUT FILE

```
DATA HLTHOUT;SET HLTHOUT;FILE HLTHOUT;
PUT
  @ 1  ID        $CHAR12./* RECORD IDENTIFICATION (AS INPUT)          */
  @13  PCODE     $CHAR6. /* POSTAL CODE (AS INPUT)                   */
  @19  RESFLG    $CHAR1./* RESIDENCE FLAG ON PCODES IF DMT=E,G,M      */
  @20  PR        $CHAR2./* PROVINCE CODE (99=UNKNOWN)                */
  @22  CD        $CHAR2./* CENSUS DIVISION CODE (00=UNKNOWN)         */
  @24  CSD       $CHAR3./* CENSUS SUBDIVISION CODE (999=UNKNOWN)     */
  @28  CMA       $CHAR3./* CMA OR CA CODE (999=UNKNN;000=NOT APPL)   */
  @32  CT        $CHAR6./* CENSUS TRACT--URBAN CT'S ONLY             */
  @39  DA        $CHAR4./* DISSEMINATION AREA (9999=MISSING)         */
  @43  BLK       $CHAR2./* BLOCK (.9=MISSING)                       */
  @45  INSTFLG   $CHAR1./* INSTITUTIONAL FLAG                        */
  @46  LAT           Z8./* LATITUDE DEGREES(2)+DECIMALS(6)          */
  @54  LONG          Z9./* LONGITUDE DEGREES(3)+DECIMALS(6)         */
  @64  DPL       $CHAR3./* DESIGNATED PLACE (000=NOT APPL;999=UNKN)*/
  @67  DMTDIFF   $CHAR1./* PREVIOUS OR ALTERNATE DMT IF DIFFERENT   */
  @68  DMT       $CHAR1./* DELIVERY MODE TYPE:                      */
  @69  LINK      $CHAR1./* LINK TYPE (INCREASING CONFIDENCE)         */
  @70  SOURCE    $CHAR1./* SOURCE OF GEOGRAPHIC CODES                */
  @71  NCSD          1./* NUMBER CSD POSSIBLE AT THIS PCODE 1-9+    */
  @72  NCD           1./* NUMBER CD POSSIBLE AT THIS PCODE 1-9+     */
  @73  RPF       $CHAR1./* REPRESENTATIVE POINT (CENTROID) FLAG      */
  @74  SERV      $CHAR1./* SERVICE TYPE                             */
  @75  PREC      $CHAR1./* PRECISION OF LAT LONG (0=LEAST;9=MOST)   */
  @76  NADR          1./* NUMBER OF ADDRESS RANGES FOR THIS PCODE   */
  @78  CODER     $CHAR3./* CODER: 'R4A'=GEORES4A SEPT 2002 PCCF     */
  @82  CPCCODE   $CHAR4./* CANADA POST COMMUNITY CODE (SEQUENTIAL)   */
  @87  HR        $CHAR2./* HEALTH REGION CODE (UNIQUE WITHIN PR)                */
  @89  SUB       $CHAR3./* HEALTH DISTRICT CODE (UNIQUE IN PR/PR+HR (QC ONLY)  */
  @93  CSIZE     $CHAR1./* COMMUNITY SIZE CODE (BASED ON CMACA 2001 POP)       */
  @95  QAIPPE    $CHAR1./* NEIGHBOURHOOD INCOME QUINTILE (WITHIN CMACA)        */
  @97  SACTYPE   $CHAR1./* STATISTICAL AREA CLASSIF TYPE (INCL TRACTED, MIZ)   */
  @99  NSREL     $CHAR1./* NORTH-SOUTH RELATIONSHIP                           */
  @101 BLKURB    $CHAR1./* URBAN BLOCK INDICATOR (1=URBAN; 0=RURAL; 9=MISSING)*/
  @103 FED1996   $CHAR3./* FEDERAL ELECTORAL DIST, 1996 LIST (UNIQUE IN PR)   */
  @107 ER        $CHAR2./* ECONOMIC REGION (UNIQUE WITHIN PR)                 */
  @110 AR        $CHAR2./* CENSUS AGRICULTURAL REGION (CROP DIST)-UNIQUE IN PR*/
  @113 CCS       $CHAR3./* CENSUS CONSOLIDATED SUBDIVISION (UNIQUE WITHIN PR) */
  @117 EA96UID   $CHAR8./* PR(2)+FED1987(3)+EA(3) FOR 1996 CENSUS GEOGRAPHY   */
  @126 FED2003   $CHAR3./* FEDERAL ELECTORAL DIST, 2003 LIST (UNIQUE IN PR)   */
 /* THE FOLLOWING FIELDS APPLY TO ALTERNATE PROGRAMS R4XOLD I4XOLD ONLY:      */
  @130 BTHDATC  $CHAR6.  /* YYYYMM OF PCCF PCODE BIRTH DATE                  */
  @137 RETDATEC $CHAR6.  /* YYYYMM OF PCCF PCODE RETIREMENT DATE             */
  @144 PCVDATC  $CHAR6.; /* YYYYMM OF USERS' PCODE VINTAGE                   */
```

The dataset HLTHOUT is sorted first by ID, then by PCODE. If the incoming file HLTHDAT contains any records with identical ID+PCODE, only a single example of each such records will be processed. Then when the HLTHOUT records are merged back to the main file, every record with the same ID+PCODE will be assigned the same geographic codes, even if more than one set of geographic codes were possible for that postal code.

APPENDIX B:
RECORD LAYOUT OF THE GEOPROB FILE

```
DATA GEOPROB;SET GEOPROB;BY LINK;FILE GEOPROB;
PUT
 @  1 ID        $CHAR12./* RECORD IDENTIFICATION (AS INPUT)          */
 @ 13 PCODE     $CHAR6. /* POSTAL CODE (AS INPUT)                   */
 @ 19 RESFLG    $CHAR1. /* RESIDENCE FLAG ON PCODES IF DMT=E,G,M    */
 @ 20 PR        $CHAR2. /* PROVINCE CODE (99=UNKNOWN)               */
 @ 22 CD        $CHAR2. /* CENSUS DIVISION CODE (00=UNKNOWN)        */
 @ 24 CSD       $CHAR3. /* CENSUS SUBDIVISION CODE (999=UNKNOWN)    */
 @ 28 CMA       $CHAR3. /* CMA OR CA CODE (999=UNKN;000=NOT APPL)   */
 @ 32 CT        $CHAR6. /* CENSUS TRACT--URBAN CT'S ONLY (NO PCT)   */
 @ 39 DA        $CHAR4. /* DISSEMINATION AREA (9999=UNKNOWN)        */
 @ 43 BLK       $CHAR2. /* BLOCK (00=UNKNOWN)                       */
 @ 45 INSTFLG   $CHAR1. /* INSTITUTIONAL FLAG                       */
 /* NOTE: GEOPROB HAS DIFF LAYOUT FROM HLTHOUT BEGINNING WITH LAT */
 @ 46 LAT       $CHAR2. /* LATITUDE DEGREES(2)                      */
 @ 48 LONG      $CHAR2. /* LONGITUDE DEGREES(3)/10=(2)              */
 @ 51 HR        $CHAR2. /* HEALTH REGION CODE (UNIQUE WITHIN PR)    */
 @ 53 SUB       $CHAR3. /* HLTH DIST CODE (UNIQUE IN PR /PR+HR(QC))*/
 @ 57 DPL       $CHAR3. /* DESIGNATED PLACE (999=UNKN;000=NOT APPL)*/
                /* DIAGNOSTIC FLAGS:                                */
 @ 61 DMTDIFF   $CHAR1. /* PREVIOUS DMT IF DIFFERENT                */
 @ 62 DMT       $CHAR1. /* DELIVERY MODE TYPE                       */
 @ 63 LINK      $CHAR1. /* LINK TYPE                                */
 @ 64 SOURCE    $CHAR1. /* SOURCE OF GEOGRAPHIC CODES               */
 @ 65 NCSD       1.     /* NUM CSD POSSIBLE AT THIS PCODE/FSA/FSA12*/
 @ 66 NCD        1.     /* NUM CD POSSIBLE AT THIS PCODE/FSA/FSA12 */
 @ 67 RPF       $CHAR1. /* REPRESENTATIVE POINT (CENTROID) FLAG     */
 @ 68 SERV      $CHAR1. /* SERVICE TYPE                             */
 @ 69 PREC      $CHAR1. /* PRECISION (0=LEAST;9=MOST)               */
 @ 70 NADR       1.     /* NUMBER OF ADDRESS RANGES FOR THIS PCODE */
 /* NO OTHER FIELDS OF HEALTHOUT PRESENT IN THE GEOPROB FILE       */
 /* FOLLOWING 3 FIELDS ONLY PRESENT IN GEOPROB FILE:               */
 @ 72 ADR      $CHAR50. /* BLDG NAME, STREET ADR, CITY             */
 @123 CSDNAME   $CHAR8. /* FIRST 8 CHARACTERS OF CSD NAME          */
 @131 CSDTYPE   $CHAR2.;/* CSDTYPE WITH '*' REPLACING TRAILING ' ' */
```

The dataset GEOPROB is sorted first by LINK, then by RESFLG, DMT (or DMTDIFF if DMT='Z'), PCODE, PR, CD, CSD, DA, BLK and ID. That ensures that records with similar types of problems will be grouped together, which will facilitate corrections.

APPENDIX C:
EXPLANATION OF FIELDS AND CODES
APPEARING IN THE OUTPUT FILES AND PRINTOUTS

Except as noted, the following fields appear on both of the output files (HLTHOUT and GEOPROB) produced by *PCCF+*. When the same field appears on both files, it does *not* necessarily appear in the same position.

Identification (ID)

```
@  1 ID      $CHAR12.  /* ID OR REGIST NUMBER (AS INPUT) */
```

Record identification. This field will appear exactly as read in from the HLTHDAT file, including leading or trailing blanks, if any, plus all numbers, letters and special characters. The ID can be any combination of alphabetic, numeric or other characters.

Postal Code (PCODE)

```
@ 13 PCODE    $CHAR6.   /* POSTAL CODE (ANANAN) */
```

Postal code. The first three characters of the postal code represent the Forward Sortation Area (FSA). The last three characters represent the Local Delivery Unit (LDU). A zero (0) in the second position of the postal code indicates service from a *rural* post office. Rural route services and suburban route services are also provided from *urban* post offices (where the second position of the postal code is not 0), in which cases the PCCF will show a Delivery Mode Type (DMT) of H (rural route service) or T (suburban route service).

Lower case alphabetic characters in the postal code field will be converted to upper case prior to matching.

If the province of residence is known (but nothing else), then the first letter of the postal code on your incoming file should correspond to the first letter for that province as assigned by Canada Post (for example, use B for a Nova Scotia resident of unknown address).

Residence Flag on Postal Code if DMT is E, G or M (RESFLG)

```
@ 19 RESFLG   $1.    /* RESIDENCE FLAG ON PCODES IF DMT=E,G,M:  */
                     /* '@' POSSIBLE RESIDENCE                  */
                     /* '-' IMPROBABLE RESIDENCE                */
                     /* '?' DMT=E,G,M BUT RES UNDETERMINED      */
                     /* ' ' DMT NOT IN (E,G,M)                  */
```

If the delivery mode type is E, G or M, then RESFLG indicates postal codes for possible or improbable residence addresses, or postal codes for which the residential or non-residential nature is undetermined. If the DMT is not in E, G or M, then RESFLG will be blank. See GEOPROB output (`@72 ADR $CHAR50.`) for Canada Post building name and address information, if available.

Province, Census Division and Census Subdivision (PRCDCSD)

This field is composed of three subfields:

```
@ 20 PR       $CHAR2.  /* PROVINCE CODE           */
@ 22 CD       $CHAR2.  /* CENSUS DIVISION CODE    */
@ 24 CSD      $CHAR3.  /* CENSUS SUBDIVISION CODE */
```

The form of this field tells you how much is known, and how much is unknown about each of the three subfields. The output will have one of the following forms (where each "n" represents a number from 0 through 9):

nnnnnnn	PR CD and CSD known
nnnn999	PR and CD known, CSD unknown
nn00999	PR known, CD and CSD unknown
9900999	PR CD and CSD unknown

See the 2001 *Standard Geographical Classification* (SGC) for lists of valid codes for PR PRCD and PRCDCSD. A missing CD is indicated by 00 (since 99 is a legitimate CD code in northern Quebec); other missing fields for SGC are filled with '9's. Files `CDNAMES` and `CSDNAMES` show the names of each CD and CSD.

Census Metropolitan Area/Census Agglomeration and Census Tract (CMACT)

This field is composed of two subfields:

```
@ 28 CMA       $CHAR3.    /* CMA OR CA CODE (000=NONE; 999=UNKNOWN)  */
@ 32 CT        $CHAR6.2   /* CENSUS TRACT (000=NOT APPL;999.99=MISSING) */
```

The form of this field tells you how much is known, and how much is unknown about each of the subfields. The output will have one of the following forms (where each "n" represents a number from 0 through 9):

000 000.00	Not in any CMA or CA
nnn nnn.nn	CMA/CA with urban Census Tract
nnn 999.99	CMA/CA with urban Census Tract, but CT unknown
999 999.99	CMA/CA unknown, and CT unknown (if any)

Note that CMA codes 996-999 as shown in *2001 GeoSuite* are not true CMA codes as defined by the 2001 Standard Geographic Classification, but rather Metropolitan Influence Zones (MIZ). Only true CMA codes are shown here, plus 999 for unknown CMA, and 000 for not in any CMA (or CA).

Dissemination Area (DA)

```
@ 39 DA        $CHAR4.   /* DISSEMINATION AREA (UNIQUE WITHIN PRCD); 9999=MISSING */
```

The dissemination area is the smallest geographic unit for which population characteristics are diffused from the 2001 census. In previous censuses, that role was filled by the enumeration area, but for the 2001 census, the enumeration area was used for collection purposes only.

Block (BLK)

```
@ 43 BLK      $CHAR2.   /* DISSEMINATION BLOCK (UNIQUE WITHIN PRCDDA); 00=MISSING */
```

A dissemination block is an area bounded on all sides by roads and/or boundaries of standard geographic areas. Blocks cover all the territory of Canada. The block is the smallest geographic area for which population and dwelling counts are disseminated. There may be as many as 99 blocks within a DA, so the missing value for block is a period.

Institutional Flag (INSTFLG)

```
@ 45 INSTFLG  $1. /* INSTITUTIONAL FLAG                          */
                  /* E=SCHOOL OR UNIVERSITY RESIDENCES          */
                  /* H=HOSPITALS                                */
                  /* I=HOSPITALS (ONLY FROM BUILDING NAME)      */
                  /* N=NURSING HOMES                            */
                  /* S=SENIORS RESIDENCES                       */
                  /* P=PRISONS, JAILS                           */
                  /* U=OTHER                                    */
                  /* BLANK=NOT APPLICABLE (AREA NOT PREDOM INST)*/
```

This field is used to help identify records likely to be for institutional residents. It is usually blank. The categories should not be expected to correspond to the classification of facilities used by the Health Statistics Division, provincial or territorial authorities.

Beginning with the following fields, the record layout of the GEOPROB file differs from that of the HLTHOUT file. Where fields are common to both files, only the layout for the HLTHOUT file is shown as program lines, although differences in the GEOPROB file may be mentioned in the field description and shown within square brackets.

Latitude and longitude (LAT LONG)

```
@ 46 LAT      Z8.  /* LATITUDE  DEGREES(2)+DECIMALS(6) */ [@ 46 LAT  Z2. on GEOPROB file]
@ 53 LONG     Z9.  /* LONGITUDE DEGREES(3)+DECIMALS(6) */ [@ 48 LONG Z2. on GEOPROB file]
```

Latitude and longitude. If SOURCE=F, D, C or I, then the latitude and longitude shown refer to dissemination area, block or blockface coordinates (the RPF field tells you which, and the PREC field indicates the spatial precision of the coding). If

SOURCE=1, 3 or 2, then the latitude and longitude shown will be the average latitude and longitude of all postal codes in that FSA or aggregate of FSAs. The latter are clearly only approximate locations, so the corresponding distance calculations will also be only approximate. If the first two characters of the postal code were invalid, then latitude and longitude will be unknown, and each field will contain a single period ("."), which indicates a missing numerical value. Exceptionally for these two fields, 99999999 and 999999999 are not used to indicate missing values, since those would have been taken as legitimate values for the distance calculations, thus resulting in extreme distances, rather than missing distances. Note that in the GEOPROB file, in order to conserve space only two places after the implied decimal are shown.

Designated Place (DPL)

```
 @ 64  DPL    $CHAR3. /* DESIGNATED PLACE (999=UNKN;000=NONE) */
[@ 57  DPL    $CHAR3. on GEOPROB file]
```

The Designated Place (DPL) field is for a generally submunicipal level geography which was new with the 1996 census. For 2001, 1261 DPLs have been defined--only in some provinces--as a group of census blocks which refer to an unincorporated place usually within a single census subdivision (CSD), but some (84) cross CSD boundaries, of which a few (12) also cross census division (CD) boundaries. Note that because DPLs mostly occur in areas served by rural postal codes (where a single postal code serves a group of DAs and many census blocks), such areas are difficult or impossible to define with reasonable accuracy in terms of postal codes alone. File DPLNAMES shows the names of the DPLs assigned by provincial authorities.

Diagnostic flags (DMTDIFF, DMT, LINK, SOURCE, NSCD, NCD, RPF, SERVE, PREC, NADR)

Note: There are now 10 characters (with no spaces between them) for diagnostic flags on both the HLTHOUT and GEOPROB files. These diagnostic flags are for DMTDIFF, DMT, LINK, SOURCE, NCSD, NCD, RPF, SERV, PREC and NADR. In addition, the GEOPROB file and printout will show truncated address information (if applicable), or Designated Place Name (if applicable), or Canada Post Community Name or Census Division Name, and Census Subdivision Name and Census Subdivision Type (if known or estimated from partial matching).

Different Delivery Mode Type (DMTDIFF)

```
 @ 67 DMTDIFF  $1. /* PREVIOUS OR ALTERNATE DMT IF DIFFERENT */
[@ 61 DMTDIFF  $1. on GEOPROB file]
```

This field is for the previous Delivery mode type (DMT) if different from the current DMT. This usually occurs when the current DMT=Z (retired).

Delivery Mode Type (DMT)

```
 @ 68 DMT      $1.  /* DELIVERY MODE TYPE */ [@ 62 DMT $1. on GEOPROB file]
```

The Delivery Mode Type is a single character which will be W if delivery is from a rural post office, or will be another alphabetic character if delivery is from an urban post office, or 9 if DMT is missing or not applicable. The Delivery Mode Type is determined by Canada Post, except that, beginning with Version 3 of *PCCF+*, W is always used in place of blank for delivery from a rural post office.

W Rural postal codes (regardless of type of service) now always have a DMT of W. Where more than 1 CSD is served by the rural post office, this will result in a Note to that effect on the GEOPROB file. No action is recommended in such cases, since manual coding would defeat the population-weighted allocation.

A Ordinary household (including community mail boxes) served by letter carrier. The most common DMT; usually no problem.

B Apartment building (large) served by letter carrier. No problem with this DMT.

E Business buildings served by letter carrier. This DMT results in a Warning message, with the suggestion to check postal code/address, to see if they refer to a legitimate residence or office location. In most cases, the RESFLG field will indicate whether the postal code is probable or improbable as a place of residence. The building name and brief address are shown on the GEOPROB file. The legitimacy of a postal code with this DMT may also depend on the nature of the records being coded: appropriate codes for offices are not necessarily appropriate for residences.

G Large Volume Receiver served by letter carrier (includes many institutions). This DMT results in a Warning message, with the suggestion to check postal code/address, to see if they refer to a legitimate residence or office location. In most cases, the RESFLG field will indicate whether the postal code is probable or improbable as a place of residence. The building, company or institution name and brief address will be shown on the GEOPROB file. The legitimacy of postal codes with this DMT may also depend on the nature of the records being coded: appropriate codes for offices are not necessarily appropriate for residences. For example, a postal code for a nursing home may be reasonable for coding the place of usual residence on a death record, but it would be highly suspicious on a birth record.

Special note concerning Delivery Mode Types H, J, K, M, R and T: Except on rare occasions, it is no longer necessary to manually recode records with a DMT of H (for rural route delivery from an urban post office), J (General Delivery--pick up from post office counter), K (pick-up from group of post office boxes), or T (suburban service delivery). Most postal codes with those DMTs can now be assigned a full set of geographic codes by reference to the WCF (SOURCE=C). That also applies to many postal codes with DMT of M (pick up from a single large post office box) and R (miscellaneous services; no longer used by Canada Post).

H Rural route delivery from urban post office. For most rural routes, the WCF shows the 2001 Census 2A population weights associated with each PCODE/PRCDDA combination. As rural routes serve large areas, more than one CSD or CD may be linked to a postal code with this DMT, in which case the record will be output to the GEOPROB file with a Note to that effect. If the SOURCE is not equal to 'C', then only PR and CMA will be imputed from FSA, since the service area of these postal codes extends out into adjacent rural FSAs.

J General delivery (poste restante). Residence location may be available from census data (WCF, SOURCE=C). Otherwise, this DMT will result in an Error, and the only geographic codes assigned would be based on population-weighted imputation within the FSA (SOURCE=I) or on "most likely" values for the FSA (SOURCE=3).

K Group of post office boxes. Residence location may be available from census data (WCF). Otherwise, this DMT will result in an Error, and the only geographic codes assigned would be based on population-weighted imputation within the FSA (SOURCE=I) or on "most likely" values for the FSA (SOURCE=3).

M Single post office box. If present on the WCF (SOURCE=C), will be fully coded. In most cases, the RESFLG field will indicate whether the postal code is probable or improbable as a place of residence. The building, company or institution name and brief address will be shown on the GEOPROB file. If not present on the WCF, postal codes with this DMT will result in an Error, since the PCCF only links postal codes with this DMT to post office location. In that case the only geographic codes which could be assigned would be imputed from population-weighted imputation within the FSA (SOURCE=I), or on based on "most likely" values for the FSA (SOURCE=3).

R Miscellaneous delivery services. Residence location may be available from census data (WCF). Otherwise, this DMT will result in an Error, as the regular PCCF only links these to post office location, and the only geographic codes which could be assigned would be based on "most likely" values for the FSA. *DMT R is no longer used by Canada Post, but it may appear in the field for previous DMT.*

T Suburban service delivery (rare). Residence location may be available from census data (WCF). Otherwise, this DMT will result in an Error, as the regular PCCF only links these to post office location, and the only geographic codes which could be assigned would be based on "most likely" values for the FSA.

DMT=X is only linked to post office location, and thus results in an Error message as well as output to the GEOPROB file. However, since in such cases the first three characters of the postal code are known to be valid, then a "most likely" PR and CMA may often be imputed and an average LAT and LONG for the FSA would be assigned by the programs.

X Mobile route (urban industrial areas; rare). This DMT will result in an Error, as the regular PCCF only links these to post office location, and the only geographic codes which could be assigned would be based on "most likely" values for the FSA.

W Rural postal codes. Usually geography for records with rural postal codes will be derived from the Weighted Conversion File (SOURCE=C).

Z Retired postal codes. Usually the DMTDIFF field will show the previous DMT for retired postal codes. If so, the LINK and other diagnostic codes make use of the DMTDIFF. However, if DMTDIFF is blank, then there is a slight chance that a currently retired postal code may have formerly had a DMT of E, G, M or X, so this condition will result in output of the record to the problem file with a Warning message to that effect.

9 Not applicable. No exact match to the PCCF or WCF, hence DMT is unknown. These will result in an Error message as well as output to the GEOPROB file. A partial set of geographic codes may still be assigned based on the first 1, 2 or 3 characters of the postal code (SOURCE=1, 2, 3 or I).

Link type code (LINK) - (formerly PROB prior to Version 4)

```
@ 69 LINK  $1.  /* LINK TYPE (INCREASING CONFIDENCE) */ [@ 63 LINK $1. on GEOPROB file]
```

The meanings of the numbers in this field are as follows:

0 Error: No match to PCCF (UNIQ, DUPS, or WCF).
1 Error: Linked to PO geography.

2 Warning: Non-residential. DMT=E, G or M and EGMRES=- (probable non-residential).
3 Warning: Business building (may possibly not be a legitimate residence). DMT=E and EGMRES=blank.
4 Warning: Commercial or institutional (check if legitimate residence). DMT=G or M and EGMRES=blank.
5 Warning: Retired postal code (slight chance of DMT problem prior to retirement, if DMT=Z, and DMTDIFF=blank).
6 Note: Multiple match to CSD. CSD assigned by random allocation among possible CSDs shown in PCCF, with equal weight to each DA or BLK served. No further action required.
7 Note: Multiple match to CSD. CSD assigned by random allocation among possible CSDs shown in WCF, based on distribution of population by postal code and DA at the time of the 2001 census (no further action required).
9 Not applicable (no error, warning or note). *Such records do not appear on the GEOPROB file or printout.*

The link type code identifies the type of problems encountered in coding. The link type codes (LINK) and corresponding messages (MESSAGE) are arranged in hierarchical order, starting with 0 for the most serious problems, and going to 9 for no problem at all (not even a Warning or Note). If more than one type of problem was present, only the worst type is shown.

Source of Geographic Codes (SOURCE)

```
@ 70 SOURCE  $1. /* SOURCE OF GEOGRAPHIC CODES AND LAT/LONG */ [@ 64 SOURCE $1. on GEOPROB file]
```

The possible values of this field are as follows:

I A full set of geographic codes and latitude/longitude were derived from an exact match to a PCCF unique record.
D A full set of geographic codes and latitude/longitude were derived from an exact match to a PCCF duplicate record.
C A full set of geographic codes and latitude/longitude were derived from an exact match to a WCF record (for DMT of H, J, K, some M, R, T, W, or Z).
I Full geography was imputed from the first 3 characters of a postal code (when DMT=9 or most M), using census population weights.
3 A partial set of geographic codes was assigned based on only the first 3 characters of this postal code (if 90% certain). Average latitude and longitude of the FSA were assigned.
2 A partial set of geographic codes were assigned based on only the first 2 characters of this postal code. Average latitude and longitude of the FSA12 were assigned (if 90% certain). CT and DA+BLK always set to missing values. All of the records with this SOURCE are due to unknown (non-existent) postal codes.
1 A province code was assigned based on only the first character of this postal code. No other geographic codes or latitude and longitude were assigned. All of the records with this SOURCE are due to unknown (non-existent) postal codes.
0 The first character of this postal code is not in the set used for Canadian postal codes. No geographic codes assigned.
V A full set of geographic codes and latitude/longitude were derived from an exact match to a PCCFUNIQ record for a postal code with an FSA of V1H or V9G, including geography from the period prior to the rebirth of those FSAs in their new locations. This SOURCE only occurs where the program R4xOLD or I4xOLD is used to recode British Columbia FSAs which were moved by Canada Post.

Coding Completing Summary Code (CCSUM)

In Versions 3 and 4, this field is not present in either output file, but is calculated for frequency tables in the printouts. This field shows how many geographic codes were assigned. It is the sum over all of the coding completion variables, which each have a value of 1 if a given geographic code was assigned.

0 No geographic codes were assigned, or latitude and longitude.
1 One geographic code was assigned: a province code, with no latitude or longitude.
2 Two geographic codes were assigned: a province and Census Division or Census Metropolitan Area / Census Agglomeration code, plus an average latitude and longitude for the FSA or aggregate of FSAs.
3 Three geographic codes were assigned: province, Census Division and Census Subdivision; or province, Census Division and Census Metropolitan Area or Census Agglomeration, plus an average latitude and longitude for the FSA or aggregate of FSAs.
4 Four geographic codes were assigned: province, Census Division, Census Subdivision, and Census Metropolitan Area or Census Agglomeration, plus an average latitude and longitude for the FSA or aggregate of FSAs.
6 Six geographic codes were assigned: province, Census Division, Census Subdivision, Census Metropolitan Area or Census Agglomeration, Census Tract (if applicable) and Dissemination Area, plus the latitude and longitude of the Dissemination Area.
7 All 7 geographic codes were assigned: province, census division, census subdivision, census metropolitan area or census agglomeration, dissemination area, and census block, plus the latitude and longitude of the block or blockface.

Number of Census Subdivisions (NCSD)

```
@ 71 NCSD   1. /* NUMBER CSD POSSIBLE AT THIS PCODE (1-9+) */ [@ 65 NCSD  1. on GEOPROB file]
```

This field indicates the number of Census Subdivisions served in whole or in part by this postal code. A value of 9 indicates 9 or more. Most urban postal codes serve only one Census Subdivision.

Number of Census Divisions (NCD)

```
@ 72 NCD    1. /* NUMBER CD POSSIBLE AT THIS PCODE (1-9+) */ [@66 NCD  1. on GEOPROB file]
```

This field indicates the number of Census Divisions served in whole or in part by this postal code. A value of 9 indicates 9 or more. Most urban postal codes serve only one Census Division.

Representative Point Flag (RPF)

```
@ 73 RPF  $1. /* REPRESENTATIVE POINT FLAG                          */ [@67 RPF $1. on GEOPROB file]
              /* FOR LAT & LONG CENTROID (REP POINT):               */
              /* 1=BLOCKFACE REP POINT                              */
              /* 2=BLK REP POINT DETERMINED BY PCCF                 */
              /* 3=BLK REP POINT IMPUTED W/IN DA (SOURCE=F D)       */
              /* 4=BLK REP POINT IMPUTED W/IN PCODE (SOURCE=C)      */
              /* 5=DA  REP POINT IMPUTED W/IN PCODE (SOURCE=C)      */
              /* 6=DA  REP POINT IMPUTED W/IN FSA   (SOURCE=I)      */
              /* 8=AV LAT LONG FOR FSA/PART (SOURCE= 3 2 1)         */
              /* 9=REP POINT MISSING                                */
```

Service Type (SERV)

```
@ 74 SERV   $1. /* SERVICE TYPE (1,2=WITH STREET ADR)              */ [@68 SERV $1. on GEOPROB file]
                /* 1=STREET ADR W/ LETTER CARRIER SERVICE          */
                /* 2=STREET ADR W/ ROUTE SERVICE                   */
                /* 3=PO BOX                                        */
                /* 4=ROUTE SERVICE W/O STREET ADR                  */
                /* 5=GENERAL DELIVERY                              */
                /* 9=UNKNOWN (WHEN SOURCE=I 3 2 1)                 */
                /* 0=UNKNOWN (WHEN SOURCE=F D C)                   */
```

Precision (PREC)

```
@ 75 PREC  $1. /* PRECISION OF LAT LONG (0=LEAST;9=MOST)        */ [@69 PREC $1. on GEOPROB file]
               /* 9=1  BLKF      IN 1 DA; DMT IN (A B E G)       */
               /* 8=1  BLK       IN 1 DA; DMT IN (A B E G)       */
               /* 7=1  DA;                DMT IN (A B E G)       */
               /* 6=2+ DA'S;              DMT IN (A B E G)       */
               /* ABOVE SERVICE POINTS < 200 M DIST              */
               /*    SO DA'S ADJACENT AND FSW                    */
```

```
/* 5=1+ DA'S; IMT IN (8-2), FROM WCF FOR WEIGHTS */
/* 4=DA, ETC IMPUTED FROM FSA POP WEIGHTS        */
/* 3=CODES IMPUTED FROM FSA   W/OUT WT           */
/* 2=CODES IMPUTED FROM FSA12 W/OUT WT           */
/* 1=PR    IMPUTED FROM FSA1                     */
/* 0=NO GEOGRAPHIC CODING POSSIBLE (NOT EVEN PR) */
```

Number of Address Ranges (NADR)

```
@ 76 NADR  1.;/* NUMBER ADRRESS RANGES FOR THIS PCODE (1-9+) */ [@70 NADR  1. on GEOPROB file]
```

This field indicates the number of address ranges served by this postal code. A value of 9 indicates 9 or more. The address ranges may be on different streets. Only the first or last address range (if applicable) is shown in the problem file output and printout

The following two fields (CODER and CPCCODE) are not present on the GEOPROB file:

Coder (CODER)

```
@ 78 CODER  $3. /* CODER: R4A=GEORES4A SEPT 2002 PCCF */ [ not on GEOPROB file]
```

The *PCCF+* program and version is indicated by the CODER field. For example, CODER I4A indicates that the GEOINS program was run using the September 2002 vintage of the PCCF. Information about the coder is necessary for interpretation of the Canada Post Community Code (CPCCODE), and for understanding why certain categories of postal codes were coded the way they were. Using the wrong program to do the coding (GEORES for office coding, or GEOINS for residential coding—the opposite of what was intended) could easily go undetected without this field.

Canada Post Community Code (CPCCODE)

```
@ 82 CPCCODE $CHAR4./* CANADA POST COMMUNITY CODE (SEQUENTIAL)       */ [not on GEOPROB file]
                    /* WARNING: THIS CODE CHANGES WITH EACH VINTAGE  */
                    /* OF PCCF, SO MUST ONLY BE USED WITH CPCNAMES   */
                    /* FILE ASSOCIATED WITH ABOVE CODER              */
                    /* WILL BE MISSING IF SOURCE=C                   */
                    /* NOTE:  TO REGENERATE PROBLEM FILE FROM GEOG1: */
                    /*   IF LINK LT 5; MERGE TO LOOKUP CPCOMM        */
                    /*   CSDNAMES CDNAMES                            */
```

Canada Post Communities were numbered sequentially after arranging in alphabetical order within provinces and territories. The numbering of communities will clearly change anytime there is an addition, deletion of a community, or change in spelling of a community name. That is why the CPCCODE can only be interpreted if correctly paired with the corresponding list of communities (see file PCCFYYMM.CPCOMM). For example, CODERs R4A and I4A use the community list of September 2002; the use of a list from any other month or year would be meaningless.

HR Health Region

```
 @ 87 HR     $CHAR2. /* HEALTH REGION CODE (UNIQUE WITHIN PR) (99=MISSING) */
[@ 51 HR     $CHAR2.  on GEOPROB file]
```

Health regions are subprovincial areas defined by provincial departments of health. In some cases, those definitions may split dissemination areas or blocks between two or more health regions, but to simplify the coding here, each DA+BLK has been uniquely assigned to a single health region. Since each health region covers many DAs, most of which are not split, this simplification should have little effect on the number of events coded to each health region. The two-character HR code is only unique within a given province. Where a province only uses a single digit to represent a health region, a zero has been added preceding that digit. Note that the definitions used were generally those in effect on 1 June 1 2003, but the definitions may be changed by provinces at any time, particularly in provinces without a long history of producing data by health region. See Appendix H1 for a summary of health regions by province and type, and Appendix H3 for a complete list of health regions. File HRNAMES shows the name of each HR, including unofficial descriptive names for unnamed HRs. Source: Statistics Canada catalog 82-402-XIE, revised 30 September 2003.

Health District (SUB)

```
 @ 89 SUB $CHAR3. /* HEALTH DISTRICT CODE - UNIQUE WITHIN PR OR PR+HR (QC ONLY)        */
[@ 53 SUB $CHAR3. on GEOPROB file] /* BLANK=NOT APPLICABLE; 999=APPLICABLE BUT MISSING */
```

Health districts are geographically-defined areas which are smaller than health regions. They are defined by several but not all provincial departments of health. In most but not all cases, health districts are subdivisions of health regions. In Ontario, all health districts except two (Sudbury and Porcupine) completely respect health region boundaries, and even those two exceptions mostly respect the health region boundaries. In all cases, a health district code is only unique within a given province. In Quebec, the health district (CLSC) code is only unique within the province and health region. Where a province uses only two characters to represent a health district, the third character will be zero. See Appendix H2 for a summary of health districts by province and type, and Appendix H4 for a complete list of health districts. File SUBNAMES shows the name of each health district. Source: Same as for health regions. Alphabetic codes corresponding to Toronto Health Planning Areas (major and minor areas) have been appended as a suffix to Ontario health district code 95. The definitions for the latter were provided by the Toronto Public Health Department.

The following 5 fields are not present on the GEOPROB file:

Community Size (CSIZE)

```
@ 93 CSIZE   $1.   /* COMMUNITY SIZE CODE (BASED ON CMACA POP2001) */ [not present on GEOPROB file]
                   /*  1=1,250,000+                                */
                   /*  2=  500,000-1,249,999                       */
                   /*  3=  100,000- 499,999                        */
                   /*  4=   10,000-  99,999 (ANY CMACA < 100,000)  */
                   /*  5= < 10,000 (ANY NON-CMACA)                 */
                   /*  9=  MISSING                                 */
```

Community Size is defined in terms of the 2001 census population in each census metropolitan area or census agglomeration (CMA or CA), as shown above. Community Size 1 consists of Toronto, Montreal and Vancouver CMAs. Community Size 2 consists of Ottawa-Hull (Gatineau), Edmonton, Calgary, Québec, Winnipeg and Hamilton CMAs. Community Size 3 includes all 18 other CMAs plus 7 of the larger CAs. Community Size 4 includes all 106 other CAs. Community Size 5—"rural and small town Canada"--includes all places not included in any CMA or CA. (i.e., places with an urban area population less than 10,000, plus rural areas). *The lower threshold of CSIZE=5 has been increased, since Ottawa-Hull is much closer in size to Edmonton and Calgary than to Montreal, Vancouver or Toronto.*

Note that almost all records with a valid FSA (whether or not the rest of the postal code is valid) can be assigned to a CMA or CA, and thus to a CSIZE category.

Neighbourhood Income Quintile (QAIPPE)

```
@ 95 QAIPPE  $1. /* 2001 NEIGHBOURHOOD INCOME QUINTILE (WITHIN CMACA): */
                                                          [not present on GEOPROB file]
                 /*  1=LOWEST INCOME QUINTILE        */
                 /*  5=HIGHEST INCOME QUINTILE       */
                 /*  9=MISSING                       */
```

Neighbourhood income per person equivalent (IPPE) is a household size-adjusted measure of household income, based on 2001 census summary data at the DA level, and using person-equivalents implied by the 2001 low income cut-offs (LICOs). Note that the 2001 single person equivalents were 1.00 for 1 person, 1.25 for 2 persons, 1.55 for 3 persons, 1.95 for 4 or 5 persons, and 2.44 for 6 or more persons sharing the same household (regardless of age). For a description of how IPPE was calculated previously based on 1991 census summary data and single-person equivalents from the 1991 LICOs, see Ng et al. (1993).

Within each CMA, CA or provincial residual area not in any CMA or CA, the DA average IPPE was used to rank all DAs, and then the population was divided into approximate fifths, thus creating community-specific income quintiles based on IPPE. The quintiles were defined within each area in order to better reflect the relative nature of this measure, to minimize the effect on household welfare of large differences in housing costs, and to ensure that each CMA or CA would have about an equal percentage of the population in each income quintile.

The following five fields are new beginning with Version 4:

Statistical Area Classification Type (SACTYPE)

```
@97 SACTYPE    $1.  /* STATISTICAL AREA CLASSIFICATION TYPE                    */
                    /* 1=CENSUS METROPOLITAN AREA                              */
                    /* 2=TRACTED CENSUS AGGLOMERATION                          */
                    /* 3=NON-TRACTED CENSUS AGGLOMERATION                      */
                    /* 4=NON-CMACA, STRONG CMACA INFLUENCE                     */
                    /* 5=NON-CMACA, MODERATE CMACA INFLUENCE                   */
                    /* 6=NON-CMACA, WEAK CMACA INFLUENCE                       */
                    /* 7=NON-CMACA, NO CMACA INFLUENCE                         */
                    /* 8=NON-CMACA, TERRITORIES                                */
                    /* 9=NON-CMACA, CMACA INFLUENCE UNKNOWN
                    /* .=MISSING SACTYPE                                       */
```

In census metropolitan areas and census agglomerations, the Statistical Area Type is defined by characteristics of the CMACA. In areas outside of any census metropolitan area or census agglomeration, the Statistical Area Type is defined by characteristics of the census subdivision, based on commuting flows to work in census metropolitan areas or census agglomerations (metropolitan influence zone or MIZ). For more details, see the following source: McNiven C, Puderer H, Janes D. *Census Metropolitan Area and Census Agglomeration Influence Zones (MIZ): A Description of the Methodology.* Geography Working Paper Series No. 2000-2. Catalogue No. 92F0138MPE. Ottawa: Geography Division, Statistics Canada, 2000.

North-South Relationship (NSREL)

```
@ 99 NSREL     $1.  /* NORTH-SOUTH RELATIONSHIP:                               */
                    /* N=NORTH                                                 */
                    /* P=NORTH TRANSITION                                      */
                    /* R=SOUTH TRANSITION                                      */
                    /* S=SOUTH                                                 */
                    /* 9=MISSING                                               */
```

The North-South relationship classification (NSREL) is described in the following source: McNiven C, Puderer H. *Delineation of Canada's North: An examination of the North-South relationship in Canada.* Geography Working Paper Series No. 2000-3. Catalogue No. 92F0138MPE. Ottawa: Geography Division, Statistics Canada, 2000. For PCCF+, NSREL is determined by the 1996 census subdivision code.

Urban Block Flag (BLKURB)

```
@101 BLKURB    $1.   /* URBAN BLOCK FLAG                                       */
                    /* 1=URBAN BLOCK                                          */
                    /* 0=RURAL BLOCK                                          */
                    /* 9=URBAN-RURAL STATUS OF BLOCK UNKNOWN                  */
```

Coding to block in areas served by rural postal services is always imputed from dissemination area, based on population weights for each block served, so classification of such blocks as urban or rural is only probabilistic. Classification based on urban postal codes is much more certain, as the specific block is almost always known with much greater certainty. Note also that within CMACAs, entire census subdivisions may be classified as urban, regardless of the population density of particular blocks. This field is defined as follows: `IF UARA GE 9910 THEN BLKURB=0; ELSE IF UARA NE . THEN BLKURB=1;`

Federal Electoral District – 1996 Representation Order (FED1996)

```
@103 FED1996   $CHAR3.  /* FED ELECT DISTRICT, 1996 LIST (999=MISSING); UNIQUE WITHIN PR */
```

A Federal Electoral District is the area represented by member of the House of Commons. The Federal Electoral Districts used for the 2001 Census were based on the 1996 Representation Order (list). If missing, `FED` will be set to 999. If an exact match to the PCCF was not possible, but the postal code indicated an urban FSA, then the `FED` may have been imputed proportionally to the population using that FSA `(SOURCE=I)`. Otherwise (when `SOURCE=3, 2 or 1`), the `FED` will be 999. File `FEDNAMES` shows the official name of each FED.

Economic Region (ER)

```
@107 ER        $2.  /* ECONOMIC REGION (UNIQUE WITHIN PR)                    */
```

An economic region (formerly "subprovincial region") is a collection of complete census divisions (except for one CD in Ontario which is split between 2 ERs) which is used for analysis of regional economic activity. The Ontario CD of Halton (3524) is split between the ER of Hamilton-Niagara Peninsula and the ER of Toronto. The ER code is only unique within a given province or territory. File ERNAMES shows the name of each ER.

Census Agricultural Region (AR) or Crop District

```
@ 110 AR     $CHAR2. /* CENSUS AGRICULTURAL REGION (CROP DISTRICT)-UNIQUE IN PR */
                     /* 00=TERRITORIES; 99=MISSING BUT APPLICABLE               */
```

Census agricultural regions are used by the Census of Agriculture for disseminating agricultural statistics. ARs are composed of groups of adjacent census divisions, except in Saskatchewan, where they are composed of groups of adjacent census consolidated subdivisions (CCS) not respecting census division boundaries. ARs are not defined for the territories. The AR code is unique only when preceded by the province code. File ARNAMES shows the name of each AR, including unofficial descriptive names for otherwise unnamed ARs.

Census Consolidated Subdivision (CCS)

```
@  113 CCS     $CHAR3. /* CENSUS CONSOLIDATED SUBDIVISION--UNIQUE IN PR (999=MISSING)*/
```

CCSs are composed of groups of adjacent census subdivisions within the same census division. The CCS code is unique only when preceded by the province and census division codes. File CCSNAMES shows the name of each CCS, which is the same as that of its largest CSD.

1996 Enumeration Area (EA96UID)

```
@  117 EA96UID   $CHAR8. /* 1996 ENUMERATION AREA = PR(2)+FED(3)+EA(3)  */
```

This field shows the 1996 enumeration area (PRFEDEA), based on the 2001 dissemination block to 1996 enumeration area correspondence file shown in Appendix to the 2001 *GeoSuite* (Statistics Canada catalogue 92F0150XCB, Geography Division, Statistics Canada, Ottawa, March 2002). In cases where a 2001 dissemination block corresponded to more than one 1996 enumeration area, for the purposes of this field on *PCCF+*, a single link was made to the 1996 enumeration area with the highest population among the possible choices.

Federal Electoral District – 2003 Representation Order (FED2003)

```
@  126 FED2003   $CHAR3. /* FEDERAL ELECTORAL DISTRICT, 2003 LIST */
```

The following three fields (ADR, CSDNAME, CSDTYPE) are not present on the HLTHOUT file, they only appear on the GEOPROB file:

Building Name and Address (ADR)

```
@ 72 ADR  $50.  /* BLDG NAME (IF APPL), STREET ADR, CITY */ [only on GEOPROB file]
```

This field shows either (1) a somewhat abbreviated building name (if applicable), plus a street address and Canada Post community name (if available), or (2) a designated place name (if applicable) followed by the designated place type within parentheses, followed by a space plus the Canada Post community name (if available), followed by a colon (:) plus an abbreviated census division name and type code (if available), or (3) the Canada Post community name (if available), followed by a colon, plus an abbreviated census division name and type code. The contents of this field are intended to provide the most useful written description of the exact location which can be shown more or less readably in 50 spaces. *This field only applies to problem records; it is not shown on the HLTHOUT file or printout.*

With respect to Canada Post community names, note that the service areas of postal communities are defined by Canada Post with little regard for municipal boundaries established by local authorities, and that is frequently a source of confusion for geographic coding. Also, many smaller rural municipalities have no post office of their own, so those municipal names will appear only rarely in mailing addresses.

The census division name (if present) shows the first 16 characters of the alphabetic name corresponding to the PRCD code of the *Standard Geographical Classification*, plus a space, followed by the 3-character CSDTYPE. If the CD field is missing

(00), the 20 characters immediately following the colon will be blank. If a building name and address plus Canada Post community name are shown, then no census division name and type will be shown.

Census Subdivision Name (CSDNAME)

```
@123 CSDNAME   $CHAR8.          /* FIRST 8 CHAR OF CSD NAME */  [only on GEOPROB file]
```

This field contains the first 8 characters of the Census Subdivision Name. If the Census Subdivision (the last three positions of the PRCDCSD field) is missing (999), then the CSDNAME field will be blank. *A truncated version of the CSDNAME field is shown only on the GEOPROB file and printout; it does not appear on the HLTHOUT file or printout.* See file CSDNAMES for the complete name and corresponding CSDTYPE.

Census Subdivision Type (CSDTYPE)

```
@131 CSDTYPE  $2.  /* CSD TYPE WITH * REPLACING TRAILING BLANK */  [only on GEOPROB file]
```

This field contains a one or two character abbreviation of the Census Subdivision Type. To facilitate uploading and downloading, if the second (and last) character of this field is blank, the blank will be replaced by an asterisk in order to ensure that every record will be of the same fixed length. (Uploading and downloading utility programs frequently delete trailing blanks, which would otherwise produce variable record lengths for successive records. The asterisk at the end of each record ensures that this won't happen. *This field is shown only on the GEOPROB file and printout; it does not appear on the HLTHOUT file or printout.*

Distance (DISTANCE)

This field shows the distance (in km) from the latitude and longitude centroid of the Montreal Children's Hospital to the centroid of the HLTHOUT record. If latitude and longitude of the HLTHOUT record could not be determined (that is, if their values were "."), then DISTANCE will be missing (indicated by a single period ("."). *This field appears only on the printout of the HLTHOUT dataset. It is not written to the corresponding file*, since DISTANCE was calculated merely as an illustration of how the latitude and longitude information can be used. For more details on the use of latitude and longitude for the calculation of distances using the PCCF, see Ng E and Wilkins R, How far is it to the nearest hospital? *Health Reports* 1993;5(2):157-177. A SAS program for calculating distances from each record in one file to the record for the record with the closest latitude and longitude on another file is included (DIST4X.SAS): see Appendix K.

Message (MESSAGE)

A brief explanatory message corresponding to the link type code (LINK) appears in the summary table and on the GEOPROB printout only; it does not appear in the GEOPROB or HLTHOUT files.

```
-------------------------------------------------------------------------
                                                /* BRIEF MESSAGE DESCRIBING PROBLEM */
-------------------------------------------------------------------------
0  'ERROR:   NO MATCH TO PCCF----CHECK PCODE/ADDRESS &OR CODE MANUALLY';
1  'ERROR:   LINKED TO PO GEOG---CODE MANUALLY IF RESID ADD AVAILABLE';
2  'WARNING: NON-RESIDENTIAL-----CHECK PCODE/ADDRESS (LEGITIMATE RES?) ';
3  'WARNING: BUSINESS BLDG-------CHECK PCODE/ADDRESS (LEGITIMATE RES?)';
4  'WARNING: COMMERC/INSTITU-----CHECK PCODE/ADDRESS (LEGITIMATE RES?)';
5  'WARNING: RETIRED PCODE-------CHECK PCODE/ADDRESS IF OLD DMT UNKNOWN';
6  'NOTE:    MULT MATCH TO CSD---DISTRIBUTED AMONG APPLIC DA/BLK/BLKFACE';
7  'NOTE:    MULT MATCH TO CSD---DISTRIBUTED BY POP WEIGHTS OBSERVED';
9  'NO PROB (ERR,WARN,NOTE)------NO ACTION REQUIRED';
-------------------------------------------------------------------------
```

The link type codes (LINKs) and corresponding messages (MESSAGEs) are arranged in hierarchical order, starting with 0 for the most serious problems, and going to 9 for no problem at all (not even a warning or note). If more than one type of problem was present, only the worst type is shown. The "no problem" message only appears on the summary table, since records with no problems (error, warning or note) are not part of the GEOPROB file or printout.

The following three fields are only present on the output from R4xOLD and I4xOLD, which are used with older data for assigning geographic codes to British Columbia FSAs which have now been moved by Canada Post:

Birth date of postal code as used in this location (BTHDATC)

```
@130 BTHDATEC $CHAR6. /* YYYYMM OF BIRTH DATE OF PCCF PCODE */
[only present on OLDCODES and HLTHOUT2 files produced by R4xOLD or I4xOLD]
```

Retirement date of postal code as used in this location (RETDATC)

```
@137 RETDATEC  $CHAR6.  /* YYYYMM OF RETIREMENT DATE OF PCCF PCODE */
[only present on OLDCODES and HLTHOUT2 files produced by R4xOLD or I4xOLD]
```

Postal code vintage (PCVDATC)—for alternate programs R4xOLD, I4xOLD only

```
@144 PCVDATC $CHAR6. /* YYYYMM OF USER'S POSTAL CODE VINTAGE (AT THIS LOCATION) */
[from user input and written to OLDCODES and HLTHOUT2 files produced by R4xOLD or I4xOLD]
```

In this context, vintage refers to the year and month when the user's postal code was reported or generated (looked up). In most cases, the date of the event will be a reasonable proxy for the vintage of the postal code on the user's file. However, if postal codes were missing when the data were collected, and subsequently looked up or generated (manually or by computer), then the vintage of the postal code may be months or even years later than the date of the event. Note that it is common for retired postal codes to remain in use for many months or even years after their retirement by Canada Post. However, it is safe to assume that newly created postal codes are not reported until after the postal code birth date indicated by Canada Post.

This field is created by user input and is only present in the OLCODES and HLTHOUT2 files produced by the supplemental programs R4xOLD and I4xOLD which are used to assign the old geographic coding to British Columbia FSAs V1H and V9G. Postal codes with those two FSAs were first retired and then subsequently moved and reused by Canada Post. V1H was moved about 400km south beginning 1 July 1997, while V9G was moved about 100km south beginning 1 April 1999. Beginning with Version 3E, the regular programs GEORES3x and GEOINS3x print a warning if your data contain either of the two FSAs which were moved. *If your data do not include postal codes with those FSAs, or if your data only contains postal codes of vintage April 1999 or later, then use of the alternate programs is unnecessary and will have no effect on the coding produced by the regular programs GEORES4x and GEOINS4x.*

APPENDIX D:
SAMPLE OUTPUTS
FROM THE *PCCF+* PACKAGE

Summary table of results of the automated geographic coding

SUMMARY OF AUTOMATED CODING RESULTS USING GEOCODES/PCCF VERSION 4

RECORDS	PERCENT	PROB	MESSAGE	ACTION
3996	100.00	TOTAL RECORDS INPUT FROM HLTHDAT (ID + PCODE)		
131	3.28	0 ERROR: NO MATCH TO PCCF	---CHECK PCODE/ADDRESS &OR CODE MANUALLY	
5	0.13	1 ERROR: LINKED TO PO GEOG	--CODE MANUALLY IF RESID ADD AVAILABLE	
3	0.08	2 WARNING: NON-RESIDENTIAL	--CHECK PCODE/ADDRESS (LEGITIMATE RES?)	
3	0.08	3 WARNING: BUSINESS BLDG	----CHECK PCODE/ADDRESS (LEGITIMATE RES?)	
241	6.03	4 WARNING: COMMERC/INSTITU	--CHECK PCODE/ADDRESS (LEGITIMATE RES?)	
65	1.63	5 WARNING: RETIRED PCODE	----CHECK PCODE/ADDRESS IF OLD DMT UNKNOWN	
1	0.03	6 NOTE: MULT MATCH CSD-PCCF-DISTRIBUTED AMONG APPLIC DA/BLK/BLKF		
535	13.39	7 NOTE: MULT MATCH CSD-WCF	--DISTRIBUTED BY POP WEIGHTS OBSERVED	
3012	75.38	9 NO PROB (ERR,WARN,NOTE)	---NO ACTION REQUIRED	
8	0.20	NOT CODED AT ALL		
39	0.98	PARTIALLY CODED TO PR ONLY		
2	0.05	PARTIALLY CODED TO PR + (CD OR CMA)	--& APPROX LAT LONG	
12	0.30	PARTIALLY CODED TO PR+CD+CMA	--AND APPROX LAT LONG	
8	0.20	PARTIALLY CODED TO PR+CD+CMA+CSD	--AND APPROX LAT LONG	
3927	98.27	FULLY CODED TO PR+CD+CMA+CSD+CT+BLK	--AND DA/BLK/BLKFACE LAT LONG	

Sample output from the HLTHOUT dataset

GEOCODES/PCCF VERSION 4 -- SAMPLE OUTPUT FROM THE HLTHOUT DATASET (.GEOG1 FILE)

ID	PCODE	PRCDCSD	CMA	CT	DABLK	DAT	LONG	DPL	DIAG	VER	COMM	HRSUB	C	Q	S	N	U	FED	ER	AR	CCS	EA96UID
1304183010	H1A5H8	2466025	462	580.03	000601	45689925073486893	000	A9D111172	R4A	3276	06		1	3	1	S	1	044	40	06	025	24045417
1304183033	H1A5G4	2466025	462	582.01	292702	45653189073503887	000	A9D111176	R4A	3276	06		1	3	1	S	1	044	40	06	025	24045358
1304183332	G1H2C1	2423030	421	273.01	082102	46856140071245151	000	A9D11117.	R4A	2587	03		2	2	1	S	1	015	20	03	030	24016455
1304183333	G1H7B3	2423030	421	273.01	081902	46850294071240870	000	A9F111191	R4A	2587	03		2	2	1	S	1	015	20	03	030	24016452
1304183632	G8T8L9	2437055	442	200.00	015910	46367087072500828	000	B9D111171	R4A	2561	04		3	1	1	S	1	014	70	04	050	24014354
1304184533	J8V2P3	2481015	505	841.03	037904	45515264075736270	000	A9D111176	R4A	2752	07		2	3	1	S	0	023	60	08	015	24015556
1304185031	G1P1H6	2423025	421	039.02	065901	46822089071329615	000	A9D11117.	R4A	3313	03		2	1	1	S	1	052	20	03	025	24054103
1304185033	G2E5Y7	2423055	421	140.03	047503	46806119071370503	000	A9D111173	R4A	2859	03		2	4	1	S	1	052	20	03	060	24054063
1601001210	L1G3Y1	3518013	532	015.00	008602	43937498078876105	000	A9D11117.	R4A	5227	0330		3	2	1	S	1	016	30	03	013	35016270
1601002733	L8V3V5	3525005	537	005.01	059702	43217763079851251	000	A9F111191	R4A	4809	0837		2	1	1	S	1	030	50	01	005	35030108
1601005410	R2G0E6	4611040	602	141.02	071402	49937939097087637	000	A9D11117.	R4A	6221	10		2	2	1	S	1	013	50	09	040	46008417
1601007832	P7A5G4	3558004	595	015.00	014505	48438993089226888	000	A9F111191	R4A	5549	1662		3	1	1	S	1	087	95	05	004	35084320
1601007833	P7B3H1	3558004	595	011.01	031611	48421824089235996	000	A9F111191	R4A	5549	1662		3	1	1	S	1	087	95	05	004	35084410
1601009010	M6S4Y8	3520005	535	050.01	147401	43637293079471415	000	B9F111191	R4A	5562	0495B		1	4	1	S	1	064	30	03	005	35063258
1601009033	M6P2H9	3520005	535	100.00	140201	43664058079462540	000	A9F111191	R4A	5562	0495E		1	3	1	S	1	064	30	03	005	35098002
1601010231	K7M7B4	3510010	521	014.00	013602	44250712076533691	000	B9D111171	R4A	4951	0241		3	1	1	S	1	036	15	04	010	35037506
1601011533	L5C3S8	3521005	535	527.08	069101	43577841079654532	000	A9D111172	R4A	5106	0653		1	3	1	S	1	046	30	02	005	35049404
1601011910	S0E1E0	4714076	000	000.00	002410	53349268104019508	000	W7C934459	R4A	6735	08		5	1	0	R	1	006	50	8A	072	47002573
1601013832	L7R4M7	3524002	537	207.01	053802	43334767079821521	000	B9F111191	R4A	4458	0636		2	3	1	S	1	010	50	02	002	35008115
1601014733	L2G3E7	3526043	539	203.01	006904	43070976079095668	000	A9F111191	R4A	5177	0946		3	2	1	S	1	052	50	01	043	35051016
1601015931	L4W1L1	3521005	535	527.05	032501	43624059079608402	000	A9F111191	R4A	5106	0653		1	1	1	S	1	047	30	02	005	35047351
1601016133	L2S2M9	3526053	539	003.01	037804	43145861079253296	000	A9F111191	R4A	5473	0946		3	1	1	S	1	051	50	01	053	35090216
1601017132	L4N2V4	3543042	568	005.00	038106	44367352079679190	000	A9F111191	R4A	4358	0560		3	5	2	S	1	002	40	02	042	35079159
1601017421	N7S5L7	3538030	562	102.02	015804	42973744082365802	000	A9F111191	R4A	5391	1242		4	3	2	S	1	071	70	01	030	35072209
1601017633	M4K1C1	3520005	535	069.00	383001	43669948079342406	000	A9F111191	R4A	5562	0495I		1	2	1	S	1	008	30	03	005	35006061
1601017910	N4B2W4	3528052	547	000.00	008009	42756837080558774	000	H9C114259	R4A	4613	1034		4	4	3	S	0	027	50	01	052	35018012
1601018131	N6G2E5	3539036	555	044.04	035003	43006922081306309	000	A9D11117.	R4A	5013	1144		3	3	1	S	1	044	60	01	036	35045463
1601019332	L5G1J8	3521005	535	540.01	037901	43553413079585884	000	B9F111191	R4A	5106	0653		1	1	1	S	1	048	30	02	005	35048068
1601019721	R2K0V9	4611040	602	133.00	070502	49927590097100976	000	A9F111191	R4A	6221	10		2	2	1	S	1	014	50	09	040	46014203
1601020010	M4E3M6	3520005	535	022.00	379901	43677506079285931	000	A9D11117.	R4A	5562	0495K		1	5	1	S	1	003	30	03	005	35002068
1601020131	T7P1A3	4813031	000	000.00	004620	54164822113845804	000	A9F112181	R4A	7709	26		5	4	0	R	1	001	70	06	028	48001057
1601020432	N4G4T7	3532004	546	000.00	007010	42876846080729595	000	B9F112181	R4A	5555	1152		4	4	3	S	1	063	60	01	012	35062064
1601020610	M1C1K9	3520005	535	362.02	374802	43788038079163502	000	A9D11117.	R4A	5400	0495M		1	5	1	S	1	075	30	03	005	35077052
1601025533	T5H2X1	4811061	835	046.00	020303	53550678113501115	000	A9F111191	R4A	7229	25		2	1	1	R	1	015	60	05	061	48012253
1601026631	K1V9K4	3506008	505	002.05	087501	45347074075665245	000	B9F111191	R4A	5230	0151		2	3	1	S	1	060	10	04	008	35059014
1601027832	S4V0G7	4706027	705	008.02	019701	50432251104564832	000	A9D11117.	R4A	6814	04		3	5	1	S	1	013	10	2B	027	47007161
1601028831	N7S4X8	3538030	562	102.02	015903	42970869082365165	000	A9F111191	R4A	5391	1242		4	2	2	S	1	071	70	01	030	35072208
1601028832	N7T6J8	3538030	562	008.00	019504	42982172082396827	000	A9F111191	R4A	5391	1242		4	2	2	S	1	071	70	01	030	35072164
1601029531	T1K4A4	4802012	810	019.00	016101	49678240112881944	000	A9D11117.	R4A	7414	20		4	2	2	S	1	018	10	02	011	48017419
1601030710	L5C3L4	3521005	535	527.08	069502	43576525079661365	000	A9F111191	R4A	5106	0653		1	4	1	S	1	046	30	02	005	35049405
1601030733	L5A3T1	3521005	535	521.06	085901	43597525079626646	000	B9F111191	R4A	5106	0653		1	2	1	S	1	047	30	02	005	35047113
1601031231	L8N2Z3	3525005	537	033.00	044701	43246956079851089	000	A9F111191	R4A	4809	0837		2	1	1	S	1	029	50	01	005	35032002
1601032031	K8A7W4	3547064	515	000.00	004912	45817759077093184	000	A9F112181	R4A	5256	0157		4	5	3	S	1	070	15	04	075	35068254
1601033332	R2K0K5	4611040	602	134.00	071204	49930495097093590	000	A9F111191	R4A	6221	10		2	3	1	S	1	014	50	09	040	46014208
1601035633	R2C5B2	4611040	602	120.02	085503	49900542096969280	000	A9F111191	R4A	6221	10		2	4	1	S	1	014	50	09	040	46014003

Sample printout from the GEOPROB dataset

GEOCODES/PCCF VERSION 4
PARTIAL PRINT OF GEOPROB FILE (ERRORS & WARNINGS, BUT NO NOTES)

```
ID          PCODE  PRCDCSD CMA CT     DABLK  LL   HRSUB DPL DIAG       BLDG NAME,ADR(CPCOMM:CMA/DPL) :CDNAME        CDTYP CSDNAME TY
-------------------------------------------------------------------------------------------------------------------------------------
0 ERROR: NO MATCH TO PCCF---CHECK PCODE/ADDRESS &OR CODE MANUALLY
-------------------------------------------------------------------
1202050810  A1X5J7 1001485 001 301.02 013501 4705 01    000  90I31994. St. John's CMA                :Avalon Peninsul DIV CONCEPTIT*
1201026310  B2M5B3 1200999 999 999.99 999900 4506 99    999  902..892.                               :                *
1302025710  G0K2K0 2410005 000 000.00 007009 4806 01    000  90I949949 NOT CMACA                     :Rimouski-Neiget MRC ESPRIT-SM*
1301031010  H9G3X9 2466140 462 521.01 235801 4507 06    000  90I31994. Montréal CMA                  :Montréal        CU  DOLLARD-V*
1602451310  K7K2T0 3510010 521 008.00 018405 4407 0241  000  90I11994. Kingston CMA                  :Frontenac       CTY KINGSTONC*
1604153110  M3Y4A1 3520005 535 999.99 999900 4307 99999 999  902..892. Toronto CMA                   :Toronto         DIV TORONTO C*
1604305110  R3N3L2 4611040 602 008.00 038001 4909 10    000  90I11994. Winnipeg CMA                  :Winnipeg        DIV WINNIPEGC*
1802106710  V1S4X1 5933042 925 006.00 004302 5012 14    000  90I21994. Kamloops CA1                  :Thompson-Nicola RD  KAMLOOPSC*
1802068310  V4T4J5 5935027 915 102.02 015502 4911 13    175  90I41994. Kelowna CA1:Westbank (UNP)    :Central Okanaga RD  CENTRAL RD
1803049810  V9C5T3 5917044 935 154.02 048004 4812 41    000  90I51994. Victoria CMA                  :Capital         RD  LANGFORDDM
-------------------------------------------------------------------
1 ERROR: LINKED TO PO GEOG--CODE MANUALLY IF RESID ADD AVAILABLE
-------------------------------------------------------------------
1604055531  R4J1A1 4611999 602 999.99 999900 4909 99    000 JZ1I22824. HEADINGLEY:Winnipeg CMA       :Winnipeg        DIV              *
1201059710  A1X4G9 1001999 001 999.99 999900 4705 99    000  K1I318341 BOX 18001:18060 STN MAIN UPPER GULLIES                        *
-------------------------------------------------------------------
2 WARNING: NON-RESIDENTIAL PCODE--CHECK PCODE/ADDRESS (LEGIT RES?)
-------------------------------------------------------------------
1304154932  H3L1B9-2400999 462 999.99 999900  . .  99    999  E2F119191 CENTRE MEDICAL HENRI-BOURASSA 222 HENRI-BOURA MONT            *
1603422510  L4C9S7-3500999 535 999.99 999900  . .  99999 999  E2F119191 BUSINESS BUILDING 120 NEWKIRK RD RICHMOND HILL                 *
1602226510  T2S2T6-4800999 825 999.99 999900  . .  99    999  E2F119191 FOODVALE OFFICE COMPLEX 5005 ELBOW DR SW CALGARY              *
1601088310  T5N4A3-4800999 835 999.99 999900  . .  99    999  E2F119191 PEOPLES TRUST PLAZA 10216 124 ST NW EDMONTON                  *
1302161110  H3N2Y1-2400999 462 999.99 999900  . .  99    999  G2F119191 VIDEOTRON LTEE 405 OGILVY AV 200 MONTREAL                    *
1804030033  V2A5A9-5900999 913 000.00 999900  . .  99    999  G2D119171 CITY OF PENTICTON 171 MAIN ST PENTICTON                       *
-------------------------------------------------------------------
3 WARNING: BUSINESS BLDG----CHECK PCODE/ADDRESS (LEGITIMATE RES?)
-------------------------------------------------------------------
1604118533  L6Y2N4@3521010 535 572.05 020201 4307 0653  000  E3F111191 APARTMENT BLDG 430 MCMURCHY AVE S BRAMPTON          BRAMPTONC*
1604503732  T5H4B9@4811061 835 046.00 020808 5311 25    000  E3F111191 HYS MEDICAL CENTRE 11010 101 ST NW EDMONTON        EDMONTONC*
-------------------------------------------------------------------
4 WARNING: COMMERC/INSTITU--CHECK PCODE/ADDRESS (LEGITIMATE RES?)
-------------------------------------------------------------------
1801082533  V5G4J3?5915025 933 230.01 139201 4912 22    000 BG4F111191 BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY 4200 BURN BURNABY C*
1202190833  A1B1S5@1001519 001 013.00 025301 4705 01    000  G4F111191 ST PATRICKS MERCY HOME 146 ELIZABETH AVE ST. JOHN' ST. JOHNC*
1202154133  A2A2E1@1006017 010 000.00 003010 4805 03    000  G4D112171 CENTRAL NEWFOUNDLAND REGIONAL HEALTH CENTRE 5 GRAN GRAND FAT*
1303089633  H2C3H6@2466025 462 277.00 265801 4507 06    000  G4F111191 LES RESIDENCES LAURENDEAU,LEGARE,LOUVAIN 1725 MONT MONTRÉALV*
1603169333  M1H3A1@3520005 535 356.00 361001 4307 0495N 000  G4F111191 CEDARBROOK LODGE 520 MARKHAM RD SCARBOROUGH          TORONTO C*
1602154410  M9W4L3@3520005 535 246.00 184101 4307 0495A 000  G4F111191 KIPLING ACRES HOME FOR THE AGED 2233 KIPLING ETOBI TORONTO C*
1604515931  N2L3G1@3530016 541 106.01 029605 4308 0765  000  G4F111191 UNIVERSITY OF WATERLOO 200 UNIVERSITY AVE W WATERL WATERLOOC*
1604443433  R1N3V4@4609029 607 000.00 001414H4909 40    000  G4F112181 LION'S PRAIRIE MANOR 24 9TH ST SE PORTAGE LA PRAIR PORTAGE C*
1603468632  R3N1V9@4611040 602 510.02 03660I 4909 10    000  G4F111191 CANADIAN FORCES BASE WINNIPEG, KAPYONG BARRAC WINN WINNIPEGC*
1601086332  R7N1R7@4617050 000 000.00 001114 5110 60    000  G4F111191 DAUPHIN GENERAL HOSPITAL 625 3RD ST SW DAUPHIN      DAUPHIN C*
1603548732  S4S3B4@4706027 705 002.02 049002 5010 04    000  G4F111191 EXTENDICARE/PARKSIDE 4540 RAE ST REGINA             REGINA  C*
1602539533  T5K0L4@4811061 835 032.02 015604H5311 25    000  G4F111191 GENERAL HOSPITAL 11111 JASPER AVE NW EDMONTON       EDMONTONC*
1803100131  V6T1K2@5915020 933 069.00 094705 4912 32    000  G4D111171 WALTER GAGE RESIDENCE ( UBC ) 5959 STUDENT UN VANC GREATER RD
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```

APPENDIX E

Census Metropolitan Areas and Census Agglomerations in numerical order, 2001 Census classification, showing 2001 population and city size, and indicating if area is census tracted

APPENDICE E

Régions métropolitaines de recensement et Agglomérations de recensement en ordre numérique, selon la classification du recensement de 2001, avec indication si les secteurs de recensement s'appliquent

CMA/CA RMR/AR	CT SR	Type Type	Name Nom	Tracted Secteurs	CSIZE	Pop 2001
000	000.00	Not in CMA/CA -- Non dans une RMR/AR			5	
001	999.99	CMA/RMR	St John's	CT/SR	3	172,918
010	000.00	CA/AR	Grand Falls-Windsor		4	18,981
011	000.00	CA/AR	Gander		4	11,254
015	000.00	CA/AR	Corner Brook		4	25,747
025	000.00	CA/AR	Labrador City		4	9,638
105	000.00	CA/AR	Charlottetown		4	58,358
110	000.00	CA/AR	Summerside		4	16,200
205	999.99	CMA/RMR	Halifax	CT/SR	3	359,183
210	000.00	CA/AR	Kentville		4	25,172
215	000.00	CA/AR	Truro		4	44,276
220	000.00	CA/AR	New Glasgow		4	36,735
225	000.00	CA/AR	Cape Breton (Sydney)		3	109,330
305	999.99	CA/AR	Moncton	CT/SR	3	117,727
310	999.99	CMA/RMR	Saint John	CT/SR	3	122,678
320	000.00	CA/AR	Fredericton		4	81,346
328	000.00	CA/AR	Bathurst		4	23,935
330	000.00	CA/AR	Campbellton		4	16,265
335	000.00	CA/AR	Edmundston		4	22,173
403	000.00	CA/AR	Matane		4	16,249
404	000.00	CA/AR	Rimouski		4	47,688
405	000.00	CA/AR	Rivière-du-Loup		4	22,339
406	000.00	CA/AR	Baie-Comeau		4	28,940
408	999.99	CMA/RMR	Chicoutimi-Jonquière	CT/SR	3	154,938
410	000.00	CA/AR	Alma		4	30,126
411	000.00	CA/AR	Dolbeau-Mistassini		4	148,879
412	000.00	CA/AR	Sept-Îles		4	26,952
421	999.99	CMA/RMR	Québec	CT/SR	2	682,757
428	000.00	CA/AR	Saint-Georges		4	28,127
430	000.00	CA/AR	Thetford Mines		4	26,323
433	999.99	CMA/RMR	Sherbrooke	CT/SR	3	153,811
435	000.00	CA/AR	Magog		4	22,535
437	000.00	CA/AR	Cowansville		4	12,032
440	000.00	CA/AR	Victoriaville		4	41,233
442	999.99	CMA/RMR	Trois-Rivières	CT/SR	3	137,507
444	000.00	CA/AR	Shawinigan		4	57,304
446	000.00	CA/AR	La Tuque		4	12,376
447	999.99	CA/AR	Drummondville	CT/SR	4	68,451
450	999.99	CA/AR	Granby	CT/SR	4	60,264
452	000.00	CA/AR	Saint-Hyacinthe		4	49,536
454	000.00	CA/AR	Sorel-Tracy		4	40,956
456	000.00	CA/AR	Joliette		4	35,821
459	999.99	CA/AR	Saint-Jean-sur-Richelieu	CT/SR	4	79,600
462	999.99	CMA/RMR	Montréal	CT/SR	1	3,426,350
465	000.00	CA/AR	Salaberry-de-Valleyfield		4	39,028
468	000.00	CA/AR	Lachute		4	11,628
480	000.00	CA/AR	Val-d'Or		4	32,423
481	000.00	CA/AR	Amos		4	21,749
485	000.00	CA/AR	Rouyn-Noranda		4	36,308

CMA/CA RMR/AR	CT SR	Type Type	Name Nom	Tracted Secteurs	CSIZE	Pop 2001
501	000.00	CA/AR	Cornwall		4	57,581
502	000.00	CA/AR	Hawkesbury		4	11,629
505	999.99	CMA/RMR	Ottawa-Hull (Gatineau)	CT/SR	1	1,063,664
512	000.00	CA/AR	Brockville		4	44,741
515	000.00	CA/AR	Pembroke		4	23,608
516	000.00	CA/AR	Petawawa		4	14,398
521	999.99	CMA/RMR	Kingston	CT/SR	3	146,838
522	999.99	CA/AR	Belleville	CT/SR	4	87,395
527	000.00	CA/AR	Cobourg		4	17,172
528	000.00	CA/AR	Port Hope and Hope		4	15,605
529	999.99	CA/AR	Peterborough	CT/SR	3	102,423
530	000.00	CA/AR	Kawartha Lakes (Lindsay)		4	69,129
532	999.99	CMA/RMR	Oshawa	CT/SR	3	296,298
535	999.99	CMA/RMR	Toronto	CT/SR	1	4,682,897
537	999.99	CMA/RMR	Hamilton	CT/SR	2	662,401
539	999.99	CMA/RMR	St Catharines-Niagara	CT/SR	3	377,009
541	999.99	CMA/RMR	Kitchener	CT/SR	3	414,284
543	999.99	CA/AR	Brantford	CT/SR	4	86,417
544	000.00	CA/AR	Woodstock		4	33,061
546	000.00	CA/AR	Tillsonburg		4	14,052
547	000.00	CA/AR	Norfolk (Simcoe)		4	60,847
550	999.99	CA/AR	Guelph	CT/SR	3	117,344
553	000.00	CA/AR	Stratford		4	29,676
555	999.99	CMA/RMR	London	CT/SR	3	432,451
556	000.00	CA/AR	Chatham-Kent		3	107,709
557	000.00	CA/AR	Leamington		4	46,757
559	999.99	CMA/RMR	Windsor	CT/SR	3	307,877
562	999.99	CA/AR	Sarnia (Sarnia-Clearwater)	CT/SR	4	88,331
566	000.00	CA/AR	Owen Sound		4	31,583
567	000.00	CA/AR	Collingwood		4	16,039
568	999.99	CA/AR	Barrie	CT/SR	3	148,480
569	000.00	CA/AR	Orillia		4	40,256
571	000.00	CA/AR	Midland		4	33,692
575	999.99	CA/AR	North Bay	CT/SR	4	63,681
580	999.99	CMA/RMR	Sudbury	CT/SR	3	155,601
582	000.00	CA/AR	Elliot Lake		4	11,956
584	000.00	CA/AR	Haileybury		4	12,867
586	000.00	CA/AR	Timmins		4	43,686
590	999.99	CA/AR	Sault Ste. Marie	CT/SR	4	78,908
595	999.99	CMA/RMR	Thunder Bay	CT/SR	3	121,986
598	000.00	CA/AR	Kenora		4	15,838
602	999.99	CMA/RMR	Winnipeg	CT/SR	2	671,274
607	000.00	CA/AR	Portage la Prairie		4	20,617
610	000.00	CA/AR	Brandon		4	41,037
640	000.00	CA/AR	Thompson		4	13,256
705	999.99	CMA/RMR	Regina	CT/SR	3	192,800
710	000.00	CA/AR	Yorkton		4	17,554
715	000.00	CA/AR	Moose Jaw		4	33,519
720	000.00	CA/AR	Swift Current		4	16,527
725	999.99	CMA/RMR	Saskatoon	CT/SR	3	225,927
735	000.00	CA/AR	North Battleford		4	17,512
745	000.00	CA/AR	Prince Albert		4	41,460
750	000.00	CA/AR	Estevan		4	12,083

CMA/CA RMR/AR	CT SR	Type Type	Name Nom	Tracted Secteurs	CSIZE	Pop 2001
805	999.99	CA/AR	Medicine Hat	CT/SR	4	61,735
806	000.00	CA/AR	Brooks		4	11,604
810	999.99	CA/AR	Lethbridge	CT/SR	4	67,374
825	999.99	CMA/RMR	Calgary	CT/SR	2	951,395
830	999.99	CA/AR	Red Deer	CT/SR	4	67,707
833	000.00	CA/AR	Camrose		4	14,854
835	999.99	CMA/RMR	Edmonton	CT/SR	2	937,845
840	000.00	CA/AR	Lloydminster		4	20,988
845	000.00	CA/AR	Cold Lake (Grand Centre)		4	27,935
850	000.00	CA/AR	Grande Prairie		4	36,983
860	000.00	CA/AR	Wood Buffalo (Fort McMurray)		4	42,602
865	000.00	CA/AR	Wetaskiwin		4	11,154
905	000.00	CA/AR	Cranbrook		4	24,275
913	000.00	CA/AR	Penticton		4	41,574
915	999.99	CA/AR	Kelowna	CT/SR	3	147,739
918	000.00	CA/AR	Vernon		4	51,530
925	999.99	CA/AR	Kamloops	CT/SR	4	86,491
930	000.00	CA/AR	Chilliwack		4	69,776
932	999.99	CMA/RMR	Abbotsford (Matsqui)	CT/SR	3	147,370
933	999.99	CMA/RMR	Vancouver	CT/SR	1	1,986,965
934	000,00	CA/AR	Squamish		4	14,435
935	999.99	CMA/RMR	Victoria	CT/SR	3	311,902
937	000.00	CA/AR	Duncan		4	38,813
938	999.99	CA/AR	Nanaimo	CT/SR	4	85,664
939	000.00	CA/AR	Parksville		4	24,285
940	000.00	CA/AR	Port Alberni		4	25,396
943	000.00	CA/AR	Courtenay		4	47,051
944	000.00	CA/AR	Campbell River		4	33,872
945	000.00	CA/AR	Powell River		4	18,269
950	000.00	CA/AR	Williams Lake		4	25,122
952	000.00	CA/AR	Quesnel		4	24,426
955	000.00	CA/AR	Prince Rupert		4	15,302
960	000.00	CA/AR	Kitimat		4	10,285
965	000.00	CA/AR	Terrace		4	19,980
970	999.99	CA/AR	Prince George	CT/SR	4	85,035
975	000.00	CA/AR	Dawson Creek		4	17,444
977	000.00	CA/AR	Fort St. John		4	16,034
990	000.00	CA/AR	Whitehorse		4	21,405
995	000.00	CA/AR	Yellowknife		4	16,541
999	999.99	CMA/CA unknown--RMR/AR inconnu		CT/SR?		

Note: Former names (from 1991 or 1996 census) shown in parentheses if different. Since 1996, 5 CAs were added (Amos, Petawawa, Squamish, Brooks, Parksville), 2 CAs were deleted (Smith Falls, Strathroy), and 2 other CAs were promoted to CMA (Kingston, Abbotsford). Three CAs gained census tracts: Drummondville, Granby and Medicine Hat. Also 1 CMA and 6 CAs were renamed: Sudbury to Greater Sudbury, Dolbeau to Dolbeau-Mistassini, Sorel to Sorel-Tracy, Port Hope to Port Hope and Hope, Lindsay to Kawartha Lakes, Simcoe to Norfolk, Grand Centre to Cold Lake.
Nota: Les anciens noms (du recensement de 1991 ou de 1996) sont indiqués entre parenthèses s'ils ont changé.

APPENDIX F
GEOGRAPHIC CODING FROM PARTIAL POSTAL CODES BASED ON PCCF

APPENDIX F1
GEOGRAPHIC CODING FROM THE FIRST CHARACTER OF THE POSTAL CODE

Letter	Province/Territory Major Geographic Area (Canada Post)	Standard Abbreviation
A	Newfoundland and Labrador	NF, NL
B	Nova Scotia	NS
C	Prince Edward Island	PE
E	New Brunswick	NB
G H J	Québec	QC
G	Québec East	
H	Montréal Metro	
J	Québec West	
K L M N P	Ontario	ON
K	Eastern Ontario	
L	Central Ontario	
M	Toronto Metro	
N	Southwestern Ontario	
P	Northern Ontario	
R	Manitoba	MB
S	Saskatchewan	SK
T	Alberta	AB
V	British Columbia	BC
X	Northwest Territories	NT
X	Nunavut	NU
Y	Yukon	YK, YT

In the September 2002 PCCF, 88 postal codes are linked to a different province from their first character allocation. Those records are not mistakes; they reflect the reality of Canada Post sortation and delivery patterns.

APPENDIX F2
GEOGRAPHIC CODING FROM THE FIRST TWO CHARACTERS OF THE POSTAL CODE
BASED ON SEPTEMBER 2002 PCCF

FS	FSA12 - FIRST TWO CHARACTERS OF POSTAL CODE
NPC	NUMBER OF POSTAL CODES
CMA	MOST COMMON CENSUS METROPOLITAN AREA OR CENSUS AGGLOMERATION (CMA/CA)
PCMA	PERCENTAGE OF POSTAL CODES WITHIN THAT CMA/CA
PRCD	MOST COMMON CENSUS SUBDIVISION (CD)
PCD	PERCENTAGE OF POSTAL CODES WITHIN THAT CD
PRCDCSD	MOST COMMON CENSUS SUBDIVISON (CSD)
PCSD	PERCENTAGE OF POSTAL CODES WITHIN THAT CSD
AVLAT	AVERAGE LATITUDE IN DEGREES(2)+DECIMALS(6)
AVLONG	AVERAGE LONGITUDE IN DEGREES(3)+DECIMALS(6)
T	I=CMA/CA IS CENSUS TRACTED; 0=CMA/CA NOT TRACTED

FILE=FSA12GEO.CAN

GEOGRAPHIC CODING FROM FIRST TWO CHARACTERS OF THE POSTAL CODE

FS	NPC	CMA	PCMA	PRCD	PCD	PRCDCSD	PCSD	AVLAT	AVLONG	T
NEWFOUNDLAND AND LABRADOR - TERRE-NEUVE ET LABRADOR										
A0	8720	000	91.6	1001	36.4	1010025	3.6	48692998	055088390	0
A1	14510	001	94.9	1001	96.5	1001519	44.2	47597789	052895286	1
A2	4619	015	42.8	1005	43.3	1005018	41.6	49270448	058618991	0
A8	1061	000	100.0	1005	98.3	1005004	75.2	49202405	057425012	0
NOVA SCOTIA - NOUVELLE ECOSSE										
B0	12350	000	79.2	1212	11.3	1207001	6.2	45076455	063718581	0
B1	15659	225	97.8	1217	97.8	1217030	96.8	46147758	060158701	0
B2	14528	205	33.2	1209	33.2	1209034	33.2	45323562	062612204	1
B3	11459	205	100.0	1209	100.0	1209034	100.0	44650437	063639261	1
B4	9495	000	48.1	1209	36.6	1209034	36.6	44937568	064147955	0
B5	1982	000	100.0	1202	98.4	1202006	78.6	43848198	066115568	0
B9	782	000	100.0	1215	96.4	1215002	67.1	45637082	061361888	0
PRINCE EDWARD ISLAND - ILE DU PRINCE-EDOUARD										
C0	3064	000	88.4	1103	38.4	1103051	3.5	46393913	063288804	0
C1	6715	105	69.0	1102	69.2	1102075	49.0	46294117	063324159	0
NEW BRUNSWICK - NOUVEAU BRUNSWICK										
E0	779	000	84.0	1305	14.1	1305022	6.5	46389014	066076066	0
E1	15877	305	59.5	1307	50.5	1307022	38.1	46522230	065014890	1
E2	13036	310	70.5	1301	49.8	1301006	46.9	45830833	065994531	1
E3	12573	320	51.4	1310	46.5	1310032	32.7	46438924	067076430	0
E4	19010	000	88.7	1307	39.2	1307016	7.9	46138331	064948817	0
E5	8840	000	62.2	1305	43.6	1302026	6.6	45360280	066341074	0
E6	3104	000	72.9	1310	96.3	1310036	10.1	45987063	067023061	0
E7	9362	000	79.1	1311	47.2	1313027	17.6	46739566	067807609	0
E8	6361	000	93.2	1315	59.2	1314017	10.2	47782720	065756752	0
E9	2026	000	100.0	1309	98.4	1309036	22.7	46969757	065532936	0
QUEBEC										
G0	33748	000	86.1	2419	5.3	2425005	1.5	47310886	069878275	0
G1	24214	421	100.0	2423	100.0	2423025	33.9	46819596	071258016	1
G2	6660	421	100.0	2423	100.0	2423025	41.3	46837120	071334689	1
G3	6385	421	62.3	2423	62.3	2423050	27.0	46896799	071422039	1
G4	7682	000	43.6	2497	36.0	2497010	32.2	49399082	066494830	0
G5	15513	000	37.2	2429	26.1	2429075	24.3	47570479	069452730	0
G6	18462	421	46.7	2424	24.2	2424020	21.5	46408126	071394919	1
G7	12025	408	85.5	2494	88.0	2494070	35.4	48207620	071152540	1
G8	19470	442	32.9	2437	32.9	2493040	22.3	47948976	072253309	1
G9	10906	444	58.6	2436	58.6	2436028	22.4	46593926	072669965	0
H0	26	462	80.8	2465	80.8	2465005	80.8	45596425	073754401	1
H1	18591	462	100.0	2466	100.0	2466025	66.2	45602237	073567214	1
H2	12312	462	100.0	2466	100.0	2466025	94.2	45531435	073593846	1
H3	19253	462	100.0	2466	100.0	2466025	79.5	45526882	073581040	1
H4	11889	462	100.0	2466	100.0	2466025	44.8	45497248	073647974	1
H5	184	462	100.0	2466	100.0	2466025	100.0	45505555	073563883	1
H7	17586	462	100.0	2465	100.0	2465005	100.0	45584462	073742239	1
H8	6619	462	100.0	2466	100.0	2466040	40.2	45452405	073720556	1
H9	11031	462	100.0	2466	100.0	2466095	17.3	45458899	073843107	1
J0	53471	000	80.5	2477	6.6	2477045	1.8	45911707	073909726	0
J1	13499	433	57.7	2443	57.3	2443025	31.4	45402097	071977030	1
J2	20960	450	28.0	2447	29.0	2454045	19.3	45543203	072799842	1
J3	19864	462	63.4	2457	35.7	2453052	16.1	45617648	073243552	1
J4	12772	462	100.0	2458	82.2	2458030	40.2	45520845	073471763	1
J5	10840	462	80.6	2460	49.7	2460028	20.8	45713608	073523125	1
J6	19207	462	64.9	2464	27.7	2464010	19.9	45584375	073732693	1
J7	21611	462	98.9	2473	27.5	2474005	10.4	45612533	073906771	1
J8	20248	505	62.1	2481	52.1	2481015	30.1	45663266	075170281	1
J9	14973	000	30.0	2481	22.8	2486033	16.1	47114840	077103037	0

ONTARIO

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K0 23077 000  63.9 3506  13.6 3506008  13.6 44884429 076631417 0
K1 20952 505 100.0 3506  99.9 3506008  99.9 45405662 075653963 1
K2 14532 505 100.0 3506 100.0 3506008 100.0 45325412 075801349 1
K4  4995 505  99.9 3506  78.4 3506008  78.4 45404421 075467527 1
K6  7214 501  55.1 3501  56.8 3501012  54.1 44978275 075001277 0
K7 15349 000  56.1 3510  41.3 3510010  41.2 44613422 076449034 0
K8  9938 522  50.9 3512  51.7 3547064  32.9 44942336 077325422 1
K9  9410 529  55.9 3515  56.3 3515014  50.5 44250562 078392667 1
L0 19101 000  35.2 3543  34.2 3543064  11.0 43837075 079602011 0

L1 24599 532  60.9 3518  95.3 3518013  26.5 43889998 078896495 1
L2 18189 539 100.0 3526 100.0 3526053  49.4 43117811 079164068 1
L3 23930 535  60.6 3519  56.9 3519036  42.7 43759213 079355697 1
L4 37369 535  80.7 3519  63.9 3519028  29.9 43952919 079547401 1
L5 21016 535 100.0 3521  99.9 3521005  99.6 43578973 079683154 1
L6 24763 535 100.0 3521  48.5 3521010  48.1 43640506 079683774 1
L7 13570 537  56.4 3524  76.2 3524002  56.4 43527431 079817659 1
L8 15006 537 100.0 3525  99.8 3525005  99.8 43234567 079817558 1
L9 19055 537  37.0 3525  36.8 3525005  36.8 43854474 079835175 1

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M2  7057 535 100.0 3520 100.0 3520005 100.0 43775313 079374016 1
M3  6299 535 100.0 3520 100.0 3520005 100.0 43743713 079425542 1
M4 13567 535 100.0 3520 100.0 3520005 100.0 43698456 079361357 1
M5 15221 535 100.0 3520 100.0 3520005 100.0 43675710 079384617 1
M6 14998 535 100.0 3520 100.0 3520005 100.0 43678295 079444237 1
M7  7321 535 100.0 3520  99.9 3520005  99.9 43772760 079256491 1
M8  4765 535 100.0 3520 100.0 3520005 100.0 43627375 079507944 1
M9 11231 535 100.0 3520 100.0 3520005 100.0 43697411 079544313 1

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N2 14488 541  91.6 3530  91.6 3530013  57.4 43512239 080595031 1
N3 14116 543  38.6 3529  49.1 3529006  38.6 43207343 080284965 1
N4 10680 000  27.8 3532  44.2 3532042  23.3 43568070 080797509 0
N5 13846 555  71.8 3539  45.9 3539036  45.7 42979796 081130889 1
N6 11679 555 100.0 3539 100.0 3539036  98.9 42965876 081264298 1
N7 10003 562  45.3 3538  45.3 3538030  42.0 42919191 082131032 1
N8 20606 559  81.6 3537  93.4 3537039  73.2 42305006 082903203 1
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P2  4586 000 100.0 3548  61.6 3548055  61.4 46532787 079974989 0
P3  7356 580  99.1 3553  99.1 3553005  99.1 46509799 080986910 1
P4  3171 586  99.6 3556  99.8 3556027  99.6 48485322 081334694 0
P5  2178 000  59.3 3557  41.0 3557041  40.7 47342945 082341557 0
P6  4558 590  98.4 3557 100.0 3557061  97.0 46526814 084328802 1
P7  8471 595  97.2 3558 100.0 3558004  92.1 48418849 089263932 1
P8  1224 000 100.0 3560 100.0 3560027  71.2 49855947 092622560 0
P9  2297 000  52.9 3559  52.2 3559012  50.3 49166390 093915089 0
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MANITOBA

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R0 27955 000  91.4 4615   9.5 4612047   2.7 50196632 098677222 0
R1  3978 000  56.4 4613  57.7 4609029  37.3 50065044 097508266 0
R2 14470 602 100.0 4611  95.7 4611040  95.7 49900951 097109966 1
R3 13724 602  99.8 4611  98.0 4611040  98.0 49869041 097178703 1
R4   685 602  89.1 4611  39.7 4613037  36.6 49933145 097326239 1
R5   681 000  78.0 4602 100.0 4602044  36.1 49611033 096727890 0
R6  1675 000 100.0 4603 100.0 4603053  49.0 49180672 098023385 0
R7  7819 610  79.8 4607  82.3 4607062  79.0 50073414 099970886 0
R8  1137 640  51.4 4622  52.0 4622026  51.4 55262655 099754019 0
R9  1371 000 100.0 4621 100.0 4621045  82.1 53816538 101255834 0
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SASKATCHEWAN
S0 45480 000  93.9 4706   8.7 4714077   0.7 51459590 105501095 0
S2    77 705 100.0 4706 100.0 4706055  93.5 50771863 104930221 1
S3  1739 710  95.9 4709  99.6 4709012  90.2 51210549 102459513 0
S4 15666 705  82.0 4706  82.2 4706027  80.6 50271632 104411088 1
S6  8186 745  50.2 4715  50.8 4707039  48.4 51820806 105645797 0
S7 13922 725  99.7 4711  99.3 4711066  95.9 52128091 106646292 1
S9  7472 720  45.6 4708  45.9 4708004  43.2 51839414 108347372 0

ALBERTA
T0 41400 000  87.7 4810  12.3 4813001   1.9 52625780 113307693 0
T1 19353 810  32.0 4802  48.3 4802012  32.0 50187681 112637785 1
T2 30159 825  99.8 4806  99.9 4806016  98.7 51009148 114051146 1
T3 15976 825  99.9 4806  99.9 4806016  91.8 51094669 114144681 1
T4 14087 000  35.3 4808  56.2 4808011  29.7 52255111 113746748 0
T5 30050 835 100.0 4811 100.0 4811061  99.8 53565419 113510532 1
T6 21179 835 100.0 4811 100.0 4811061  99.4 53503746 113488256 1
T7 10840 835  63.2 4811  68.7 4811034  34.8 53592056 114632026 1
T8 16099 835  59.2 4811  59.2 4819012  35.4 54283468 115512293 1
T9 15386 835  25.3 4811  37.4 4811016  18.6 54010457 112055117 1

BRITISH COLUMBIA - COLOMBIE-BRITANIQUE
V0 26977 000  83.5 5929   8.9 5929011   3.2 50581494 121419253 0
V1 37163 000  26.7 5935  23.3 5935010  19.3 50891711 119031397 0
V2 42064 970  19.1 5909  32.7 5953023  16.6 50679854 121922514 1
V3 36463 933  97.1 5915  97.1 5915004  49.1 49181802 122793984 1
V4 20037 933  83.2 5915  83.2 5915004  39.7 49184436 122453350 1
V5 20689 933 100.0 5915 100.0 5915022  57.8 49248451 123035856 1
V6 21510 933 100.0 5915 100.0 5915022  83.4 49249617 123129197 1
V7 13323 933 100.0 5915 100.0 5915015  31.8 49272881 123116292 1
V8 23709 935  66.0 5917  70.0 5917021  25.4 49851907 124722195 1
V9 35760 938  21.7 5925  35.5 5921007  18.4 49288128 124390847 1

NORTHWEST TERRITORIES OR NUNAVUT - TERRITORIES DU NORD-OUEST OU NUNAVUT
X0  1167 000  99.7 6106  57.5 6106016  24.1 63645330 113346345 0
X1  1003 995  99.7 6106 100.0 6106023  99.7 62451236 114385180 0

YUKON
Y0   317 000  98.1 6001 100.0 6001029  26.2 62232499 135620588 0
Y1  3461 990  99.9 6001 100.0 6001009  99.2 60724190 135072254 0
```

APPENDIX F3

GEOGRAPHIC CODING
FROM THE FIRST THREE CHARACTERS OF THE POSTAL CODE
BASED ON SEPTEMBER 2002 PCCF

GEOGRAPHIC CODING FROM THE FIRST THREE CHARACTERS OF THE POSTAL CODE

FSA	FORWARD SORTATION AREA - FIRST THREE CHARACTERS OF POSTAL CODE
NPC	NUMBER OF POSTAL CODES
CMA	MOST COMMON CENSUS METROPOLITAN AREA OR CENSUS AGGLOMERATION (CMA/CA)
PCMA	PERCENTAGE OF POSTAL CODES WITHIN THAT CMA/CA
PRCD	MOST COMMON CENSUS SUBDIVISION (CD)
PCD	PERCENTAGE OF POSTAL CODES WITHIN THAT CD
PRCDCSD	MOST COMMON CENSUS SUBDIVISON (CSD)
PCSD	PERCENTAGE OF POSTAL CODES WITHIN THAT CSD
AVLAT	AVERAGE LATITUDE IN DEGREES(2)+DECIMALS(6)
AVLONG	AVERAGE LONGITUDE IN DEGREES(3)+DECIMALS(6)
T	1=CMA/CA IS CENSUS TRACTED; 0=CMA/CA NOT TRACTED

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APPENDIX H Health Regions and Health Districts

APPENDIX H1
Summary List of Health Regions, by Province and Type, Canada, June 2003

PR	Health Region Type	HRTYP	Number
Total			118
NF	Health and Community Services Region	HCS	4
	Regional Health Services Board	RHS	1
	Health Corporation	HCO	1
PE	Health Region	HRE	4
NS	Health Zone	ZON	6
NB	Region	REG	7
QC	Région socio-sanitaire	RSS	18
ON	District Health Council	DHC	16
MB	Regional Health Authority	RHA	11
SK	Regional Health Authority	RHA	12
SK	Health Authority	HAU	1
AB	Regional Health Authority	RHA	3
AB	Health Region	HRE	3
AB	Health	HLT	3
BC	Health Service Delivery Area	HSD	16
YK	Territory	TER	1
NT	Territory	TER	1
NU	Territory	TER	1

The 16 Health Service Delivery Areas in BC roll up to 5 Health Authorities, which are designated by the first digit of the Health Region code.

APPENDIX H2
Summary List of Health Districts by Type and Province, Canada, 2003

PR	Health District Type	SUBTYP	Number
Total			204
QC	Centre local de services communautaires	CLS	174
ON	Public Health Unit (incl Toronto)	PHU	37
	Health Planning Area (Toronto only)	HPA	16
BC	Local Health Area	LHA	89

For Version 4A of PCCF+, the Health District codes for BC and QC are not shown.

APPENDIX H3:
HEALTH REGIONS, CANADA, 2000
REGIONS SOCIO-SANITAIRES, CANADA, 2000

PRHR	HEALTH REGION / REGION SOCIO-SANITAIRE	HRTYP
NEWFOUNDLAND / TERRE-NEUVE		
1001	SAINT JOHN'S	HCS
1002	EASTERN	HCS
1003	CENTRAL	HCS
1004	WESTERN	HCS
1005	GRENFELL	HSB
1006	LABRADOR	HCO
PRINCE EDWARD ISLAND / ILE DU PRINCE-EDOUARD		
1101	WEST PRINCE	HRE
1102	EAST PRINCE	HRE
1103	QUEENS	HRE
1104	KINGS	HRE
NOVA SCOTIA / NOUVELLE ECOSSE		
1201	YARMOUTH	ZON
1202	KENTVILLE	ZON
1203	TRURO	ZON
1204	NEW GLASGOW	ZON
1205	CAPE BRETON	ZON
1206	HALIFAX	ZON
NEW BRUNSWICK / NOUVEAU-BRUNSWICK		
1301	MONCTON	REG
1302	SAINT JOHN	REG
1303	FREDERICTON	REG
1304	EDMUNDSTON	REG
1305	CAMPBELLTON	REG
1306	BATHURST	REG
1307	MIRAMICHI	REG
QUEBEC		
2401	BAS-SAINT-LAURENT	RSS
2402	SAGUENAY--LAC-SAINT-JEAN	RSS
2403	QUEBEC	RSS
2404	MAURICIE ET CENTRE DU QUEBEC	RSS
2405	ESTRIE	RSS
2406	MONTREAL-CENTRE	RSS
2407	OUTAOUAIS	RSS
2408	ABITIBI-TEMISCAMINGUE	RSS
2409	COTE-NORD	RSS
2410	NORD-DU-QUEBEC	RSS
2411	GASPESIE--ILES-DE-LA-MADELEINE	RSS
2412	CHAUDIERE-APPALACHES	RSS
2413	LAVAL	RSS
2414	LANAUDIERE	RSS
2415	LAURENTIDES	RSS
2416	MONTEREGIE	RSS
2417	NUNAVIK	RSS
2418	TERRES-CRIES-DE-LA-BAIE-JAME	RSS

PRHR	HEALTH REGION / REGION SOCIO-SANITAIRE	HRTYP
ONTARIO		
3501	CHAMPLAIN	DHC
3502	QUINTE-KINGSTON-RIDEAU	DHC
3503	DURHAM-HALIBURTON-KAWARTHA-PINE RIDGE	DHC
3504	TORONTO	DHC
3505	SIMCOE-YORK	DHC
3506	HALTON-PEEL	DHC
3507	WATERLOO-WELLINGTON-DUFFERIN	DHC
3508	HAMILTON	DHC
3509	NIAGARA	DHC
3510	GRAND RIVER	DHC
3511	THAMES VALLEY	DHC
3512	ESSEX-KENT-LAMBTON	DHC
3513	GREY-BRUCE-HURON-PERTH	DHC
3514	NOTHERN SHORES	DHC
3515	ALGOMA-COCHRANE-MANITOULIN-SUDBURY	DHC
3516	NORTHWESTERN ONTARIO	DHC
MANITOBA		
4610	WINNIPEG	RHA
4615	BRANDON	RHA
4620	NORTH EASTMAN	RHA
4625	SOUTH EASTMAN	RHA
4630	INTERLAKE	RHA
4640	CENTRAL	RHA
4650	MARQUETTE AND SOUTH WESTMAN	RHA
4660	PARKLAND	RHA
4670	NORMAN	RHA
4680	BURNTWOOD	RHA
4690	CHURCHILL	RHA
SASKATCHEWAN		
4701	SUN COUNTRY	RHA
4702	FIVE HILLS	RHA
4703	CYPRESS	RHA
4704	REGINA	RHA
4705	SUNRISE	RHA
4706	SASKATOON	RHA
4707	HEARTLAND	RHA
4708	KELSEY TRAIL	RHA
4709	PRINCE ALBERT PARKLAND	RHA
4710	PRAIRIE NORTH	RHA
4711	MAMAWETAN CHURCHILL RIVER	RHA
4712	KEEWATIN YATTHE	RHA
4713	ATHABASCA	RHA
ALBERTA		
4820	CHINOOK	RHA
4821	PALLISER	RHA
4822	CALGARY	HRE
4823	DAVID THOMPSON	RHA
4824	EAST CENTRAL	RHA
4825	CAPITAL	HRE
4826	ASPEN	RHA
4827	MISTAHIA	RHA
4828	NORTHERN LIGHTS	RHA

PRHR	HEALTH REGION / REGION SOCIO-SANITAIRE	HRTYP
BRITISH COLUMBIA / COLOMBIE-BRITANNIQUE		
5911	EAST KOOTENAY	HSD
5912	KOOTENAY-BOUNDARY	HSD
5913	OKANAGAN	HSD
5914	THOMPSON/CARIBOO	HSD
5921	FRASER VALLEY	HSD
5922	SIMON FRASER	HSD
5923	SOUTH FRASER	HSD
5931	RICHMOND	HSD
5932	VANCOUVER	HSD
5933	NORTH SHORE/COAST GARIBALDI	HSD
5941	SOUTH VANCOUVER ISLAND	HSD
5942	CENTRAL VANCOUVER ISLAND	HSD
5943	NORTH VANCOUVER ISLAND	HSD
5951	NORTH WEST	HSD
5952	NORTHERN INTERIOR	HSD
5953	NORTHEAST	HSD
TERRITORIES / TERRITOIRES		
6001	YUKON	HRE
6101	NORTHWEST	HRE
6102	NUNAVUT	HRE

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APPENDIX H4:
HEALTH DISTRICTS, CANADA, 2004
DISTRICTS SOCIO-SANITAIRES, CANADA, 2004

PRHR SUB	NAME / NOM	SUBTYP	POP2001
QUEBEC			
2401101	RIMOUSKI-NEIGETTE	CLS	52289
2401102	LA MITIS	CLS	19326
2401103	MATANE	CLS	22507
2401105	LA MATAPEDIA	CLS	19920
2401301	LES BASQUES	CLS	9848
2401302	SAINT-ELEUTHERE	CLS	6891
2401303	RIVIERE-DU-LOUP	CLS	31826
2401304	KAMOURASKA	CLS	22494
2401305	CABANO	CLS	15529
2402101	FJORD	CLS	23916
2402102	SAGUENAY	CLS	28883
2402103	JONQUIERE	CLS	65694
2402106	CHICOUTIMI	CLS	48287
2402202	DOMAINE-DU-ROY	CLS	32839
2402203	MARIA-CHAPDELAINE	CLS	26900
2402204	LAC-SAINT-JEAN-EST	CLS	51760
2403000	PORTNEUF	CLS	44955
2403101	LAURENTIEN	CLS	58518
2403102	SAINTE-FOY - SILLERY	CLS	71294
2403201	QUEBEC-HAUTE-VILLE	CLS	36915
2403202	QUEBEC-BASSE-VILLE	CLS	25666
2403203	LIMOILOU-VANIER	CLS	57491
2403204	DUBERGER-LES SAULES-LEBOURGNEUF	CLS	37943
2403300	LORETTEVILLE - VAL-BELAIR	CLS	81932
2403401	BEAUPORT	CLS	76196
2403402	ORLEANS	CLS	27763
2403500	CHARLESBOURG	CLS	90454
2403701	CHARLEVOIX-EST	CLS	16624
2403702	CHARLEVOIX-OUEST	CLS	13166
2404401	HAUT-SAINT-MAURICE	CLS	15862
2404402	MEKINAC	CLS	12809
2404403	CENTRE-DE-LA-MAURICIE	CLS	64841
2404404	MASKINONGE	CLS	23401
2404405	TROIS-RIVIERES	CLS	80286
2404406	DES CHENAUX	CLS	12127
2404407	CAP-DE-LA-MADELEINE	CLS	45942
2404501	NICOLET-YAMASKA	CLS	23496
2404502	BECANCOUR	CLS	19088
2404503	DRUMMOND	CLS	87808
2404504	ARTHABASKA	CLS	64089
2404505	DE L'ERABLE	CLS	24021
2405101	GRANIT	CLS	21830
2405102	ASBESTOS	CLS	14535
2405103	HAUT-SAINT-FRANCOIS	CLS	21394
2405104	VAL SAINT-FRANCOIS	CLS	28176
2405105	COATICOOK	CLS	16595
2405106	MEMPHREMAGOG	CLS	41871
2405107	FLEURIMONT-LENNOXVILLE	CLS	53720
2405108	SHERBROOKE	CLS	87492
2406101	LAC SAINT-LOUIS	CLS	78875
2406103	PIERREFONDS	CLS	77744
2406104	DOLLARD-DES-ORMEAUX	CLS	48206

2406105	LACHINE	CLS	57928
2406201	POINTE-SAINT-CHARLES	CLS	13210
2406202	VERDUN	CLS	60564
2406204	SAINT-PAUL	CLS	30242
2406206	LASALLE	CLS	73983
2406301	RIVIERE-DES-PRAIRIES	CLS	52939
2406302	POINTE-AUX-TREMBLES	CLS	53065
2406303	MERCIER-EST	CLS	41344
2406304	MERCIER-OUEST	CLS	41256
2406305	HOCHELAGA-MAISONNEUVE	CLS	48379
2406306	ROSEMONT	CLS	79512
2406308	ANJOU	CLS	38015
2406309	SAINT-LEONARD	CLS	69604
2406401	COTE-DES-NEIGES	CLS	52624
2406402	SNOWDON	CLS	33872
2406403	COTE-SAINT-LUC	CLS	47760
2406404	MONT-ROYAL	CLS	43898
2406501	NOTRE-DAME DE GRACE - MONTREAL-OUEST	CLS	69847
2406503	METRO	CLS	57701
2406504	SAINT-LOUIS DU PARC	CLS	39169
2406505	SAINT-HENRI	CLS	25672
2406601	MONTREAL-NORD	CLS	83600
2406603	SAINT-MICHEL	CLS	54984
2406605	AHUNTSIC	CLS	77864
2406606	BORDEAUX-CARTIERVILLE	CLS	51543
2406608	SAINT-LAURENT	CLS	73129
2406701	MONTREAL-CENTRE-SUD	CLS	36314
2406702	PLATEAU MONT-ROYAL	CLS	51461
2406704	PARC-EXTENSION	CLS	31399
2406705	MONTREAL-CENTRE-VILLE	CLS	9044
2406706	VILLERAY	CLS	61114
2406707	PETITE PATRIE	CLS	46862
2407201	HULL	CLS	66246
2407202	AYLMER	CLS	36085
2407300	GATINEAU	CLS	102898
2407400	PONTIAC	CLS	19208
2407500	LES COLLINES-DE-L'OUTAOUAIS	CLS	25909
2407600	DES FORESTIERS	CLS	18730
2407701	VALLEE-DE-LA-LIEVRE	CLS	31428
2407702	PETITE-NATION	CLS	15042
2408101	TEMISCAMING	CLS	3666
2408102	VILLE-MARIE	CLS	13838
2408103	ROUYN-NORANDA	CLS	39621
2408104	ABITIBI-OUEST	CLS	21984
2408105	ABITIBI	CLS	24613
2408106	VALLEE-DE-L'OR	CLS	42375
2409101	LES ESCOUMINS	CLS	5982
2409102	FORESTVILLE	CLS	6912
2409103	MANICOUAGAN	CLS	33620
2409105	PORT-CARTIER	CLS	7809
2409106	SEPT-ILES	CLS	26952
2409107	CANIAPISCAU	CLS	3630
2409109	MINGANIE	CLS	6714
2409110	BASSE COTE-NORD	CLS	5607
2409112	TERRITOIRE NASKAPI	CLS	540
2410101	CHIBOUGAMAU/CHAPAIS	CLS	9717
2410102	LEBEL-SUR-QUEVILLON	CLS	3282
2410103	MATAGAMI	CLS	1939
2410104	BAIE-JAMES	CLS	1376
2411201	BONAVENTURE	CLS	18267

2411203	PABOK	CLS	17964
2411204	GASPE	CLS	16266
2411205	GRANDE-VALLEE	CLS	2867
2411206	ILES-DE-LA-MADELEINE	CLS	12824
2411207	MURDOCHVILLE	CLS	1171
2411208	DENIS-RIVERIN	CLS	12297
2411209	AVIGNON	CLS	15268
2412101	LAC ETCHEMIN	CLS	17745
2412102	LA NOUVELLE-BEAUCE	CLS	25850
2412103	BEAUCE-SARTIGAN	CLS	47873
2412104	ROBERT-CLICHE	CLS	18771
2412105	L'AMIANTE	CLS	43247
2412401	DESJARDINS	CLS	51855
2412402	CHAUDIERE	CLS	78808
2412403	BELLECHASSE	CLS	29570
2412404	LOTBINIERE	CLS	26851
2412702	L'ISLET	CLS	19368
2412704	MONTMAGNY	CLS	23438
2413801	DUVERNAY	CLS	51092
2413803	CHOMEDEY	CLS	101084
2413805	PONT-VIAU	CLS	84868
2413807	SAINTE-ROSE-DE-LAVAL	CLS	105961
2414201	D'AUTRAY	CLS	40330
2414202	MATAWINIE	CLS	41194
2414203	JOLIETTE	CLS	54167
2414204	MONTCALM	CLS	38740
2414205	LES MOULINS	CLS	110087
2414206	L'ASSOMPTION	CLS	103977
2415101	DEUX-MONTAGNES - MIRABEL	CLS	92173
2415102	THERESE-DE-BLAINVILLE	CLS	130514
2415103	ANTOINE-LABELLE	CLS	33456
2415104	RIVIERE-DU-NORD - MIRABEL	CLS	106993
2415105	LES PAYS-D'EN-HAUT	CLS	30866
2415106	LES LAURENTIDES	CLS	38433
2415107	ARGENTEUIL	CLS	28931
2416001	VAUDREUIL-SOULANGES	CLS	102100
2416002	HAUT-SAINT-LAURENT	CLS	21851
2416003	VALLEYFIELD-BEAUHARNOIS	CLS	54253
2416004	CHATEAUGUAY-MERCIER	CLS	60078
2416005	LES JARDINS DE NAPIERVILLE	CLS	22820
2416006	SAINT CONSTANT - LA PRAIRIE	CLS	82978
2416007	BROSSARD - SAINT-LAMBERT	CLS	107910
2416008	LONGUEUIL-OUEST	CLS	64124
2416009	LONGUEUIL-EST	CLS	63892
2416010	ST-HUBERT	CLS	75912
2416011	LAJEMMERAIS	CLS	100263
2416012	SAINT-JEAN-SUR-RICHELIEU - SAINT-LUC	CLS	99474
2416013	SAINT-BRUNO - BELOEIL - SAINT-HILAIRE	CLS	93736
2416014	CHAMBLY-CARIGNAN-MARIEVILLE	CLS	51380
2416015	BAS RICHELIEU	CLS	50066
2416016	LES MASKOUTAINS	CLS	78917
2416017	COWANSVILLE-FARNHAM-BEDFORD	CLS	49438
2416018	GRANBY-SHEFFORD-BROMONT	CLS	82038
2416019	ACTON	CLS	15167
2417101	BAIE D'HUDSON	CLS	5326
2417102	UNGAVA	CLS	4306
2418101	TERRITOIRE CRI	CLS	12629

ONTARIO

3526	ALGOMA		PHU	117185
3527	BRANT		PHU	118580
3530	DURHAM		PHU	506901
3531	ELGIN-ST THOMAS		PHU	81553
3533	GREY BRUCE		PHU	152965
3534	HALDIMAND-NORFOLK		PHU	104575
3535	HALIBURTON-KAWARTHA-PINE RIDGE		PHU	161761
3536	HALTON		PHU	375229
3537	HAMILTON		PHU	490268
3538	HASTINGS-PRINCE EDWARD		PHU	150816
3539	HURON		PHU	59701
3540	CHATHAM-KENT		PHU	107709
3541	KINGSTON-FRONTENAC-LENNOX-ADDINGTON		PHU	178067
3542	LAMBTON		PHU	126971
3543	LEEDS-GRENVILLE-LANARK		PHU	159101
3544	MIDDLESEX-LONDON		PHU	403185
3545	MUSKOKA-PARRY SOUND		PHU	81111
3546	NIAGARA		PHU	410574
3547	NORTH BAY		PHU	92348
3549	NORTHWESTERN		PHU	77823
3551	OTTAWA		PHU	774072
3552	OXFORD		PHU	99270
3553	PEEL		PHU	988948
3554	PERTH		PHU	73675
3555	PETERBOROUGH		PHU	125856
3556	PORCUPINE		PHU	88205
3557	RENFREW		PHU	96467
3558	EASTERN ONTARIO		PHU	185968
3560	SIMCOE		PHU	377050
3561	SUDBURY		PHU	190841
3562	THUNDER BAY		PHU	155462
3563	TIMISKAMING		PHU	35245
3565	WATERLOO		PHU	438515
3566	WELLINGTON-DUFFERIN-GUELPH		PHU	238326
3568	WINDSOR-ESSEX		PHU	374975
3570	YORK		PHU	729254
3595	TORONTO		PHU	2481494
3504	95A TORONTO WEST	AREA 1A	HPA	
3504	95B TORONTO WEST	AREA 1B	HPA	
3504	95C TORONTO CENTRAL WEST	AREA 2A	HPA	
3504	95D TORONTO CENTRAL WEST	AREA 2B	HPA	
3504	95E TORONTO CENTRAL WEST	AREA 2C	HPA	
3504	95F TORONTO CENTRAL WEST	AREA 2D	HPA	
3504	95G TORONTO CENTRAL EAST	AREA 3A	HPA	
3504	95H TORONTO CENTRAL EAST	AREA 3B	HPA	
3504	95I TORONTO CENTRAL EAST	AREA 3C	HPA	
3504	95J TORONTO CENTRAL SOUTH	AREA 4A	HPA	
3504	95K TORONTO CENTRAL SOUTH	AREA 4B	HPA	
3504	95L TORONTO EAST	AREA 5A	HPA	
3504	95M TORONTO EAST	AREA 5B	HPA	
3504	95N TORONTO EAST	AREA 5C	HPA	
3504	95O TORONTO EAST	AREA 5D	HPA	

PRHR	SUB	NAME / NOM	SUBTYP
BRITISH COLUMBIA / COLOMBIE-BRITANNIQUE			
5901	010	FERNIE	LHA
5901	020	CRANBROOK	LHA
5901	030	KIMBERLEY	LHA
5901	040	WINDERMERE	LHA
5901	050	CRESTON	LHA
5901	180	GOLDEN	LHA
5902	060	KOOTENAY LAKE	LHA
5902	070	NELSON	LHA
5902	090	CASTLEGAR	LHA
5902	100	ARROW LAKES	LHA
5902	110	TRAIL	LHA
5902	120	GRAND FORKS	LHA
5902	130	KETTLE VALLEY	LHA
5903	190	REVELSTOKE	LHA
5903	200	SALMON ARM	LHA
5903	210	ARMSTRONG-SPALLUMCHEEN	LHA
5903	220	VERNON	LHA
5903	780	ENDERBY	LHA
5904	140	SOUTHERN OKANAGAN	LHA
5904	150	PENTICTON	LHA
5904	160	KEREMEOS	LHA
5904	170	PRINCETON	LHA
5904	230	CENTRAL OKANAGAN	LHA
5904	770	SUMMERLAND	LHA
5905	240	KAMLOOPS	LHA
5905	260	NORTH THOMPSON	LHA
5905	290	LILLOOET	LHA
5905	300	SOUTH CARIBOU	LHA
5905	310	MERRITT	LHA
5906	320	HOPE	LHA
5906	330	CHILLIWACK	LHA
5906	340	ABBOTSFORD	LHA
5906	750	MISSION	LHA
5906	760	AGASSIZ-HARRISON	LHA
5907	350	LANGLEY	LHA
5907	360	SURREY	LHA
5907	370	DELTA	LHA
5908	400	NEW WESTMINSTER	LHA
5908	420	MAPLE RIDGE	LHA
5908	430	COQUITLAM	LHA
5909	460	SUNSHINE COAST	LHA
5909	470	POWELL RIVER	LHA
5909	480	HOWE SOUND	LHA
5910	650	COWICHAN	LHA
5910	660	LAKE COWICHAN	LHA
5910	670	LADYSMITH	LHA
5910	680	NANAIMO	LHA
5910	690	QUALICUM	LHA
5910	700	ALBERNI	LHA

PRHR	SUB	NAME / NOM	SUBTYP
5911	710	COURTENAY	LHA
5911	720	CAMPBELL RIVER	LHA
5911	830	CENTRAL COAST	LHA
5911	840	VANCOUVER ISLAND WEST	LHA
5911	850	VANCOUVER ISLAND NORTH	LHA
5912	250	100 MILE HOUSE	LHA
5912	270	CARIBOU-CHILCOTIN	LHA
5912	280	QUESNEL	LHA
5912	490	BELLA COOLA VALLEY	LHA
5913	500	QUEEN CHARLOTTE	LHA
5913	510	SNOW COUNTRY	LHA
5913	520	PRINCE RUPERT	LHA
5913	530	UPPER SKEENA	LHA
5913	540	SMITHERS	LHA
5913	800	KITIMAT	LHA
5913	870	STIKINE	LHA
5913	880	TERRACE	LHA
5913	920	NISGA'A	LHA
5913	940	TELEGRAPH CREEK	LHA
5914	590	PEACE RIVER SOUTH	LHA
5914	600	PEACE RIVER NORTH	LHA
5914	810	FORT NELSON	LHA
5915	550	BURNS LAKE	LHA
5915	560	NECHAKO	LHA
5915	570	PRINCE GEORGE	LHA
5916	390	VANCOUVER	LHA
5916	161	CITY CENTRE VANCOUVER	LHA
5916	162	DOWNTOWN EAST SIDE VANCOUVER	LHA
5916	163	NORTH EAST VANCOUVER	LHA
5916	164	WEST SIDE VANCOUVER	LHA
5916	165	MIDTOWN VANCOUVER	LHA
5916	166	SOUTH VANCOUVER	LHA
5917	410	BURNABY	LHA
5918	440	NORTH VANCOUVER	LHA
5918	450	WEST VANCOUVER-BOWEN ISLAND	LHA
5919	380	RICHMOND	LHA
5920	610	GREATER VICTORIA	LHA
5920	620	SOOKE	LHA
5920	630	SAANICH	LHA
5920	640	GULF ISLANDS	LHA

FILE=H:\GTF2001\SUBNAM04.CAN + THDIST2.COD

APPENDIX J Census divisions, 2001

The numeric code and corresponding census division name, including descriptive names for otherwise unnamed CDs.

PRCD	TYP	CDname
1001	DIV	Avalon Peninsula
1002	DIV	Burin Peninsula
1003	DIV	South Coast
1004	DIV	Stephenville
1005	DIV	Corner Brook
1006	DIV	Central Newfoundland
1007	DIV	Bonavista Bay
1008	DIV	Notre Dame Bay
1009	DIV	Northern Peninsula
1010	DIV	Labrador
1101	CTY	Kings
1102	CTY	Queens
1103	CTY	Prince
1201	CTY	Shelburne
1202	CTY	Yarmouth
1203	CTY	Digby
1204	CTY	Queens
1205	CTY	Annapolis
1206	CTY	Lunenburg
1207	CTY	Kings
1208	CTY	Hants
1209	CTY	Halifax
1210	CTY	Colchester
1211	CTY	Cumberland
1212	CTY	Pictou
1213	CTY	Guysborough
1214	CTY	Antigonish
1215	CTY	Inverness
1216	CTY	Richmond
1217	CTY	Cape Breton
1218	CTY	Victoria
1301	CTY	Saint John
1302	CTY	Charlotte
1303	CTY	Sunbury
1304	CTY	Queens
1305	CTY	Kings
1306	CTY	Albert
1307	CTY	Westmorland
1308	CTY	Kent
1309	CTY	Northumberland
1310	CTY	York
1311	CTY	Carleton
1312	CTY	Victoria
1313	CTY	Madawaska
1314	CTY	Restigouche
1315	CTY	Gloucester
2401	MRC	Les Îles-de-la-Madeleine
2402	MRC	Le Rocher-Percé
2403	MRC	La Côte-de-Gaspé
2404	MRC	La Haute-Gaspésie
2405	MRC	Bonaventure
2406	MRC	Avignon
2407	MRC	La Matapédia
2408	MRC	Matane
2409	MRC	La Mitis
2410	MRC	Rimouski-Neigette
2411	MRC	Les Basques
2412	MRC	Rivière-du-Loup
2413	MRC	Témiscouata
2414	MRC	Kamouraska
2415	MRC	Charlevoix-Est
2416	MRC	Charlevoix
2417	MRC	L'Islet
2418	MRC	Montmagny
2419	MRC	Bellechasse
2420	MRC	L'Île-d'Orléans
2421	MRC	La Côte-de-Beaupré
2422	MRC	La Jacques-Cartier
2423	CU	Québec
2424	MRC	Desjardins
2425	MRC	Les Chutes-de-la-Chaudière
2426	MRC	La Nouvelle-Beauce
2427	MRC	Robert-Cliche
2428	MRC	Les Etchemins
2429	MRC	Beauce-Sartigan
2430	MRC	Le Granit
2431	MRC	L'Amiante
2432	MRC	L'Érable
2433	MRC	Lotbinière
2434	MRC	Portneuf
2435	MRC	Mékinac
2436	MRC	Le Centre-de-la-Mauricie
2437	MRC	Francheville
2438	MRC	Bécancour
2439	MRC	Arthabaska
2440	MRC	Asbestos
2441	MRC	Le Haut-Saint-François
2442	MRC	Le Val-Saint-François
2443	MRC	La Région-Sherbrookoise
2444	MRC	Coaticook
2445	MRC	Memphrémagog
2446	MRC	Brome-Missisquoi
2447	MRC	La Haute-Yamaska
2448	MRC	Acton
2449	MRC	Drummond
2450	MRC	Nicolet-Yamaska
2451	MRC	Maskinongé
2452	MRC	D'Autray
2453	MRC	Le Bas-Richelieu
2454	MRC	Les Maskoutains
2455	MRC	Rouville
2456	MRC	Le Haut-Richelieu
2457	MRC	La Vallée-du-Richelieu
2458	MRC	Champlain
2459	MRC	Lajemmerais
2460	MRC	L'Assomption
2461	MRC	Joliette
2462	MRC	Matawinie
2463	MRC	Montcalm
2464	MRC	Les Moulins
2465	MRC	Laval
2466	CU	Montréal
2467	MRC	Roussillon
2468	MRC	Les Jardins-de-Napierville
2469	MRC	Le Haut-Saint-Laurent
2470	MRC	Beauharnois-Salaberry
2471	MRC	Vaudreuil-Soulanges
2472	MRC	Deux-Montagnes
2473	MRC	Thérèse-De Blainville
2474	MRC	Mirabel
2475	MRC	La Rivière-du-Nord
2476	MRC	Argenteuil
2477	MRC	Les Pays-d'en-Haut
2478	MRC	Les Laurentides
2479	MRC	Antoine-Labelle
2480	MRC	Papineau
2481	CU	Outaouais
2482	MRC	Les Collines-de-l'Outaouais
2483	MRC	La Vallée-de-la-Gatineau
2484	MRC	Pontiac

2485 MRC Témiscamingue
2486 MRC Rouyn-Noranda
2487 MRC Abitibi-Ouest
2488 MRC Abitibi
2489 MRC Vallée-de-l'Or
2490 MRC Le Haut-Saint-Maurice
2491 MRC Le Domaine-du-Roy
2492 MRC Maria-Chapdelaine
2493 MRC Lac-Saint-Jean-Est
2494 MRC Le Fjord-du-Saguenay
2495 MRC La Haute-Côte-Nord
2496 MRC Manicouagan
2497 DIV Sept-Rivières--Caniapiscau
2498 DIV Minganie--Basse-Côte-Nord
2499 DIV Nord-du-Québec

3501 UC Stormont, Dundas and Glengarry
3502 UC Prescott and Russell
3506 DIV Ottawa
3507 UC Leeds and Grenville
3509 CTY Lanark
3510 CTY Frontenac
3511 CTY Lennox and Addington
3512 CTY Hastings
3513 DIV Prince Edward
3514 CTY Northumberland
3515 CTY Peterborough
3516 DIV Kawartha Lakes
3518 RM Durham
3519 RM York
3520 DIV Toronto
3521 RM Peel
3522 CTY Dufferin
3523 CTY Wellington
3524 RM Halton
3525 DIV Hamilton
3526 RM Niagara
3528 RM Haldimand-Norfolk
3529 CTY Brant
3530 RM Waterloo
3531 CTY Perth
3532 CTY Oxford
3534 CTY Elgin
3536 DIV Chatham-Kent
3537 CTY Essex
3538 CTY Lambton
3539 CTY Middlesex
3540 CTY Huron
3541 CTY Bruce
3542 CTY Grey
3543 CTY Simcoe
3544 DM Muskoka
3546 CTY Haliburton
3547 CTY Renfrew
3548 DIS Nipissing
3549 DIS Parry Sound
3551 DIS Manitoulin
3552 DIS Sudbury District
3553 DIV Greater Sudbury
3554 DIS Timiskaming
3556 DIS Cochrane
3557 DIS Algoma
3558 DIS Thunder Bay
3559 DIS Rainy River
3560 DIS Kenora

4601 DIV Lac du Bonnet-Alexander
4602 DIV Hanover
4603 DIV Stanley
4604 DIV Lorne-Pembina
4605 DIV Turtle Mountain
4606 DIV Wallace
4607 DIV Brandon
4608 DIV Swift Current
4609 DIV Portage la Prairie
4610 DIV Macdonald-Cartier
4611 DIV Winnipeg
4612 DIV Springfield-Broken Head
4613 DIV St Andrews
4614 DIV Rookwood-Woodlands
4615 DIV Langford-Minto
4616 DIV Lake of the Prairies
4617 DIV Dauphin
4618 DIV Interlake South-Gimli
4619 DIV Lake Winnipeg-Winnipegosis
4620 DIV Swan River
4621 DIV Moose Lake
4622 DIV Thompson
4623 DIV Hudson Bay
4701 DIV Estevan
4702 DIV Weyburn
4703 DIV Lake of the Rivers
4704 DIV Maple Creek
4705 DIV Melville
4706 DIV Regina
4707 DIV Moose Jaw
4708 DIV Swift Current
4709 DIV Yorkton
4710 DIV Big Quill-Foam Lake-Kutawa
4711 DIV Saskatoon
4712 DIV Battleford-Biggar-Vanscoy
4713 DIV Kindersley-Unity
4714 DIV Star City-Nipawin-Hudson Bay
4715 DIV Prince Albert
4716 DIV North Battleford
4717 DIV Lloydminster-Meadow Lake
4718 DIV Northern Saskatchewan

4801 DIV Medicine Hat
4802 DIV Lethbridge
4803 DIV Southwest (Cardston-Willow/Pincher)
4804 DIV Hanna-Oyen-Consort
4805 DIV Drumheller
4806 DIV Calgary
4807 DIV Stettler-Wainwright
4808 DIV Red Deer
4809 DIV Rocky Mountain House
4810 DIV Camrose-Vermillion River-Lloydminster
4811 DIV Edmonton
4812 DIV Cold Lake
4813 DIV Woodlands
4814 DIV Yellowhead
4815 DIV Jasper-Banff
4816 DIV Wood Buffalo
4817 DIV Peace River
4818 DIV Greenview
4819 DIV Grande Prairie

5901 RD East Kootenay
5903 RD Central Kootenay
5905 RD Kootenay Boundary
5907 RD Okanagan-Similkameen
5909 RD Fraser Valley
5915 RD Greater Vancouver
5917 RD Capital
5919 RD Cowichan Valley
5921 RD Nanaimo
5923 RD Alberni-Clayoquot
5925 RD Comox-Strathcona
5927 RD Powell River
5929 RD Sunshine Coast
5931 RD Squamish-Lillooet

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5933 RD  Thompson-Nicola
5935 RD  Central Okanagan
5937 RD  North Okanagan
5939 RD  Columbia-Shuswap
5941 RD  Cariboo
5943 RD  Mount Waddington
5945 RD  Central Coast
5947 RD  Skeena-Queen Charlotte
5949 RD  Kitimat-Stikine
5951 RD  Bulkley-Nechako
5953 RD  Fraser-Fort George
5955 RD  Peace River

5957 REG Stikine
5959 RD  Northern Rockies

6001 TER Yukon

6106 REG Fort Smith
6107 REG Inuvik

6204 REG Baffin
6205 REG Keewatin
6208 REG Kitikmeot
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APPENDIX K Economic regions and 2001 populations

PRER	ERNAME	ERPOP01
1010	Avalon Peninsula	242875
1020	South Coast - Burin Peninsula	43741
1030	West Coast - Northern Peninsula - Labrador	110583
1040	Notre Dame - Central Bonavista Bay	115731
1110	Prince Edward Island	135294
1210	Cape Breton	147454
1220	North Shore	158282
1230	Annapolis Valley	121152
1240	Southern	121936
1250	Halifax	359183
1310	Campbellton - Miramichi	169880
1320	Moncton - Richibucto	182820
1330	Saint John - St. Stephen	167981
1340	Fredericton - Oromocto	124850
1350	Edmundston - Woodstock	83967
2410	Gaspésie - Îles-de-la-Madeleine	96924
2415	Bas-Saint-Laurent	200630
2420	Capitale-Nationale	638917
2425	Chaudière - Appalaches	383376
2430	Estrie	285613
2433	Centre-du-Québec	218502
2435	Montérégie	1276397
2440	Montréal	1812723
2445	Laval	343005
2450	Lanaudière	388495
2455	Laurentides	461366
2460	Outaouais	315546
2465	Abitibi - Témiscamingue	146097
2470	Mauricie	255268
2475	Saguenay - Lac-Saint-Jean	278279
2480	Côte-Nord	97766
2490	Nord-du-Québec	38575
3510	Ottawa	1119141
3515	Kingston - Pembroke	424021
3520	Muskoka - Kawarthas	340723
3530	Toronto	4930990
3540	Kitchener - Waterloo - Barrie	1053891
3550	Hamilton - Niagara Peninsula	1274833
3560	London	584008
3570	Windsor - Sarnia	609655
3580	Stratford - Bruce Peninsula	286341
3590	Northeast	551672
3595	Northwest	234771
4610	Southeast	86552
4620	South Central	52126
4630	Southwest	103020
4640	North Central	47389
4650	Winnipeg	621451
4660	Interlake	82365
4670	Parklands	44253
4680	North	82427
4710	Regina - Moose Mountain	271123
4720	Swift Current - Moose Jaw	104255
4730	Saskatoon - Biggar	285380
4740	Yorkton - Melville	88752
4750	Prince Albert	197394
4760	Northern	32029

PRER	ERNAME	ERPOP01
4810	Lethbridge - Medicine Hat	238895
4820	Camrose - Drumheller	182374
4830	Calgary	1021060
4840	Banff - Jasper - Rocky Mountain House	80512
4850	Red Deer	153049
4860	Edmonton	975477
4870	Athabasca - Grande Prairie - Peace River	222107
4880	Wood Buffalo - Cold Lake	101333
5910	Vancouver Island and Coast	687901
5920	Lower Mainland - Southwest	2283125
5930	Thompson - Okanagan	465042
5940	Kootenay	145153
5950	Cariboo	160976
5960	North Coast	62569
5970	Nechako	42172
5980	Northeast	60800
6010	Yukon	28674
6110	Northwest Territories	37360
6210	Nunavut	26745

APPENDIX I. Census agricultural regions, 2001

including unofficial descriptive names for otherwise unnamed regions

PR	AR	ARNAME
10	01	Southeastern
10	02	Central
10	03	Western and Labrador
11	01	Eastern
11	02	Central
11	03	Western
12	01	Southwestern
12	02	Annapolis Valley
12	03	Central
12	04	Eastern
12	05	Cape Breton
13	01	Northwestern - Nord-Ouest
13	02	Southwestern - Sud-Ouest
13	03	Southeastern - Sud-Est
13	04	Northeastern - Nord-Est
24	01	Bas-Saint-Laurent
24	02	Saguenay--Lac-Saint-Jean/Côte-Nord
24	03	Québec
24	04	Maurice
24	05	Estrie
24	06	Montréal/Laval
24	07	Lanaudière
24	08	Outaouais
24	09	Laurentides
24	10	Abitibi-Témiscamingue/Nord-du-Québec
24	11	Gaspésie--Îles-d-la-Madeleine
24	12	Chaudière-Appalaches
24	13	Montérégie
24	14	Centre-du-Québec
35	01	Southern Ontario - Sud de l'Ontario
35	02	Western Ontario - Ouest de l'Ontario
35	03	Central Ontario - Centre de l'Ontario
35	04	Eastern Ontario - Est de l'Ontario
35	05	Northern Ontario - Nord de l'Ontario
46	01	Southwestern
46	02	Brandon-Wallace
46	03	Neepawa-Minnedosa-Shoal Lake
46	04	Lake of the Prairies
46	05	Swan River
46	06	Dauphin
46	07	Centre-West
46	08	Centre-South
46	09	Centre-East
46	10	Southeastern
46	11	Centre-North
46	12	Northern
47	1A	Estevan
47	1B	Elcapo-Moosomin
47	2A	Weyburn
47	2B	Regina-Moose Jaw
47	3P	Gravelbourg-Enfield (3AN)
47	3Q	Lake of the Rivers-Laurier-Hart Butte (3AS)
47	3R	Swift Current (3BN)
47	3S	Grassy Creek (3BS)
47	4A	Maple Creek-White Valley
47	4B	Gull Lake-Happyland
47	5A	Yorkton
47	5B	Cote-Good Lake-Preeceville
47	6A	Lumsden
47	6B	Saskatoon
47	7A	Kindersley-St Andrews
47	7B	Biggar-Round Valley
47	8A	Star City-Nipawin-Hudson Bay
47	8B	Humbolt
47	9A	Prince Albert-North Battleford
47	9B	Britannia-Meadow Lake-Battle River
47	00	Northern Saskatchewan
48	01	Medicine Hat-Hanna
48	02	Lethbridge-Drumheller
48	03	Calgary-Foothills
48	4A	Stettler-Wainwritht
48	4B	Camrose-Vermillion River-Lloydminster
48	05	Edmonton-Red Deer-Rocky Mountain House
48	06	Yellowhead-Woodlands-Cold Lake-Wood Buffalo
48	07	Peace River-Grande Prairie
59	01	Vancouver Island-Coast
59	02	Lower Mainland-Southwest
59	03	Thompson-Okanagan
59	04	Kootenay
59	05	Cariboo
59	06	North Coast
59	07	Nechako
59	08	Peace River
60	00	Yukon
61	00	Northwest Territories
62	00	Nunavut

APPENDIX M
SUPPLEMENTARY PROGRAM DIST4X.SAS

DIST4x.SAS is a supplementary program for calculating distances from each record on one file to the closest of many records on a second file.

Use of this program requires that you have already generated two output files through previous use of *PCCF+* Version 4x. It first reads in both files. Then, for each record in the first file, it calculates the distance to each record in the second file. It retains only the minimum distance, plus the ID of the record in the second file for which the minimum distance was found.

By default, the program assumes that you have previously defined two categories of records in the second file (for example, specialist and non-specialist physicians, or general hospitals and children's hospitals). You can modify the program to work with additional or fewer categories, defined and coded however you want.

Basic familiarity with SAS programming is required for use of this supplementary program.