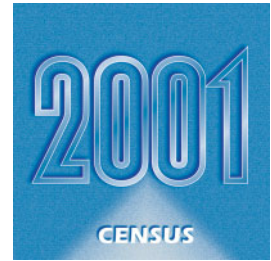




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Dwellings, Households and Shelter Costs

2001 Census Technical Report



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2001 Census Technical Report

Dwellings, Households and Shelter Costs

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Introduction

The 2001 Census required the participation of the entire population of Canada, i.e. some 30 million people distributed over a territory of 9 million square kilometres. An endeavour of this magnitude represented a tremendous challenge. Although there are high quality standards governing the collection and processing of the data, and in spite of efforts aimed at reducing non-response, for example through the use of communications, it is not possible to eliminate all errors. While this term does not necessarily imply any mistake as such, some element of error is bound to result in view of decisions to control census costs.

Statistics Canada is committed to explaining the methods and concepts used to collect and process its data and to providing users with information on the quality of the data produced, as well as other data characteristics which might limit their usefulness or interpretation. This report is aimed at informing users on the complexity of the data and on any difficulties that could affect their use. It explains the theoretical framework and the definitions used to gather the data, and describes unusual circumstances that could affect data quality. Moreover, the report touches upon data capture, edit and imputation, and deals with the historical comparability of the data.

The **2001 Census Technical Reports Series** includes 16 reports covering the variables of the 2001 Census of Population, as well as *Coverage* and *Sampling and Weighting*.

This report deals with dwellings, households and shelter cost data. It has been prepared by the Housing, Family and Social Statistics Division, with the support of staff from the Census Operations Division and the Social Survey Methods Division.

Users will find additional information on census concepts, variables and geography in the *2001 Census Dictionary* (Catalogue No. 92-378-XIE), and an overview of the complete census process in the *2001 Census Handbook* (Catalogue No. 92-379-XIE).

1. Data Collection and Coverage

This stage of the census process ensures that each of the 11.8 million households in Canada is enumerated. The census enumerates the entire Canadian population, which consists of Canadian citizens (by birth and by naturalization), landed immigrants, and non-permanent residents, together with family members who live with them. Non-permanent residents are persons living in Canada who have a Minister's permit, a student or employment authorization, or who are claiming refugee status, and family members living with them.

The census also counts Canadian citizens and landed immigrants who are temporarily outside the country on Census Day. This includes federal and provincial government employees working outside Canada, Canadian embassy staff posted to other countries, members of the Canadian Armed Forces stationed abroad, and all Canadian crew members of merchant vessels. Because people outside the country are enumerated, the Census of Canada is considered a modified *de jure* census.

1.1 General

1.1.1. Collection Methods

To ensure the best possible coverage, the country is divided into small geographic areas called enumeration areas (EAs). Each census representative is responsible for at least one EA. The optimal number of households in an EA ranges from 175 in rural areas to 600 in urban areas. In the 2001 Census, there were 42,851 enumeration areas in Canada, and 38,000 people were engaged in collecting the data.

In 2001, approximately 98% of households were self-enumerated. Self-enumeration requires that a census representative drop off a questionnaire at each household during the two weeks before Census Day. An adult or responsible member of the household is asked to complete the questionnaire for all members of the household, and then mails the questionnaire in a pre-addressed envelope.

Approximately 2% of households were enumerated in the 2001 Census using the canvasser enumeration method. In this case, a census representative visits the household and completes a questionnaire for the household by interview. This method is normally used in remote and northern areas of the country, and on most Indian reserves. The canvasser enumeration method is also used in certain urban areas where it is considered highly possible that respondents would be unlikely to return a questionnaire.

1.1.2 Special Coverage Studies

Since 100% coverage is virtually impossible with such a large survey, a number of checks are performed on the collection of data. These studies measure the extent of coverage errors that occur when dwellings or individuals are missed, incorrectly included or double-counted. These checks are the Vacancy Check, the Reverse Record Check and the Overcoverage Study. These studies are discussed in the 2001 Census Technical Report on *Coverage* (Catalogue No. 92-394-XIE), planned for release in December 2004.

1.2 Questionnaire and Instructions

The Dwelling Universe consists of private dwellings and collective dwellings. However, unless otherwise stated, published data pertain to private dwellings occupied by usual residents **in Canada** only.

Data for private dwellings and private households were obtained from Questions H1 to H8 on the 2B and 2D questionnaires. The 2B questionnaires were used to enumerate a 20% sample of all private households in Canada, while the 2D questionnaires were used to enumerate private households on Indian reserves and in remote areas. Data for structural type of dwelling were coded by trained census representatives on a 100% basis. Details of Questions H1 to H8 are shown below.

Note that in this report **Dwelling variables** include: structural type of dwelling (coded on the front cover of the questionnaire), number of rooms (H3a), number of bedrooms (H3b), period of construction (H4) and condition of dwelling (H5).

Structural type of dwelling

OFFICE USE ONLY

Prov.	FED	EA	VN	CCD	2B			Forms 3	1.
						UD	FR		2.
VR Line No.	Map Block No.	Form type	No. of persons	Questionnaire No.	TD	1	3		
		3				NH/S	TR	Coll.	
				of		2	4		

H3. (a) How many rooms are there in this dwelling? 12 ◀ Number of rooms

Include kitchen, bedrooms, finished rooms in attic or basement, etc.

Do not count bathrooms, halls, vestibules and rooms used solely for business purposes.

(b) How many of these rooms are bedrooms? 13 ◀ Number of bedrooms

H4. When was this dwelling originally built?

Mark the period in which the building was completed, not the time of any later remodelling, additions or conversions. If year is not known, give best estimate.

14 <input type="radio"/> 1920 or before	19 <input type="radio"/> 1981-1985
15 <input type="radio"/> 1921-1945	20 <input type="radio"/> 1986-1990
16 <input type="radio"/> 1946-1960	21 <input type="radio"/> 1991-1995
17 <input type="radio"/> 1961-1970	22 <input type="radio"/> 1996-2001
18 <input type="radio"/> 1971-1980	

H5. Is this dwelling in need of any repairs?

Do not include desirable remodelling or additions.

23 No, only **regular maintenance** is needed (painting, furnace cleaning, etc.)

24 Yes, **minor repairs** are needed (missing or loose floor tiles, bricks or shingles, defective steps, railing or siding, etc.)

25 Yes, **major repairs** are needed (defective plumbing or electrical wiring, structural repairs to walls, floors or ceilings, etc.)

Household variables refer to household maintainer (H1), tenure (H2) and tenure - condominium (H8e).

Shelter cost variables include payment for electricity (H6a), payment for oil, gas, coal, wood or other fuels (H6b), payment for water and other services (H6c), cash rent (H7), monthly mortgage payments (H8a), property taxes (H8b and H8c), value of dwelling (H8d), condominium fees (H8f), owner's major payments (derived from data for H6 and H8a, H8b and H8c) and gross rent (derived from H6 and H7).

H1. Who pays the rent or mortgage, taxes, electricity, etc., for this dwelling?

If more than one person contributes to such payments, mark "⊗" as many circles as apply.

01 Person 1
 02 Person 2
 03 Person 3
 04 Person 4
 05 Person 5
 06 Person 6
 07 A person who is listed on another questionnaire for this dwelling
 08 A person who does not live here

H2. Is this dwelling:

Mark "⊗" one circle only.

10 owned by you or a member of this household (even if it is still being paid for)?
 11 rented (even if no cash rent is paid)?

H6. For this dwelling, what are the YEARLY payments (last 12 months) for:

(a) electricity? 02 None
 03 Included in rent or other payments **OR** 04 Dollars Cents per year

(b) oil, gas, coal, wood or other fuels? 05 None
 06 Included in rent or other payments **OR** 07 Dollars Cents per year

(c) water and other municipal services? 08 None
 09 Included in rent or other payments **OR** 10 Dollars Cents per year

H7. For RENTERS only:

What is the **monthly rent** paid for this dwelling? 11 Rented without payment of cash rent **OR** 12 Dollars Cents per month

H8. For OWNERS only, answer parts (a) through (f):

(a) What are the total regular **monthly** mortgage or loan payments for this dwelling? 13 None **Go to part (c)** OR 14 Dollars Cents per month

(b) Are the property taxes (municipal and school) included in the amount shown in part (a)? 15 Yes **Go to part (d)**
16 No

(c) What are the estimated **yearly** property taxes (municipal and school) for this dwelling? 17 None **OR** 18 Dollars Cents per year

(d) If you were to sell this dwelling now, for how much would you expect to sell it? 19 Dollars

(e) Is this dwelling part of a registered condominium? 20 Yes **Continue with part (f)**
21 No **Go to Step G on next page**

(f) What are the **monthly** condominium fees? 22 None **OR** 23 Dollars Cents per month

In addition to data for the above variables, the census also released counts of the private dwelling stock, comprising all occupied private dwellings and unoccupied private dwellings. Limited data for collective dwellings were also released.

The classification of dwellings as occupied private dwellings, unoccupied private dwellings and collective dwellings was based on the information coded on the front cover of the questionnaire during enumeration.

2. Data Processing

This part of the census process involved the processing of all the completed questionnaires, from the data capture of the information through to the creation of an accurate and complete retrieval database. The final database was transferred to the Data Quality Measurement Project to determine the overall quality of the data, and to the Dissemination Project for the production and marketing of the 2001 Census products and services. A new objective for 2001 was to create an image retrieval system giving access to the images (pictures) of all the census questionnaires and visitation records, so that subsequent processes requiring access to original census forms would not have to handle the thousands of boxes and paper documents, as in previous censuses.

2.1 General

2.1.1 Regional Processing

Regional Processing was responsible for the manual coding of the industry and occupation responses and the data capture of the questionnaire information into a machine-readable format for subsequent processing systems. Given the enormous volume of census questionnaires and information to be captured (representing over 4 billion keystrokes), Regional Processing has been contracting this work out since 1981 to the Canada Customs and Revenue Agency (CCRA), formerly called Revenue Canada. By using the trained staff and infrastructure already in place at CCRA, the census realized cost savings by partnering with another government agency. For the 2001 Census, approximately 2,800 CCRA employees were sworn to secrecy under the *Statistics Act* to perform the census work, under the same rules and regulations as those which apply to the employees of Statistics Canada.

When the collection activities for a specific enumeration area (EA) were completed, the questionnaires, along with their maps and visitation records, were shipped in EA boxes from the field collection units to one of eight designated CCRA tax centres across the country.

The first step was to prepare the completed questionnaires for data capture. This traditionally included the manual assignment of codes to written answers that were provided by the respondents. For 2001, most of the written responses were converted to codes using automated systems (see Section 2.1.4). The only written responses that had to be manually coded for the 2001 Census were the questions on industry and occupation contained in the long-form questionnaires. Research into the automation of the coding of these questions has begun, and it is expected that an automated system will be operational for the 2006 Census.

The industry responses were coded at CCRA according to the North American Industry Classification System (NAICS), which was introduced as a standard within Statistics Canada a few years ago. NAICS is designed to provide a common framework for Canada, the United States and Mexico, which will enable the production of industry statistics under the North American Free Trade Agreement (NAFTA). This meant a change for industry coding - in 1996, industry was coded using the 1980 Standard Industrial Classification (SIC). In order to allow longitudinal comparisons, the 2001 industry question was also coded using the 1980 SIC during the Automated Coding phase (see Section 2.1.4). This phase was carried out with more automated means than in previous censuses.

Once the questionnaires were received and registered at one of the CCRA tax centres, and the industry and occupation codes assigned, the next step was to sort, label and batch the questionnaires in preparation for data capture. The labels affixed to each questionnaire contained a unique sequence number that was used to control the movement of the questionnaire throughout the CCRA operations. For the first time, the label also included a bar code to facilitate the scanning of the questionnaire in the imaging operation (see Section 2.1.2).

Data capture was then performed by traditional manual keying at mainly mainframe terminals. Verification of the accuracy of the data capture operation was done by selecting a sample of questionnaires that were already key-entered and capturing the information from the questionnaires in this sample a second time. Quality control statistics were produced by comparing the two sets of captured information.

As the data were keyed, they were transmitted in real time over dedicated communication lines to the CCRA computer in Ottawa. Within 24 hours, the data were then transferred to tape cartridges and transported by bonded carrier to Statistics Canada, where they were loaded into the mainframe computer. Questionnaires were reassembled into their EA boxes for shipment to Statistics Canada's 2001 processing site in Ottawa.

2.1.2 Imaging

In previous censuses, the remaining processing steps that required access to the questionnaires and visitation records used the paper documents. For 2001, the need to handle the paper was eliminated by imaging (scanning) all the questionnaires and visitation records as soon as they arrived at the 2001 processing site from the CCRA tax centres. Subsequent operations then had access to the questionnaires and visitation record images, using an image retrieval system, rather than using the paper documents.

As the EA boxes arrived at the 2001 processing site, they were registered. Then, the documents were prepared for imaging. Since the questionnaires and visitation records were in booklet format, they had to be cut into separate sheets in order to be run through the scanners. Following the cutting, since the 2A questionnaire was actually two booklets glued together (one English and the other French), the unused portion had to be separated from the completed portion. Extra material that was included with the questionnaires was removed (e.g., paper clips, notes). The questionnaires were then batched by EA for imaging.

The 13 million documents were imaged using 15 high-volume scanners running five days a week, two shifts per day. The geographic identifier that was required to identify each document image was automatically assigned using the bar code on the label affixed during the data capture operations at CCRA (see Section 2.1.1). Quality control was performed to ensure that each document contained the right number of pages, and that the number of questionnaires by form type was correct for each EA. A problem resolution operation resolved any problems that arose. The images were then written to optical platters for subsequent access and archiving. As the questionnaires were scanned, their images were also kept in magnetic storage for immediate access by the Interactive Verification activities (see Section 2.1.3).

The images on the optical platters are being kept in a secure location and are only accessible to authorized Statistics Canada employees from within the secure location.

2.1.3 Interactive Verification

The main objective of Interactive Verification was to identify and correct errors in the data, for which proper resolution required reference to the images of the questionnaires and/or visitation records. A detailed set of edits was applied to the captured data to identify possible errors, such as households with missing or duplicate persons, incorrect enumeration of foreign or temporary residents, questionnaires assigned to the wrong household, or misclassification of households as occupied or unoccupied. A thorough review of the information on all relevant census forms was conducted to determine the appropriate corrective action for each edit failure. In some cases, this required adding and/or deleting persons or dwellings; consequently, this process had an impact on the census counts.

As the census data arrived on cartridges from CCRA, they were loaded into Statistics Canada's computers, ready for the Interactive Verification activities. A series of automated "structural" edits were performed, mainly to verify the information filled out by the Census Representative on the front cover of the questionnaire. These edits included, among other things, matching questionnaire and household types, cross-checking the number of questionnaires and people enumerated, and verifying that the geographic identifiers were unique. Some edits were also performed on the income information, so that anomalies could be extracted and examined by income subject-matter experts.

All edits were done by EA. Errors were flagged, and then corrected by referring to the images of the questionnaires and visitation record for that EA. The corrections were made to the electronic data using an interactive PC-based system. Some of the corrections were also noted on the questionnaire images, using a process commonly called "annotation".

Once the EA edits were completed, automated and manual processes were used to verify the block number that the Census Representative had copied from the EA map onto the questionnaire and visitation record.

A National Block Program has been implemented for the first time in 2001. A "block" is basically the smallest area bounded by streets or roads, lakes and rivers. In urban centres, "blocks" are generally recognizable city blocks. In rural areas, "blocks" are much larger areas, but are still bounded by identifiable features, with no significant feature splitting an area. These blocks are added together to create the EAs for data collection purposes, and the dissemination areas (DAs) for the dissemination of census products and services.

During the field collection operations, as census representatives delivered a questionnaire to each dwelling within their EA, they wrote the person's name (if possible) and the address in their visitation records (VRs). At the same time, they copied the VR line number from the VR onto the questionnaire, to uniquely identify the questionnaire for that dwelling. As well, they identified the block number for the dwelling from their EA map and copied the number into the VR and onto the questionnaire. These block numbers were data-captured, so that all the dwellings in Canada could be identified as belonging to a particular block.

As a final step in the Interactive Verification process, the data were reformatted and forwarded for the final processing steps, namely Automated Coding and Edit and Imputation.

Interactive Verification also performed some special processing to ensure that Canadians living outside Canada on Census Day (people aboard coast guard and Canadian Armed Forces vessels, Canadian-registered merchant vessels, and diplomatic and military personnel) were enumerated.

2.1.4 Automated Coding

Automated coding matched the write-in responses that were "data-captured" from the long-form questionnaires during Regional Processing (see Section 2.1.1) to entries in an automated reference file/classification structure containing a series of words or phrases and corresponding numerical codes. Although a large percentage of write-in responses can be coded in a purely automated manner, a series of responses always remains unmatched. Specially trained coders and subject-matter experts reviewed all unmatched responses and, with the assistance of PC-based interactive coding systems, assigned the appropriate numerical code after examining responses to other questions and from other members of the household. Automated coding was applied to write-in responses for the following questions on the long form (2B):

- relationship to Person 1;
- home language;

- non-official languages;
- first language learned in childhood (mother tongue);
- language of work (new in 2001);
- place of birth;
- place of birth of parents (new in 2001);
- citizenship;
- ethnic origin (ancestry);
- population group;
- Indian Band/First Nation;
- place of residence 1 year ago;
- place of residence 5 years ago;
- major field of study;
- religion (last asked in 1991);
- place of work;
- industry according to the 1980 SIC (first time for automated coding in 2001).

As the responses for a particular variable were coded, the data for that variable were sent to the Edit and Imputation phase.

2.1.5 Edit and Imputation

2.1.5.1 General

The data collected in any survey or census contain omissions or inconsistencies. These errors can be the result of respondents answering the questions incorrectly or incompletely, or they can be due to errors generated during processing. For example, a respondent may be reluctant to answer a question, may fail to remember the right answer or may misunderstand the question. Census staff may code responses incorrectly or may make other mistakes during processing.

Prior to Edit and Imputation, the questionnaires underwent some basic manual edits during collection. Field staff reviewed the questionnaires for missing responses or unacceptable multiple responses. Such problems were resolved by contacting the respondents and obtaining the required information. Following collection, Interactive Verification (see Section 2.1.3) performed some basic structural edits, where the images of the questionnaires and visitation records were referenced as necessary.

The final clean-up of the data was done in Edit and Imputation and was, for the most part, fully automated. It applied a series of detailed edit rules that identified any missing or inconsistent responses. These missing or inconsistent responses were corrected most of the time by changing the values of a few variables as possible through imputation. Imputation invoked "deterministic" and/or "minimum-change hot-deck" methods. For deterministic imputation, errors were corrected by inferring the appropriate response value from responses to other questions. For minimum-change hot-deck imputation, a record with a number of characteristics in common with the record in error was selected. Data from this "donor" record were borrowed and used to change the minimum number of variables necessary to resolve all the edit failures.

Two different automated systems were used to carry out this processing.

The **Nearest-neighbour Imputation Method (NIM)**, developed for the 1996 Census to perform Edit and Imputation for basic demographic characteristics such as age, sex, marital status, common-law status and relationship to Person 1, was expanded for 2001 and implemented in a system called **CANCEIS (CANadian Census Edit and Imputation System)** to include Edit and Imputation for such variables as

industry, place of work, mode of transportation and mobility. As in 1996, CANCEIS continued to allow more extensive and exact edits to be applied to the response data, while preserving responses through minimum-change hot-deck imputation.

SPIDER (**S**ystem for **P**rocessing Instructions from **D**irectly **E**ntered **R**equirements) was used to process the remaining census variables, such as mother tongue, dwelling and income. This tool translated subject-matter requirements, identified through decision logic tables, into computer-executable modules. SPIDER performed both deterministic and hot-deck imputation.

2.1.5.2 Dwelling Classification Study (DCS)

The Dwelling Classification Study takes a sample of dwellings declared either unoccupied or absent during the collection process. Later, the DCS returns to these dwellings to determine if, on Census Day, they were occupied, unoccupied or should not have been listed because they did not meet the definition of a census dwelling. If a dwelling was occupied, one of two separate adjustments is made to the census database. If the dwelling was listed as vacant in the census, then a technique, called "random additions", was applied to add households and persons to the census database. In the 2001 Census, 111,628 households and 222,720 persons were added to the database to account for the estimated number of persons living in vacant dwellings. The second adjustment was concerned with absent households. These were adjusted by creating a new household size for all such dwellings on the census database. A total of 143,681 households with 317,587 persons were added to the census database through this adjustment.

2.1.5.3 Weighting

Data on age, sex, marital status, common-law status, mother tongue and relationship to Person 1 were collected from all Canadians. However, the bulk of the information gathered in the census came from the 20% sampling of the population. Weighting, applied to the respondent data after Edit and Imputation, was used to adjust the census sample to represent the whole population.

The weighting method produced fully representative estimates from the sample data. For the 2001 Census, weighting employed a methodology known as calibration (or regression) estimation. Calibration estimation started with initial weights of approximately 5 and then adjusted them by the smallest possible amount needed to ensure closer agreement between the sample estimates (e.g., number of males, number of people aged 15 to 19) and the actual population counts for age, sex, marital status, common-law status and household size.

Once invalid and non-response data were corrected, they were transferred to the final national retrieval databases for subsequent data quality studies and dissemination.

2.2 Dwellings, Households and Shelter Costs – Processing

The **Dwelling Module** in Edit and Imputation processed data for occupied private dwellings. The dwelling variables are: structural type of dwelling; tenure; rooms; bedrooms, period of construction and condition of dwelling. The definitions of these variables are found in Appendix A. Note that data for structural type of dwelling were processed on a 100% basis in the 2001 Census.

Data for **household maintainer** were processed in separate modules. The definition for this concept is found in Appendix A.

The concept of household maintainer applies to private households only. Each private household can identify more than one person as the maintainer. Given the method of data collection, the maximum number of household maintainers that a household can identify is six.

The person(s) identified as household maintainer(s) must be 15 years of age or older, and be related to Person 1 in terms other than a lodger or an employee (or a member of a lodger's or an employee's census family).

There are no changes to the 1996 processing strategy for household maintainer data.

The **Shelter Cost Module** processed the following variables: payment for electricity (H6a), payment for oil, gas, coal, wood or other fuels (H6b), payment for water and other services (H6c), cash rent (H7), monthly mortgage payment (H8a), property taxes (H8b and H8c), value of dwelling (H8d), tenure - condominium (H8e) and condominium fees (H8f). The definition for these variables is found in Appendix A.

2.2.1 Edit and Imputation

2.2.1.1 Edit

Dwelling variables were processed in sequential order. Structural type of dwelling data were edited and imputed before rooms and bedrooms. Data for tenure, period of construction and condition of dwelling were processed at the same time.

Data for **household maintainer** were processed separately from all other dwelling and shelter cost data. The edits for household maintainer were based on finalized data for age and relationship to Person 1.

Shelter cost data were processed after the Dwelling Module had been completed, as the processing depended on the finalized tenure data. The first step was to derive an indicator for farm operator in farm dwelling (FOPIND). This indicator was later used as a screen for further processing. Multiple responses were resolved in the Pre-edit component. The resolved data were then passed to the Edit component for identification of data errors, and the identification of "good" and "bad" records. For shelter cost variables, a ceiling dollar amount was set for each type of shelter expenditure in Questions H6 to H8. Data errors consisted of non-responses, and responses that exceeded the ceiling dollar amounts.

In general, the editing strategy involved several steps. The first step was "Pre-derive". Apart from reformatting data for processing, the Pre-derive component's primary function was to resolve multiple responses (where multiple responses were not accepted). The output of Pre-derive were single responses that were to be processed in the Edit component.

The second step was "Edit". The function of the Edit component was to identify valid and invalid data. Valid data were data that passed edit and required no modification. Invalid data were data that failed edit and required imputation. For dwelling, household and shelter cost data, invalid data included non-responses where responses are required (e.g., no response for tenure), out-of-range values (e.g., a mobile home that has 19 rooms) and inter-variable conflicts (e.g., a dwelling has two rooms and four bedrooms). The identification of valid/invalid data was based upon specific criteria that defined, for each variable, what values were acceptable, and which ones were not. These criteria were specified in decision-logic tables for each variable or group of variables.

It is known from previous censuses that data problems for dwelling, household and shelter cost variables included (a) multiple responses (where multiple responses are not accepted), (b) non-response (where a response is required), (c) out-of-range values and (d) inter-variable conflicts. The above-mentioned processing steps were designed to address these data problems.

2.2.1.2 Imputation

Imputation was the process whereby an invalid value was replaced by a valid value. For dwelling, household and shelter cost variables, records that passed edit (i.e. good records) became eligible donors and required no imputation; whereas records that failed edits were subject to imputation from the pool of good records.

Stratification based on the structural type of dwelling and tenure was used to maximize the homogeneity of donor and recipient records. Furthermore, to the extent possible, donors were chosen from the geographic proximity of the recipient. If a donor could not be found for one or more of the variables, then one of the default tables was used to assign a valid value.

In 2001, data imputation for rooms and bedrooms was changed to address the data processing bias in previous censuses. In essence, the new approach allowed for a more random selection of donor records on a 50-50 basis. That is to say, for all data conflicts arising from the inter-variable edits, 50% of the imputation applied to rooms and the other 50% of the imputation applied to bedrooms.

2.2.2 Finalization

At the completion of data processing, the edited data distributions were evaluated with a view to identifying any data bias introduced by processing. The edited data were also used to derive certain variables that include number of household maintainers, owner's major payments and gross rent. All finalized data and data for derived variables were used for subsequent retrievals in standard census tabular products.

3. Data Quality Measurement

3.1 General

Throughout the census-taking process, every effort was made to ensure high-quality results. Rigorous quality standards were set for data collection and processing, and the Public Communications Program assisted in minimizing non-response. A Data Quality Measurement Program was established to provide users with information on the quality and limitations of census data.

Although considerable effort is made throughout the entire process to ensure high standards of data quality, the resulting data are subject to a certain degree of inaccuracy. To assess the usefulness of census data for their purposes and to understand the risk involved in drawing conclusions or making decisions on the basis of these data, users should be aware of their inaccuracies and appreciate their origin and composition.

Within the **2001 Census Technical Reports Series**, users will find detailed 2001 Census information on *Coverage* and *Sampling and Weighting*. These two reports are scheduled to be released in November and December 2004 respectively.

3.2 Dwelling, Household and Shelter Cost Data

In general, the evaluation of dwelling, household and shelter cost data consisted of the following:

- examination of total imputation rates;
- comparison of the distributions of unedited and edited data to determine if any data bias is introduced by imputation;
- historical comparison with data from the previous census(es);
- comparison with other sources of data as applicable.

The results of data evaluation are summarized below.

Tenure – The total imputation rate was 3.4% (2.2% in 1996). At the provincial/territorial level, the non-response rate was very high in Yukon (11.9% in 2001, compared with 8.9% in 1996) and the Northwest Territories (9.8% in 2001, 2.8% in 1996), followed by Nunavut (4.5%). The reason for the high imputation rate in Yukon and the Northwest Territories in 2001 was due primarily to non-response. The causes for non-responses were not known. The rates for Quebec, Ontario and British Columbia ranged from 3.5% to 3.8%.

There were 9,442 records with invalid (i.e. multiple) responses. This translates into 0.4% of the total number of records processed.

A total of 86,182 records (non-responses + invalid responses) required imputation, yielding a total imputation rate of 3.8%. This rate was not considered excessively high, and the impact of imputation was not expected to affect the final data in a significant manner.

By and large, the 2001 data for tenure were comparable to the 1996 data. The increase in owned dwellings reflected the trend in residential housing market towards home ownership, particularly among persons living alone. This change was a continuation of a secular trend, already observed in 1996. The increase in Band housing may be attributed in part to the improved coverage of households on reserves, where the population has also increased.

The 2001 Census counts were compared with the counts from the 2000 Survey of Household Spending (SHS). There were differences between the 2001 Census data and the SHS estimates. In absolute terms, the census count of owned dwellings fell within two coefficients of variation (CVs) of the SHS estimate at the Canada level. However, the SHS reported more rented dwellings than the census. In terms of percentage distribution of dwellings by tenure, the two sources reported similar proportions.

At the provincial level, census data were comparable with SHS estimates for most provinces except Newfoundland and Labrador, Quebec and Ontario, where the census counts of rented dwellings were slightly lower than the SHS counts.

Period of Construction – The total imputation rate for this variable was 5.2%. Since knowledge of the period of construction among respondents was not expected to be universal, particularly among renter households, this non-response rate was not considered excessively high. In all, 118,936 records (unweighted count) required imputation. Edit and imputation did not alter the data distribution in any significant manner.

At the Canada and provincial levels, the 2001 data were generally comparable with the 1996 data. Some minor numerical differences could be observed for dwellings built between 1981 and 1985, but the differences could have resulted from demolitions, or a certain degree of response error (either in the 1991 Census, or in the 1996 Census, or in both censuses), or sampling variance. All in all, the magnitude of the differences did not indicate that there was a serious problem with data quality. Comparison with SHS data showed some differences between the census and SHS estimates for "1971-1980". It was not possible to say which survey provided a more accurate estimate, as both were subject to the same response error from the responding households.

Rooms and Bedrooms – The total imputation rate for Rooms at the Canada level was 5.8%. About 131,866 records out of 2.29 million required imputation. The imputation rate was high in Ontario and Alberta (both at about 6.2%), British Columbia (8.9%), Yukon (16.3%) and Northwest Territories (12%). The total imputation rate was a combination of non-responses and invalid data resulting from inter-variable (Rooms and Bedrooms) edits. Non-responses for Rooms as well as for Bedrooms could not be attributed to respondents' lack of knowledge, but may have resulted from an unwillingness to provide the information.

Data processing did not result in any distortion of data for rooms. Historical comparison with data from the two previous censuses indicated that the counts of one- and two-room dwellings in 2001 may be slightly underestimated. The census estimates were also slightly lower than the SHS estimates for dwellings with one to four rooms, but higher for dwellings with seven or more rooms.

The total imputation rate for Bedroom data was 5.7% for Canada. A total of 130,198 records required imputation. Provincially, Ontario, British Columbia, the Yukon and Northwest Territories had higher imputation rates (6.2%, 8%, 16.3% and 11.4% respectively) than elsewhere in Canada.

The most noticeable change from the 1996 Census was the decrease in dwellings with no bedrooms. Given the overestimation of these dwellings in 1996, and viewed in the longer-term context, the 2001 count of zero-bedroom dwellings was reasonable. There were some absolute and proportionate differences between the census and SHS estimates of dwellings with 0-1 bedrooms and 3+ bedrooms.

Condition of Dwelling – No data processing errors were detected, although 2.2% of the records (a total of 51,432 records) required imputation.

The 2001 and 1996 percentage distributions of dwellings according to the condition of dwelling were practically identical at the Canada level, as well as at the provincial/territorial levels of geography.

As in previous censuses, the data distribution in 2001 differed somewhat from the distribution from the 2000 Survey of Household Spending. Census reported fewer, absolutely and proportionately, dwellings requiring regular maintenance than SHS. The reverse was true of dwellings requiring minor repairs. A high degree of comparability could be seen for the major repairs response category.

Similar results were obtained in the 1991 and 1996 Censuses; viz., that SHS reported a lower count of minor repairs than census, and a higher estimate for regular maintenance. This may be due to the reverse order of listing for the three response categories in the census and SHS.

Structural Type of Dwelling – In pre-census consultations, some users indicated the need for new categories of structural type of dwelling. In response, Statistics Canada evaluated the feasibility of coding two new types: "Apartment without direct ground access in a building that has fewer than five storeys" and "Apartment with direct ground access in a building that has fewer than five storeys". Based upon the results of the pre-census evaluation, Statistics Canada decided to code these two types in the 2001 Census. These two new categories were in fact the subsets of the category "Apartment in a building that has fewer than five storeys" in previous censuses.

Data for this variable were coded by trained census representatives in the field. One point seven percent (1.7%) of the records were non-responses and required imputation. The comparison of edited and unedited data indicated that imputation did not alter the overall percentage distribution of structural type.

At the Canada level, three types of dwellings decreased between 2001 and 1996: other movable dwelling (-891 or -13.5%), apartment/flat in a detached duplex (-31,370 or -7.03%) and mobile homes (-1,919 or -1.25%). All other types showed an increase. With the possible exception of apartment/flat in a detached duplex, the absolute changes in the other categories seem reasonable.

However, a significant difference was found when the 2001 Census counts for "multiple dwellings" (comprising row houses, semi-attached, apartment/flat in a detached duplex, apartment in a building that has fewer than five storeys, apartments in a building that has five or more storeys) were compared with estimates based on the addition of flow data (i.e. housing starts and completions less demolitions) to the 1996 Census data. The reasons for this discrepancy remain under investigation.

The comparison with data from the Survey of Household Spending (SHS) indicated that the data from the two sources were by and large comparable. The only exception was the "Other" category (SHS classification, referring mainly to mobile homes and other movable dwellings), where the SHS estimate was considerably higher than the census count. Note that, for this category, SHS estimates were not available in some provinces and the territories because of small cell size. Among the provinces for which SHS estimates were shown, Alberta was the only area where the census count fell outside the lower limit of the SHS estimates.

Evaluation of the new type "Apartment with direct ground access" consisted of field observation of selected areas in some major urban centres. This turned out to be the only means available for evaluation. No other survey in Statistics Canada had the same dwelling type, and only very limited administrative data existed. The results of the field evaluation showed a significant degree of misclassification for "Apartment with ground access in a building that has fewer than five storeys".

The data anomaly with the two new categories is described below (see Subsection 3.3.2). However, if the counts of these two new categories are aggregated, then the data are comparable with the 1996 count for "Apartment in a building with fewer than five storeys". As a result, only the aggregated counts for "Apartment – less than five storeys" are released in 2001.

Household Maintainer – At the Canada level, only 36,982 out of 2.29 million private households (both unweighted counts) did not respond to Question H1. This translates into a non-response rate of 1.6% (compared with 1.3% in 1996).

As a result of subsequent edits (i.e. re-ordering persons in the household as part of relationship edit), a total of 38,170 records (1.7% of all households processed) required imputation. All except 11 records were imputed from perfectly matched donor households. The 11 records with no perfectly matched donors resulted in default imputation.

Data evaluation also involved the examination of the primary household maintainer by age group and sex for both 1996 and 2001. The results of the 2001-1996 comparison indicated that:

- The overall proportion of female maintainers increased to 36% in 2001 from 34.8% in 1991.
- The increase for both male and female maintainers was more pronounced in three age groups: 40-49, 50-59 and 75 and over. The 40-50 age group was a reflection of the demographic predominance of the baby-boomers, while the 75+ age group corroborated the increasing life expectancy of the population and the ability of older persons to stay in private households.
- Overall, the 2001 and 1996 distributions were comparable.

In terms of the percentage distribution of private households by household size showing the number of household maintainers, it was found that the proportion of households in Canada with only one maintainer decreased very slightly to 64.7% in 2001 from 65.8% in 1996, while the share of two-maintainer households increased slightly.

Among larger households (four persons or more), the proportion with only one maintainer decreased, while the proportion with two or three + maintainers increased.

However, the overall percentage distribution of households by the number of household maintainers in 2001 was still comparable with that of 1996.

With respect to the number of household maintainers, the slight shift in the proportion of one-maintainer households vis-à-vis two-maintainer households was quite evident. This was true of all types of households, except one-person households. It is to be emphasized that, in spite of the slight shift, the proportionate distribution of households by number of maintainers in 2001 was still comparable to the 1996 distribution for each type of household.

As regards the percentage distribution of household maintainers by relationship to Person 1, the 2001 distribution was almost identical to the percentage distribution in 1996 and 1991. The only difference at the Canada level was the very slight increase (0.13% points) in son/daughter of Person 1 as maintainers. This difference was not significant, and may be attributed to the inclusion of same-sex partner's son/daughter in 2001. These were minor changes that did not detract from the general conclusion that the 2001 percentage distribution of maintainers by relationship to Person 1 was virtually identical to the 1996 distribution.

These evaluation results indicated that, overall, the 2001 data are comparable to the 1996 data in terms of age group, sex and relationship to Person 1, as well as the number of household maintainers by household size and household type.

The total imputation rates for different **shelter cost variables** by tenure were as follows. The results of data evaluation showed that the data are of acceptable quality.

	Owners	Renters
	%	%
Electricity	8.5	5.1
Oil, gas, coal, wood or other fuels	10.8	7.1
Water and other services	13.3	7.3
Mortgage	7.7	Not applicable
Property taxes	7.2	Not applicable
Cash rent	Not applicable	5.8

The comparisons of unedited with edited data for the above variables indicated that, by and large, imputation of non-responses and invalid responses conformed to the overall distribution of data, and did not result in any distortion of the distribution.

Of particular concern was the imputation of high values for each of the components. The evaluation showed that some imputations were in the order of \$2,000 and over. However, as aforementioned, there was no evidence of a bias or over-representation of imputation of such values.

For each component of shelter cost, as well as for the derived variables Owner's Major Payments and Gross Rent, the 2001 data were compared with the 1996 data. In general, the data distributions from the two censuses were quite similar for all of the components of shelter cost, although more households reported slightly higher payments. The comparison for each component is summarized as follows:

Electricity – The 2001 data distribution was very similar to the 1996 distribution. The proportion of owners spending \$1,000+ increased in Saskatchewan (from 35% to 44%) and Alberta (31% to 49%). Among renters, there has been very little change, except in Alberta, where the percentage of households spending \$1,000+ increased to 18% from 11% in 1996.

For 84% of owners, the cost of electricity represented less than 30% of the owner's major payments in 2001. Among renters, about 92% of the households spent less than 30% of their gross rent on electricity.

Oil, Gas, Coal, Wood and Other Fuels – There has been a significant increase in owner households spending \$1,000+ for fuel between 1996 and 2001, and a general decrease in the lower cost categories. About 45% of owners in Canada reported spending \$1,000 (annual payment) in fuel, compared with 24% of renters.

Among renters, the increase in the \$1,000+ category was far less dramatic (from 192,300 or 5% of all renters in 1996 to 347,110 or 9% of renters in 2001). The number and proportion of renters reporting fuel expenditures (responses for the category "Included in rent or other payments"), or who marked the answer circle "None", remained roughly the same as in 1996.

For close to 90% of owners and 99% of the renters, the cost of fuel as a percentage of total shelter cost in 2001 was less than 30%.

The increase in the number of owners reporting \$1,000+ fuel cost may reflect the rising cost of energy and possibly increased consumption.

Water and Other Municipal Services – Among renters, the number and proportion of households reporting none or included in other payments for this shelter cost component in 2001 were almost the same as in 1996. Only 9.3% of renters reported some cost for this component. For those reporting renters, the modal annual payment was \$200-\$399.

Among owners, 59% reported annual payment for this item. The distribution of households by the amount of payment in 2001 was very similar to that in 1996. The majority of households with payment spent between \$200 and \$599.

Cash Rent – The 2001 and 1996 distributions were similar. There were more households paying rent between \$800 and \$1,999 in 2001, and fewer households paying less than \$500 per month. The most significant increases in higher rents occurred in Ontario, where a distinct upward shift in rents occurred. The majority of tenants (about 70%) paid between \$400 and \$1,000 in rent. This modal amount of rent fell within expectations.

Mortgage – The 1996 and 2001 distributions of owners by monthly mortgage payments were similar, with the exception of the \$1,000+ category. The absolute increase in this category was close to 300,000 households. As a share of all owners, those spending \$1,000+ increased from 15% in 1996 to 18% in 2001.

The increase in owners spending \$1,000+ was most noticeable in Ontario. The increase of about 150,000 Ontarian households in this expenditure category accounted for half of the total increase in Canada. Alberta and British Columbia also witnessed increases of about 50,000 households each.

Property Taxes – Compared with the 1996 data, absolute and proportionate increases in the \$1,000+ category have been reported in all provinces and territories. The increases were more pronounced in Ontario (253,060 or 13.6%), Quebec (148,190 or 13.6%) and Alberta (121,305 or 31.5%).

The increase in property taxes in many provinces may be related, at least in part, to the general price increase in the value of housing.

Condominium Fees – The historical comparison revealed that condominium fees for the 668,815 owners in 2001 were comparable to the fees reported for 1996. As in 1996, the vast majority of owners paid less than \$400 for condominium fees.

Owner's Major Payments (derived) – No data problems were detected.

The overall distribution of owners by owner's major payments for 2001 was similar to that for 1996, with the exception of the \$1,000 and over category. While the number of owner households increased by 11.1% between 1996 and 2001, those spending \$1,000 and over monthly increased by 31.8%. However, the average payment among these high-cost owners was \$1,524, an amount that is comparable to the 1996 average of \$1,494. This average amount was not considered excessive relative to 2001 market prices.

In all provinces and territories, there were fewer households reporting lower costs (up to \$299 per month), and more households reporting higher costs. Between 1996 and 2001, the biggest absolute increase in households spending \$1,000 or more was in Ontario (about 280,000 households). For these Ontarian households, the average payment in 2001 was \$1,566, compared with the \$1,539 reported for 1996.

Overall, about 67% of owners in Canada spent less than \$1,000 per month on shelter, while some 33% spent \$1,000 and over.

Gross Rent (derived) – No data problems were detected. The intercensal comparison of the distributions of household by gross rent showed the same results as for cash rent. This is not surprising, as cash rent constitutes the major component of shelter cost for the vast majority of tenants.

The average shelter costs from the census were comparable to the averages obtained from the 2001 SHS.

Value of Dwelling – The total imputation rate for this variable was 12.8%. A total of 187,276 records required imputation. Comparison of edited and unedited data showed that the overall data distribution was not changed by the imputation for non-responses and invalid responses. At the high end of the spectrum (\$300,000+), imputed data represented 10% of the final unweighted data. In other words, 90% of the high values on the final database were respondent-provided data. The highest concentration of these imputed records was in Ontario and British Columbia.

The comparison of 1996 and 2001 data for value of dwelling corroborated the general upward trend in housing prices. However, the intercensal changes varied from province to province and from census metropolitan area (CMA) to CMA.

In terms of intercensal percentage change, increases in the average and median values of dwelling were more pronounced in Alberta and Saskatchewan. At the provincial level, British Columbia was the only province where respondents reported slightly lower expectations with respect to the sale value of their homes. It should be mentioned that, according to Statistics Canada's New Housing Price Index, there has been a decrease of close to 13% for British Columbia between May 1996 and May 2001.

Among CMAs, Saskatoon and Calgary had the highest percentage increases (about 33% in both cases) in the median value of dwelling, followed by Toronto and Regina (about 22% in both cases). The comparison of New Housing Price Index for these CMAs shows similar increases, except in Saskatoon where the price index showed only a 12% increase between May 1996 and May 2001.

Overall, there have been increases in most urban areas, as reported in the media. Statistics Canada's New Housing Price Index for the period between the 1996 and 2001 Censuses also showed general increases, although the magnitude of change may differ somewhat from the changes in census in different CMAs.

Average house prices for multiple-listing sales from the Canadian Real Estate Association (CREA) was another source of data used for data evaluation. A comparison of CREA and census data should take into account some differences inherent in the two data sets.

It should be noted that the CREA averages were based on transaction values in the real estate market. The transaction values pertained almost entirely to the resale prices of homes and rarely included the price of new homes that were typically sold directly by the developers to the consumers.

The census data, in contrast, were based on the expected sale value of the dwelling for all owner-occupied dwellings, both old and new stock, and irrespective of any actual market transaction. Even among the old stock, not every dwelling was in the market, and the values of these dwellings were not reflected in the CREA data.

Then, too, there may be differences between expected value and actual transaction value under normal market conditions. In exceptional circumstances (for example, an "over-heated" real estate market where demand far exceeds supply), however, the difference between expected (roughly the asking price) and the transaction price may be minimal.

The CREA averages may also be affected by the relative weight of the sales. If, for any particular urban centre, more high-priced dwellings were resold than medium-priced or lower-priced dwellings, the average CREA price would be higher than the average of all dwellings. Of course, the converse would also be true. The census averages, on the other hand, were based on the full range of the price spectrum.

Finally, the CREA geography referred to their sales regions, and not the census geographic delineation.

Notwithstanding the above-noted differences, the 2001 Census data compared very well with the CREA sales averages in 2001. There were differences in some CMAs between the CREA and census averages, but the differences were by no means excessive. Even in CMAs where the averages differed, the CREA averages were still very comparable to the census median values. It is safe to conclude that, given the above-mentioned factors that may affect the comparability of data, the 2001 Census average and median values of dwellings were still representative of the market prices in most major urban centres.

3.3 Sources of Errors and Evaluation Studies

3.3.1 Counts of Private Dwellings Occupied by Foreign/Temporary Residents and Unoccupied Dwellings

For 2001, the count of total dwellings in some areas is substantially higher than reported for the 1996 Census of Canada. The increase in the total number of dwellings between 1996 and 2001 is directly linked to our efforts to improve the coverage of seasonal dwellings. Based on our consultation process for 2001 and the requirements to simplify collection procedures and improve overall coverage of dwellings, the 2001 Census private dwelling definition was modified slightly from previous censuses to eliminate one criterion – access to a source of drinking water throughout the year. The result was that more private dwellings were counted in the 2001 Census – specifically, more seasonal dwellings (secondary residences such as cottages, cabins and/or chalets) that now meet the private dwelling definition. Care should be exercised in comparing the 2001 counts of total dwellings (including both occupied and unoccupied) with dwelling counts from the 1996 and earlier population and dwelling count release.

3.3.2 Structural Type of Dwelling

In response to user demand for more detailed classifications for structural type of dwelling, the 2001 Census collected data for two new categories for structural type of dwelling:

Apartment with direct ground access in a building that has fewer than five storeys

and

Apartment without direct ground access in a building that has fewer than five storeys.

Postcensal data evaluation has revealed a serious misclassification problem with these dwellings. As a result, the data will not be released.

The problem seems to be the census representatives' interpretation of "with/without ground access" when they coded the dwellings. By and large, these misclassified dwellings were units in apartments in buildings with fewer than five storeys. Data for "Apartment in a building that has fewer than five storeys" have been released in 2001 products. This category is an aggregate of the two new previously mentioned categories, and is directly comparable with the same category from previous censuses. It presents no data problems.

4. Historical Comparability

There are no changes in the concepts and definitions of **dwelling, household and shelter cost variables**. The only exception is the above-noted new categories in structural type of dwelling, as previously mentioned. In all data releases, the data are historically comparable to the data from the 1996 Census.

For the **dwelling stock data**, the 2001 definition of a marginal dwelling differs slightly from the 1996 definition in that the access to a source of drinking water throughout the year was eliminated. The result is that more private dwellings were counted in the 2001 Census – specifically more seasonal dwellings (secondary residences such as cottages, cabins and/or chalets) that now meet the private dwelling definition.

For collective dwellings, a new category, "**Shelters**", was added to the types of collective dwellings in the 2001 Census in order to potentially better identify the population in shelters. This category includes emergency or temporary accommodation for persons who may have no other usual place of residence, facilities for abused women/partners and their children, halfway houses and other shelters with some form of assistance. In previous censuses, the shelter population was included as part of several broad categories of collectives.

The classification of collective dwellings during census enumeration has evolved over time and has become quite complex. Collectives such as YM/YWCAs, hostels, some motels, hotels and rooming houses may be multi-purpose in that they offer communal accommodation to the public, and they may also deliver shelter services. For example, the city of Toronto rents space in youth hostels, hotels and motels to provide short-term emergency accommodation. The census classifies these types of collective dwellings as hotels, motels, rooming-houses, etc.

The most basic purpose of the census is to enumerate every person in Canada where he/she usually lives. Because of the nature of many collective dwellings, some individuals who were in a collective dwelling on Census Day were there temporarily and had a usual place of residence elsewhere. These persons were enumerated at their usual place of residence. However, residents of collective dwellings who had no other usual place of residence were enumerated at the collective dwelling.

In view of the classification issues related to collective dwellings and the census concepts related to usual place of residence, care must be taken in interpreting the data on the census population enumerated in shelters. The census count of the population in shelters should not be interpreted as a count of the "homeless" since homeless persons may well have been enumerated in other types of collective dwellings (e.g., hotels, motels, YM/YWCAs, etc.). Furthermore, the census count of persons in places classified as shelters does not represent the total population of persons who slept in a shelter on Census Day since, in some cases, persons temporarily residing in shelters would have been enumerated at their usual place of residence.

5. Conclusion

This report described the data collection, data processing and data evaluation for dwelling, household and shelter cost data in the 2001 Census. The total imputation rate for each variable was presented, and the results of data evaluation showed that, in most cases, the data on dwelling, household and shelter cost variables compared well with other sources and with data from previous censuses.

The 2001 Census count of **total dwellings** in some areas is substantially higher than reported for the 1996 Census. The slight change in the definition of "marginal dwelling", coupled with Statistics Canada's efforts to improve the coverage of seasonal dwellings, resulted in more private dwellings being counted.

Important differences exist between the 2001 Census counts of dwellings by type and estimates derived from adding flow data (i.e. housing starts and completions minus demolitions) to the 1996 Census counts. The differences are very pronounced for the "Multiple dwelling" category, comprising all dwelling types except single-detached and moveable dwellings. Such differences may have resulted from a combination of factors including dwelling coverage and dwelling type classification. Statistics Canada is investigating the reasons for such discrepancies.

The introduction of "shelters" as a new category of collective dwelling in the 2001 Census was discussed. The complexity of classification due to the nature of these shelters was described and a cautionary note on the interpretation of the population in shelters was included.

In response to specific user needs, the census introduced two new subcategories for structural type of dwelling – Apartment without direct ground access in a building that has fewer than five storeys and Apartment with direct ground access in a building that has fewer than five storeys. These were subcategories of "Apartment in a building that has fewer than five storeys" used in previous censuses. Classification problems of the two new subcategories resulted in serious data quality problems, although the original aggregate is robust. As a result, only aggregate data for "Apartment in a building that has fewer than five storeys" have been released. Data for the new subcategories will likely not be released.

Appendix A. Glossary of Terms

The definitions of census terms, variables and concepts are presented here as they appear in the *2001 Census Dictionary* (Catalogue No. 92-378-XIE). Users should refer to the *2001 Census Dictionary* for full definitions and additional remarks related to any concepts, such as information on direct and derived variables and their respective universe.

Bedrooms (Question H3b) refers to all rooms designed and furnished as bedrooms and used mainly for sleeping purposes, even though the use may be occasional (e.g. spare bedroom).

Cash Rent (Question H7) refers to the regular monthly cash rent paid by tenant households.

Condition of Dwelling (Question H5) refers to whether, in the judgment of the respondent, the dwelling requires any repairs (excluding desirable remodeling or additions).

Condominium Fees (Question H8f) refers to monthly payments for maintenance and various condominium services.

Household Maintainer(s) (Question H1) refers to the person or persons in the household who pay the rent, or the mortgage, or the taxes, or the electricity, etc., for the dwelling. If no person in the household is responsible for such payments, Person 1 is considered to be the only household maintainer.

Monthly Mortgage Payment (Question H8a) refers to regular monthly mortgage or debt payments for the dwelling.

Payment for Electricity (Question H6a) refers to yearly payments (last 12 months) for electricity.

Payment for Oil, Gas, Coal, Wood or Other Fuels (Question H6b) refers to yearly payments (last 12 months) for oil, gas, coal, wood and other fuels.

Payment for Water and Other Municipal Services (Question H6c) refers to yearly payments (last 12 months) for water and other municipal services.

Period of Construction (Question H4) refers to the period in time during which the building or dwelling was originally constructed.

Property Taxes (Questions H8b and H8c) refers to whether property taxes (municipal and school) are included in the total regular monthly mortgage or debt payments for a dwelling.

Rooms (Question H3a) refers to the number of rooms in a dwelling. A **room** is an enclosed area within a dwelling which is finished and suitable for year-round living.

Structural Type of Dwelling (front cover) refers to the structural characteristics and/or dwelling configuration, that is, whether the dwelling is a single-detached house, an apartment in a high-rise building, a row house, a mobile home, etc.

Tenure (Question H2) refers to whether some member of the household owns or rents the dwelling, or whether the dwelling is Band housing (on an Indian reserve or settlement).

Tenure – Condominium (Question H8e) refers to whether or not the dwelling is part of a registered condominium.

Value of Dwelling (Question H8d) refers to the dollar amount expected by the owner if the dwelling were to be sold.

Appendix B. 2001 Census Products and Services

The census is a reliable source for describing the characteristics of Canada's people and dwellings. The range of products and services derived from census information is designed to produce statistics that will be useful, understandable and accessible to all users. Sources, such as the *2001 Census Catalogue*, the Statistics Canada Web site (<http://www.statcan.ca>) and, specifically, the On-Line Catalogue, contain detailed information about the full range of 2001 Census products and services.

There are several new product and service features for the 2001 Census:

1. Media

- The Internet is the preferred medium for disseminating standard data products and reference products.
- More census data are available to the public free of charge via the Internet.

2. Content

- Data tables for the 2001 Census are released by topics, that is, groups of variables on related subjects.
- Wherever possible, the language and vocabulary used in 2001 Census products available on the Internet is simplified to make the information accessible to more people.
- Users are offered various methods of searching and navigating through census standard products (including reference products) on the Internet.

3. Geography

- Geographic units such as dissemination areas, urban areas, designated places and metropolitan influenced zones were added to the standard products line. Some new units, such as dissemination areas, replace others.

4. Variables

- Information on the following new subjects was collected in the 2001 Census: birthplace of parents, other languages spoken at home and language of work. The 2001 questionnaire also included the question on religion, which is asked in every decennial census. The family structure variable was broadened to include same-sex couples.