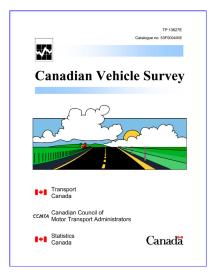




Canadian Vehicle Survey

Quarter 2, 2003





Statistics Canada Statistique Canada



How to obtain more information

Specific inquiries about this product and related statistics or services should be directed to: Transportation Division, Statistics Canada, Ottawa, Ontario, K1A 0T6 (telephone: 1 866 500-8400; E-mail inquiries: transportationstatistics@statcan.ca).

For information on the wide range of data available from Statistics Canada, you can contact us by calling one of our toll-free numbers. You can also contact us by e-mail or by visiting our Web site.

National inquiries line

National telecommunications device for the hearing impaired

Depository Services Program inquiries

Fax line for Depository Services Program

E-mail inquiries

Web site

1 800 263-1136

1 800 363-7629

1 800 700-1033

1 800 889-9734

infostats@statcan.ca

www.statcan.ca

Ordering and subscription information

This product, Catalogue no. 53F0004XIE, is available on Internet free. Users can obtain single issues at http://www.statcan.ca/cgi-bin/downpub/freepub.cgi

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner and in the official language of their choice. To this end, the Agency has developed standards of service which its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll free at 1 800 263-1136.



Statistics Canada

Transportation Division

Canadian Vehicle Survey

Quarter 2, 2003

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2003

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission from Licence Services, Marketing Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

December 2003

Catalogue no. 53F0004-XIE

Frequency: Quarterly

ISSN 1496-3736

Ottawa

Note of appreciation

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

Symbols

The following symbols are used to indicate the quality of the estimates in this publication:

- . not available for any reference period.
- .. not available for a specific reference period.
- ... not applicable
- p preliminary
- r revised
- x suppressed to meet confidentiality requirements
- A excellent
- B very good
- C good
- D acceptable
- E use with caution
- F too unreliable to be published

The quality of estimates not accompanied by a quality symbol is "good or better".

Acknowledgements

This publication was prepared in the Transportation Division under the direction of **Gord Baldwin**, Director, and **John Ross**, Chief, Trucking Section.

The principal author of this publication was Wendy Christoff.

Significant contributions to the collection and preparation of the data were made by the following people and organizations:

Transportation Division, Canadian Vehicle Survey Unit Wendy Christoff, Mike Fahey, Sean Fagan

Transportation Division, Systems & Data Integration SectionSerge Robert

Business Surveys Methods Division

François Gagnon, Daniel Finch

Operations and Integration Division

Jacques Beauchamp, CATI unit

Operations Research and Development Division

Canadian Council of Motor Transport Administrators and Provincial and Territorial Registrars of Motor Vehicles

A special note of appreciation goes to Transport Canada whose vision and funding made this survey possible.

1. INTRODUCTION	8
2. SURVEY OVERVIEW	8
3. CONCEPTS AND DEFINITIONS	9
3.1 THE POPULATION OF INTEREST	9
3.2 DEFINITIONS OF VARIABLES IN TABLES	9
3.3 DEFINITIONS OF VEHICLE CHARACTERISTICS	9
3.4 DEFINITIONS OF VEHICLE USAGE CHARACTERISTICS	10
4. METHODS	11
4.1 SURVEY DESIGN	11
4.1.1 Survey Population	11
4.1.2 Sample design	11
4.1.3 Sample size	
4.2 DATA COLLECTION AND PROCESSING	
4.2.1 Data Collection	
4.2.2 Edit and Imputation	
4.2.3 Estimation	
5. DATA QUALITY	14
5.1 SOURCES OF ERRORS	14
5.2 SAMPLING ERROR	14
5.3 Non-sampling errors	
5.3.1 Coverage errors	
5.3.2 Response errors	
5.3.3 Nonresponse errors	
5.3.4 Processing errors	
5.4 MEASURING QUALITY	
5.4.1 Response rates	
5.4.2 Relative imputation rates and percentage of vehicle days imputed	
5.4.3 Coefficient of variation	
5.4.4 Quality indicator	
5.5 NOTES FOR HISTORICAL COMPARISON	19
6. GLOSSARY	20

LIST OF TABLES

1.	NUMBER OF VEHICLES ON THE REGISTRATION LISTS BY VEHICLE TYPEAND JURISDICTION	21
2.	NUMBER OF VEHICLES ON THE REGISTRATION LISTS BY JURISDICTION AND VEHICLE MODEL YEAR — VEHICLES WEIGHING LESS THAN 4.5 T	22
3.	NUMBER OF VEHICLES ON THE REGISTRATION LISTS BY JURISDICTION AND VEHICLE MODEL YEAR — VEHICLES WEIGHING 4.5 T TO 15 T	23
4.	NUMBER OF VEHICLES ON THE REGISTRATION LISTS BY JURISDICTION AND VEHICLE MODEL YEAR — VEHICLES WEIGHING 15 T OR MORE	24
5.	NUMBER OF VEHICLES ON THE REGISTRATION LISTS BY JURISDICTION AND VEHICLE MODEL YEAR — BUSES	25
6.	NUMBER OF VEHICLES IN SCOPE BY VEHICLE TYPE AND JURISDICTION	26
7.	NUMBER OF VEHICLES IN SCOPE BY VEHICLE TYPE AND VEHICLE MODEL YEAR	
8.	NUMBER OF VEHICLES IN SCOPE BY VEHICLE TYPE AND VEHICLE BODY TYPE	28
9.	NUMBER OF VEHICLES IN SCOPE BY VEHICLE TYPE AND FUEL TYPE	
10.	VEHICLE-KM BY VEHICLE TYPE AND JURISDICTION	30
11.	PASSENGER-KM BY VEHICLE TYPE AND JURISDICTION	31
12.	VEHICLE-KM BY VEHICLE TYPE AND VEHICLE MODEL YEAR	32
13.	PASSENGER-KM BY VEHICLE TYP E AND VEHICLE MODEL YEAR	33
14.	VEHICLE-KM BY VEHICLE TYPE AND VEHICLE BODY TYPE	
15.	PASSENGER-KM BY VEHICLE TYPE AND VEHICLE BODY TYPE	35
16.	VEHICLE-KM BY VEHICLE TYPE AND FUEL TYPE	36
17.	PASSENGER-KM BY VEHICLE TYPE AND FUEL TYPE	37
18.	VEHICLE-KM BY VEHICLE TYPE AND DAY OF THE WEEK	38
19.	PASSENGER-KM BY VEHICLE TYPE AND DAY OF THE WEEK	39
20.	VEHICLE-KM BY VEHICLE TYPE AND DRIVER AGE GROUP	40
21.	PASSENGER-KM BY VEHICLE TYPE AND DRIVER AGE GROUP	41
22.	VEHICLE-KM BY VEHICLE TYPE AND DRIVER SEX	42
23.	PASSENGER-KM BY VEHICLE TYPE AND DRIVER SEX	43
24.	VEHICLE-KM BY VEHICLE TYPE AND TIME OF DAY	44
25.	PASSENGER-KM BY VEHICLE TYPE AND TIME OF DAY	45
26.	VEHICLE-KM BY VEHICLE TYPE AND CARRYING DANGEROUS GOODS	46
27.	PASSENGER-KM BY VEHICLE TYPE AND CARRYING DANGEROUS GOODS	47
28.	VEHICLE-KM BY VEHICLE TYPE AND DAY TYPE	48
29.	PASSENGER-KM BY VEHICLE TYPE AND DAY TYPE	49
30.	VEHICLE-KM BY VEHICLE TYPE AND ROAD TYPE	50
31.	PASSENGER-KM BY VEHICLE TYPE AND ROAD TYPE	51
32.	PASSENGER-KM BY PASSENGER AGE GROUP FOR VEHICLES WEIGHING LESS THAN 4.5 T	52
33.	PASSENGER-KM AND VEHICLE -KM BY TRIP PURPOSE — BUSES	53
34.	VEHICLE -KM BY VEHICLE GROUP AND TRIP PURPOSE — VEHICLES WEIGHING LESS THAN 4.5 T	54
35.	PASSENGER-KM BY VEHICLE GROUP AND TRIP PURPOSE — VEHICLES WEIGHING LESS THAN 4.5 T	55
36.	VEHICLE -KM BY VEHICLE GROUP AND TRIP PURPOSE — VEHICLES WEIGHING 4.5 T OR MORE	56
37.	PASSENGER-KM BY VEHICLE GROUP AND TRIP PURPOSE — VEHICLES WEIGHING 4.5 OR MORE	57
38.	VEHICLE-KM BY VEHICLE TYPE, DAY TYPE AND TIME OF DAY	58
39.	PASSENGER-KM BY VEHICLE TYPE, DAY TYPE AND TIME OF DAY	59
40.	VEHICLE-KM BY VEHICLE TYPE, DRIVER AGE GROUP AND DRIVER SEX	60
41.	PASSENGER-KM BY VEHICLE TYPE, DRIVER AGE GROUP AND DRIVER SEX.	
42.	FUEL PURCHASED BY VEHICLE TYPE AND FUEL TYPE	62

HIGHLIGHTS

- Over 18.1 million vehicles were in-scope for the Canadian Vehicle Survey during this quarter.
- Between April 1 and June 30, 2003, these vehicles travelled an estimated 79.4 billion kilometres.
- During this quarter, vehicles weighing less than 4 500 kilograms were driven an average of 4 150 kilometres while the largest of the trucks (trucks with gross weight 15 000 kilograms or more) were driven an average of 16 850 kilometres.

1. INTRODUCTION

Canadian transport activity statistics were inadequate due to the lack of any routine measurement of road vehicle activity. While road vehicles dominate passenger travel and freight traffic, no measures of total vehicle-kilometres or passenger-kilometres were available.

The Canadian Vehicle Survey (CVS) was developed at the request of Transport Canada to fill this data gap. The survey provides quarterly and annual estimates of the amount of road travel, broken down by types of vehicles and characteristics, such as age and sex of driver, time of day and season. The results will be the prime source of road vehicle use information for researchers and interested members of the public.

Transport Canada plans to combine survey data with other data to improve road safety, monitor fuel consumption and deal with the impact of vehicle usage on the environment.

This document describes concepts, employed methods and discusses data quality. The reference period for all the information presented in this document is the second guarter of 2003.

2. SURVEY OVERVIEW

The CVS is a voluntary vehicle-based survey that provides annual estimates of road vehicle activity (vehicle-kilometres and passenger-kilometres) of vehicles registered in Canada. A quarterly sample of vehicles is drawn from vehicle registration lists provided by the provincial and territorial governments.

The provincial component of the survey consists of two stages. The first stage is a computer assisted telephone interview (CATI) with the registered owners of the sampled vehicles. This interview is used to collect some general information on the usage of the vehicle as well as to ask the respondent to complete a seven-day trip log. The trip log is then mailed out. If respondents cannot be contacted by phone, the trip log is mailed out with a short questionnaire to collect some of the information normally collected during the CATI.

The territorial component of the survey consists of two postcards. One is mailed to the respondents at the beginning of the quarter and the other is mailed at the end of the quarter. The first postcard asks respondents to record the odometer reading at the beginning of the first day of the quarter. All those returning the first postcards are mailed second postcards asking them to record the odometer reading at the beginning of the first day of the next quarter. These two odometer readings allow the calculation of the distance the vehicle was driven during the quarter.

Survey collection began on February 1, 1999. Only eight provincial / territorial vehicle registration lists were received in time to be included in the sample at that time, but over the remainder of 1999, the other lists were received. Starting October 1, 1999, vehicles from all provinces and territories were included in the survey.

The CVS provides annual and quarterly estimates of road activity for vehicles registered in Canada. The estimates are provided by type of vehicle and other variables, such as driver and vehicle characteristics, time of day and season.

Users who require additional information from Statistics Canada can obtain it from the Transportation Division upon request by phoning 1 866 500-8400 or e-mailing transportationstatistics@statcan.ca.

3. CONCEPTS AND DEFINITIONS

3.1 THE POPULATION OF INTEREST

The *in-scope vehicles* for the CVS include all motor vehicles except motorcycles, off road vehicles (e.g., snowmobiles, dune buggies, amphibious vehicles) and special equipment (e.g., cranes, street cleaners, snowplows and backhoes) registered in Canada anytime during the survey reference period that have not been scrapped or salvaged.

The *population of interest* consists of vehicle-days composed from the in-scope vehicles and the days within the survey reference period.

3.2 DEFINITIONS OF VARIABLES IN TABLES

Vehicle-kilometres is the distance traveled by vehicles on roads.

<u>Passenger-kilometres</u> is the sum of the distances traveled by individual passengers. Trucks with gross vehicle weight of 4.5 tonnes or more (see the *Vehicle type* definition in section 3.3) and urban buses were not required to report passengers. Therefore, these passengers are not included in the estimates of passenger-kilometres. Also the number of passengers is calculated as the average of the number of passengers at the beginning of each trip and the number of passengers at the end of each trip (see the *Trip* definition in section 3.4) plus the driver.

<u>Fuel purchased</u> is the amount of fuel purchased to operate vehicles. This includes purchases for the off-road operation of the vehicle. However, these purchases are considered negligible.

<u>The number of vehicles on the registration lists</u> is the average number of the registered vehicles in the registration lists at the beginning and at the end of the reference period.

<u>The number of vehicles in scope</u> is an estimate of the average number of vehicles registered during the quarter based on the lists from jurisdictions and the survey responses. This number slightly differs from the previous one because we incorporate into it all our findings from the survey. Note that this number includes vehicles used and not used on the roads during the reference period.

3.3 DEFINITIONS OF VEHICLE CHARACTERISTICS

<u>Vehicle type</u> is the classification created for CVS based on the information available on the vehicle registration lists. There are four vehicle types. <u>Buses</u> are identified first. The remaining vehicles are then divided into three weight types: <u>light vehicles</u> with gross vehicle weights below 4.5 tonnes, <u>trucks</u> with gross vehicle weights of <u>4.5 tonnes or more and less than 15 tonnes</u>, and <u>trucks</u> with gross vehicle weights of <u>15 tonnes or more</u>.

The respondent determines <u>vehicle body type</u>. The respondent is asked to choose among: car, station wagon, van, sport utility vehicle, pick-up, straight truck, truck-tractor, bus and other. Missing or unusual responses are verified against registration lists, if possible.

<u>Fuel type</u> is derived based on the information available on the registration lists. All vehicles are divided into three classes: vehicles powered by gasoline, vehicles powered by diesel fuel and vehicles powered by other energy source.

<u>Vehicle model year</u> is derived based on the information available on the registration lists.

3.4 DEFINITIONS OF VEHICLE USAGE CHARACTERISTICS

The CVS definition of a <u>Trip</u> determines the trip characteristics. The definition of what delimits a trip depends on the <u>vehicle type</u>:

For *buses*, if any of the following events happened:

- a stop of more than 30 minutes
- a change of driver
- a change in the type of bus service
- all the passengers have been dropped off and another passenger trip begins (does not apply to scheduled urban buses)

For *light vehicle*, if any of the following events happened:

- a stop of more than 30 minutes
- a change of driver
- a change in the main trip purpose

For <u>vehicles (trucks) weighing 4.5 tonnes or more</u> if any of the following events happened:

- a stop of more than 30 minutes
- a change of driver
- a change of purpose or use
- a change in the truck configuration
- a change in the status of the load from loaded to unloaded or the reverse

For each trip the respondent provides the following information:

- Beginning and end times and dates of the trip that are used to determine the <u>time of day</u> and <u>day of week</u> the trip takes place.
- Driver age group and driver sex.
- The <u>trip purpose</u> determined by the respondent. If there were several purposes for the trip, the respondent is asked to indicate the main purpose of the trip. Multiple trip purposes are not allowed. The choice of purpose is specific to the vehicle type.
- If <u>dangerous goods</u> are carried (as defined by the Transportation of Dangerous Goods Act). Does not apply to buses.
- Number of kilometres traveled on roads with posted speed limit of 80 km/h or more
- <u>Age group (0 4, 5 14 and 15 years and over) of passengers and the number of passengers within each group</u>, to calculate passenger-km (urban buses are excluded). Passenger age information is collected only for light vehicles. See 3.2. For all other vehicles we collect only the total number of passengers.
- *Truck configuration* for vehicles (trucks) weighing 4.5 tonnes or more.
- Cost (for light vehicles and buses) or quantity (for trucks and buses) of *Fuel purchased*.

4. METHODS

CVS has been designed as a quarterly survey. The survey design also allows the calculation of annual estimates based on the data collected during the four quarters.

4.1 SURVEY DESIGN

4.1.1 Survey Population

The survey population was derived from the 13 jurisdiction vehicle registration lists (ten Provincial and three Territorial Governments) created three months before the reference period. The sample for this quarter was drawn from lists of motor vehicles with valid registrations in any province or territory available in January 2003. Motorcycles, off-road vehicles (e.g., snowmobiles, dune buggies, amphibious vehicles) and special equipment (e.g., cranes, street cleaners, snowplows and backhoes) are excluded from the survey. This population differs from the population of interest; e.g., vehicles that were registered after January 2003 are not included.

The thirteen incoming lists underwent thorough preparation procedure:

- First, out-of-scope vehicles are removed (trailers, motorcycles, construction equipment, parade vehicles, motor homes, etc.) from each list.
- Second, vehicles with expired registration are removed from each list.
- Then, records with duplicate Vehicle Identification Numbers (VIN) within each list are removed leaving the one updated most recently.
- Last, records in each file with irregular data are verified.

The last set of processed lists, before the beginning of the reference period, consisted of the thirteen lists provided in January 2003 to Statistics Canada for CVS. This set of prepared vehicle lists and the set of days within the second quarter of 2003 constitute the survey population.

4.1.2 Sample design

All vehicles from the survey population were stratified (grouped) into 104 strata. First, the vehicles were stratified into four vehicle types (buses, light vehicles, and two groups of trucks, see 3.3) and 13 jurisdictions (ten provinces and three territories). Then, for efficiency of estimates, they were further divided into two vehicle-age strata of newer and older vehicles.

Next, a sample of vehicles (first stage sample) was selected from the survey population. A sample from each stratum was selected. To minimize respondent burden, no vehicle is selected more than once during any consecutive four quarters for provinces (two consecutive quarters for territories) and the three characters of the postal code were used to spread the sample over all regions.

Subsequently, seven consecutive days starting within the quarter were randomly assigned (second stage) to each vehicle selected at the first stage. Within each stratum, the first reporting day was evenly spread over the quarter to ensure a uniform number of responses over time and for each day of the week. This step was not applied to the vehicles registered in the three territories since only odometer readings are collected (see 2.).

Since the sample was selected in two stages, the sampling weight (see 6. for definition) was also calculated in two steps. The first-stage sampling weight was calculated for each vehicle in the first-stage sample. Then the second-stage sampling weight was calculated for each vehicle-day selected from all days within the reference period. Finally, these two weights were multiplied together to obtain the final weight for a vehicle-day. The weighted values are obtained by multiplying the final weights and the collected values. They were aggregated to produce the estimates.

4.1.3 Sample size

A total of 4,996 vehicles out of 18,114,227 from the survey population were drawn for the ten provinces. Another 2,756 vehicles out of 50,587 were included in the sample for the three territories.

4.2 DATA COLLECTION AND PROCESSING

4.2.1 Data Collection

The data collection for the vehicles sampled in the ten provinces is different from the one for the vehicles sampled in the territories.

Provincial collection

The registered owners of the sampled vehicles were telephoned and interviewed (Computer Assisted Telephone Interview, or CATI). During the CATI interview the following information is collected about each sampled vehicle: vehicle type, fuel type used, distance driven last week, some information about anticipated vehicle usage during the following six weeks, current odometer reading, and passenger capacity for buses. Then the respondent was asked to complete a seven-day trip log. If the respondent agreed to complete a trip log, personal information such as name and address were obtained in order to mail out a trip log for the vehicle.

The log type depended on the type of vehicle. There were three types of logs: a bus log, a light vehicle log and a log for the two remaining vehicle types (trucks). In all cases, the respondents were requested to record information about all the trips made in the selected vehicle over the assigned seven-day period. The collected data included information about each trip: time and date of the beginning and the end, length, purpose, number and age group of passengers, sex and age group of the driver, fuel purchases, if dangerous goods were carried, number of kilometres traveled on roads with posted speed limit of 80km/h or more, and for trucks, their configuration.

If the respondent could not be contacted by phone, a trip log with a short additional questionnaire (to collect some of the information normally collected during the CATI) was mailed out.

To increase the number of responses, respondents were contacted a second time, either by phone or by mail. On the first or second day of the log, an attempt was made to phone each vehicle owner, who agreed during the CATI to fill out the log, to answer any questions the respondent might have. Later, an attempt was made to contact by phone or mail everyone who did not return logs. Some of the large fleets of vehicles with several vehicles in the sample had special arrangements to lower their response burden.

Territorial collection

The registered owners of the selected vehicles were mailed postcards and asked to provide two odometer readings, one at the beginning of the quarter and another at the beginning of the next quarter and information about the vehicle status (owned, sold, scrapped).

4.2.2 Edit and Imputation

Once all necessary information for the survey was collected, a series of verifications took place to ensure that the records were consistent and that collection and capture of the data did not introduce errors. Reported data were examined for completeness and consistency using automated edits coupled with manual review. Outliers, i.e., respondents reporting extremely large values, were processed manually.

Missing values and data found in error were imputed by another automated system. The system imputed the data using different imputation rules depending on the vehicle, available information and the type of data to be imputed. For example, the data can be imputed based on other responses for the same vehicle or by using data from a similar vehicle. The imputed data were then again examined for completeness and consistency. At the end of this process, every vehicle had seven days of trips.

A complete description of the procedures applied to the survey data is available upon request from the Transportation Division of Statistics Canada.

4.2.3 Estimation

Since the survey population differs from the population of interest, several corrections were done to assure that the estimates correspond (as closely as possible) to the population of interest. The sampling weights derived from the sample design were adjusted and improved using updated registration lists. This was possible because, during the passage of time since the sample was selected, a set of prepared vehicle lists was obtained for the beginning and for the end of the reference quarter. To improve the estimates for the vehicles registered in the ten provinces: all the days were further stratified into working days and holidays (or non-working days, including weekends). Second stage sampling weights were adjusted so that every day of vehicle activity within the same stratum contributed with equal weight to the total estimate. The final set of weights reflected as closely as possible the characteristics of the vehicle population during the reference period.

The following estimates of totals are available:

- vehicle counts by province and territory;
- vehicle-kilometres by province and territory;
- passenger-kilometres by province;
- fuel purchased, Canada level only;
- cross tabulations of vehicle-counts, vehicle-kilometers and passenger-kilometers by a number of variables (described in Concepts and Definitions), such as body type, truck configuration, driver characteristics, time of day, day of week, etc. by province.

5. DATA QUALITY

This section describes factors that affect the data quality and why they should be considered when using the CVS estimates.

5.1 SOURCES OF ERRORS

While considerable effort was made to ensure a high standard throughout all survey operations, the resulting estimates are inevitably subject to a certain degree of error. The total survey error is defined as the difference between the survey estimate and the true population value for which the survey estimate aims at. The total survey error consists of two types of errors: sampling and non-sampling errors.

5.2 SAMPLING ERROR

When a sample is selected from a population, estimates based on the sample data may not be exactly the same as what would be obtained from a census of that population. The two results will likely differ since only data for sampled units are used. In the case of a census, there is no sampling error.

The difference between the estimates from a sample survey and a census conducted under the same conditions is referred to as the sampling error of a survey estimate. Factors such as the sample size, the sample design, the variability of the population characteristic under study and the estimation method affect the sampling error. If the population is very heterogeneous like the population of registered motor vehicles, a large sample size is needed to obtain reliable estimates.

The sampling error is measured by a statistical quantity called the standard error. This quantity reflects the expected variability of the survey estimate of a particular population characteristic if repeated sampling is carried out. The true value of the standard error is, of course, not known but can be estimated from the sample. The estimated standard error is used, in this publication, in terms of a relative measure called the coefficient of variation (or CV). This measure is simply the estimated standard error expressed as a percentage of the value of the survey estimate. Therefore, a smaller CV indicates better reliability of the estimate.

5.3 Non-sampling errors

The sampling error is only one component of the total survey error. All other errors arising from all phases of a survey are called non-sampling errors. As the sample size becomes closer to the population size, the sampling error component of the total survey error is expected to decrease. However, this is not necessarily true for the non-sampling error component. For example, this type of error can arise when a respondent provides incorrect information or does not answer certain questions, when a unit in the population of interest is omitted or covered more than once, when a unit that is out-of-scope for the survey is included by mistake or when errors occur in data processing, such as coding and capture errors.

Some non-sampling errors will cancel over a large number of observations, but systematically occurring errors (i.e. those that do not tend to cancel) will contribute to a bias in the estimates. For example, in the case of CVS, if individuals that use their vehicles more than an average person consistently tend not to respond to the survey, then the resulting estimate of the total vehicle-kilometres will be below the true population total. Any such biases are not reflected in the estimates of standard error.

The non-sampling error as a whole is only one part of the total survey error but its contribution may be important. To minimize the effect of this type of error, a quality assurance program is carried out for each survey. For instance,

follow-ups of nonrespondents are conducted to obtain information from the total nonrespondents or to complete partially unanswered questionnaires for questions that are deemed essential. Various quality assurance procedures are exercised at the data capture step. The data editing procedures identify some inconsistencies in the data structure and the imputation procedures correct the identified inconsistencies.

In general, non-sampling errors are difficult to quantify. Special studies must be conducted to estimate them. However, certain measures such as response and imputation rates are easily obtained and can be used as indicators of the non-sampling errors. Different types of non-sampling errors are discussed below.

5.3.1 Coverage errors

Coverage errors arise when the survey population does not adequately cover the population of interest. As a result, certain units belonging to the population of interest are either excluded (undercoverage), or counted more than once (overcoverage). In addition, out of scope units may be present in the survey population (overcoverage).

The following sources of coverage errors for CVS were observed:

- Errors in the classification variables of the survey may result in either under- or overcoverage of the registered vehicles.
- The sample is drawn from the list created three months prior to the beginning of the reference period. Thus the vehicles registered after the list was created and before the end of the reference period cannot be drawn into the sample.
- A vehicle list from any jurisdiction that was not created on time or did not arrive at all results in even larger undercoverage since an older list has to be used for sampling.
- A vehicle list created early causes overcoverage.
- A vehicle that has been scrapped or salvaged and remained on the list causes overcoverage.
- The survey population (see 4.1.1) can contain vehicles with the same Vehicle Identification Number (VIN) in more than one province. Since every vehicle have a unique VIN this is likely to cause some overcoverage and consequently overestimation.
- A vehicle that was registered and subsequently unregistered between two consecutive registration lists causes undercoverage.

Thus CVS is subject to some degree of under and over coverage. The estimation procedure is designed to compensate for the part of the under- and over coverage that has been determined. The rates of out-of-scope vehicles among all units sampled for the reference period is in the table in section 5.4.1.

Since we assume that the respondent is right (unless we have hard evidence to the contrary) the corrections at the estimation stage are mostly based on the respondent statements.

5.3.2 Response errors

Response errors occur when a respondent provides incorrect information due to a misinterpretation of the survey questions or lack of correct information, gives wrong information by mistake, or is reluctant to disclose the correct information. Large response errors are likely to be caught during editing. However, others may simply go through undetected.

Few response errors were discovered during editing of the data.

5.3.3 Nonresponse errors

Nonresponse errors can occur when a respondent does not respond at all (total nonresponse) or responds only to some questions (partial nonresponse). These errors can have a serious effect if the nonrespondents are systematically different in survey characteristics from the respondents and/or the nonresponse rate is high. See the response rate table in section 5.4.1.

5.3.4 Processing errors

Apart from coverage, response and nonresponse errors described above, errors that occur during the processing of the data constitute another component of the non-sampling error. Processing errors can arise in data capture, coding, transcription, editing, imputation, outlier detection and treatment, and other types of data handling.

A coding error occurs when a field is coded erroneously because of a misinterpretation of the coding procedures or a bad judgment (e.g. errors in commodity coding). A data capture error occurs when the data are misinterpreted or keyed incorrectly.

Once data are coded and captured, they are subject to editing and imputation of missing or erroneous values. The quality of the data used in the estimation depends on the amount of imputation and the difference between the imputed and the true, but unknown, values. The imputation system could result in bias of the estimates. This can happen due to wrong assumptions or due to inability to impute. For example, in CVS, it is impossible to detect, for vehicles that travel only a small distance during the reported week, fuel purchases that are missing or entered in error.

5.4 MEASURING QUALITY

This section presents some indicators of the data quality of the CVS estimates.

5.4.1 Response rates

The response rate is a function of the number of vehicles that responded to the survey. Several response rates are provided in the table below. This rate is defined as the number of vehicle-days for which respondents gave complete or partial (vehicle-kilometers only) answers to the survey divided by the total number of in-sample and in-scope vehicle-days.

PROVINCES		-kilometres cteristics re	-		cle-kilometaracteristics	Vehicles out of	Contact made but	
	All	0 km	Non - 0 km	All	0 km	Non - 0 km	scope	no data
Light vehicles	30%	12%	18%	35%	7%	29%	4%	6%
Trucks 4.5t – 15t	33%	24%	9%	17%	5%	12%	6%	12%
Trucks 15t or more	35%	25%	9%	23%	7%	16%	3%	18%
Buses	ises 30%		12%	2%	0%	2%	4%	29%

TERRITORIES		-kilometre eteristics re		Vehicle	-kilometres	Vehicles out of	Contact made but	
	All	0 km	Non - 0 km	All	0 km	scope	no data	
Light vehicles	N/A	N/A	N/A	16%	1%	15%	7%	9%
Trucks 4.5t – 15t	N/A	N/A	N/A	10%	2%	8%	15%	6%
Trucks 15t or more	N/A	N/A	N/A	13%	2%	11%	7%	3%
Buses	N/A	N/A	N/A	12%	1%	11%	7%	4%

The low level of response may lead to biased results if the characteristics of interest of the nonrespondents are different than those of the respondents.

5.4.2 Relative imputation rates and percentage of vehicle days imputed

The relative imputation rate is defined as the proportion of the corresponding published estimate that is accounted for by imputed data. For example, if the total published estimate is 25 million, composed of 20 million from non-imputed data and 5 million from imputed data, then the relative imputation rate is .2 (5 million divided by 25 million) or 20%. The lower the relative imputation rates are, the more reliable the published estimates are.

With the data collected during the CATI interview (past vehicle usage), the relative imputation rate of the data coming out of the imputation process was lower for vehicle-km, and much higher for other vehicle usage characteristics.

The relative imputation rates were calculated for each of the estimates and used to establish a quality indicator for each estimate. The relative imputation rates for estimates could be obtained from the Transportation Division of Statistics Canada upon request.

The relative imputation rate is usually directly linked to the response rates and the quality of estimates. A high imputation rate usually leads to the underestimation of sampling error and may also cause a bias.

The percentage of vehicle-days imputed (reported) is defined as the proportion of vehicle-days that are imputed (reported) to total number of vehicle days:

PROVINCES	Vehic	cle days re	ported	Vehicle days imputed				
TROVINCES	All	0 km	Non - 0 km	All	0 km	Non - 0 km		
Light vehicles	46%	18%	28%	54%	10%	44%		
Trucks 4.5t – 15t	66%	47%	19%	34%	10%	24%		
Trucks 15t or more	60%	43%	16%	40%	12%	28%		
Buses	93%	56%	37%	7%	0%	7%		

TERRITORIES	Vehi	cle km rep	oorted	Vehicle km imputed					
TERRITORIES	All 0 km		Non - 0 km	All	0 km	Non - 0 km			
Light vehicles	100%	3%	97%	N/A	N/A	N/A			
Trucks 4.5t – 15t	100%	16%	84%	N/A	N/A	N/A			
Trucks 15t or more	100%	16%	84%	N/A	N/A	N/A			
Buses	100%	9%	91%	N/A	N/A	N/A			

5.4.3 Coefficient of variation

As a measure of the sampling error of the estimates, the estimated coefficients of variation (CV) were calculated. CV's for estimates may be obtained from the Transportation Division of Statistics Canada upon request. Note that the calculated CV estimates compensate partially for the fact that some of the data were imputed.

5.4.4 Quality indicator

The CV and the relative imputation rate should be considered simultaneously to make an assessment of the reliability of an estimate. To assist the user in evaluating the potential effect of nonresponse, imputation and sampling error, an all-embracing quality indicator accompanies every estimate. The quality indicator takes into account simultaneously the CV and the relative imputation rate.

Quality Symbol	C.V. equivalent	Explanation of estimate quality
A	Less than 5%	Excellent
В	5% to 10%	Very good
C	10% to 15%	Good
D	15% to 20%	Acceptable
E	20% to 35%	Use with caution
F	35% or more	Too unreliable to be published

The quality of counts (direct from registration lists) not accompanied by a quality symbol is good or better.

5.5 NOTES FOR HISTORICAL COMPARISON

Beginning with Quarter 2, 2003, vehicles that were insured but not registered were removed from the registration lists for Manitoba. As a result, some estimates for Manitoba may be lower than the estimates from previous quarters.

Beginning with Quarter 4, 2001, vehicles that were registered but did not have license plates were removed from the registration lists for Quebec. As a result, some estimates for Quebec may be lower than the estimates from previous quarters.

Beginning with Quarter 1, 2001, the following changes were made and may affect comparability with previous quarters:

- Prior to this quarter, duplicate records found within the same list and duplicate records found in more than one list were removed. Starting in this quarter, duplicate records were removed from within each list only. This change may cause some overcoverage and consequently overestimation.
- Type of fuel used and body type are collected for the territories. Consequently, the four tables (pages: 28, 29, 34, 36) now include the territories.
- The truck logs were changed in 2001 in order to collect passenger information for trucks. This change means that passenger-kilometres are now estimated for all vehicles, except urban transit buses, for all the provinces (but not for territories).
- The truck logs were also changed in 2001 in order to collect distance travelled on roads with posted speeds of 80 kilometres per hour or more. This change means that this information is now estimated for all vehicle types in all provinces (but not for the territories).

The following change was made in the third quarter of 2000 and may affect comparability with previous quarterly results:

 Owners of buses and trucks registered in the territories are now sent two postcards to record odometer readings at the start and end of the quarter. This process was always used for light vehicles in the territories and replaces the previous method of sending only one postcard at the end of the quarter and requesting that bus and truck owners rely on maintenance records to provide odometer readings for the start of the quarter.

The following changes were made in the first quarter of 2000 to improve the quality of the survey by diminishing non-sampling errors.

- The changes that affect comparability with 1999 results:
 - The trip purpose choices (for all vehicle types) were changed. The purpose is now based on the destination of the trip. Thus the results from 2000 and 1999 are not comparable for this item.
 - Passenger-kilometers were not collected for trucks in 2000.
- The changes that may affect comparability with the 1999 results:
 - A new log was developed for survey year 2000 for all trucks. In 1999 trucks with gross vehicle weights of 4.5 tonnes or more and less than 15 tonnes had a different log than trucks with gross vehicle weights of 15 tonnes or more.
 - The fuel purchased question was attached to each trip for the 2000 survey year for trucks. Previously it was recorded separately from the trips.

6. GLOSSARY

Population of interest: the collection of all units (e.g., vehicle-days) for which the information is required.

Survey Population: the collection of all units (e.g., vehicle-days) for which the information can be realistically provided to the survey. The survey population may differ from the population of interest due to the operational difficulty of identifying all the units that belong to the population of interest. A list of all units in the survey population with their classification information (e.g., geographical, vehicle characteristics, date) is used for sample design, selection and estimation.

Stratification: a non-overlapping partition of the survey population into relatively homogeneous groups with respect to certain characteristics such as geographical classification, size, etc. These groups are called strata and are used for sample allocation and selection.

Sampling weight: a raising factor is attached to each sampled unit (vehicle-day) to obtain estimates for the population from a sample. The basic concept of the sampling weight can be explained by using the representation rate. For example, if 2 units are selected out of 10 population units at random, then each selected unit represents 5 units in the population including itself, and is given the sampling weight of 5. A survey with a complex sample design like CVS requires a more complicated way of calculating the sampling weight. However, the sampling weight is still equal to the number of units in the registration lists the sampled unit represents.

Editing: the application of checks that identify missing, invalid or inconsistent entries or that point to data records that are potentially in error. Some of these checks involve logical relationships that follow directly from the concepts and definitions. Others are more empirical in nature or are obtained as a result of the application of statistical tests or procedures.

Imputation: the process used to resolve problems of missing, invalid or inconsistent responses identified during editing. This is done by changing some of the responses or missing values on the record being edited to ensure that a plausible, internally coherent record is created. Some problems are eliminated earlier through contact with the respondent or through manual study of the questionnaire. It is generally impossible to resolve all problems at these early stages due to concerns of response burden, cost and timeliness. Imputation is then used to handle remaining edit failures, since it is desirable to produce a complete and consistent file containing imputed data. Although, imputation can improve the quality of the final data by correcting for missing, invalid or inconsistent responses, some methods of imputation do not preserve the relationships between variables or can actually distort underlying distributions.

 $\label{thm:lists} \mbox{Number of Vehicles on the Registration Lists by Type of Vehicle and Jurisdiction}$

			Vehicle Type		
	Vehicles up to 4.5t	Trucks 4.5t - 15t	Trucks 15t or more	Buses	Total
Jurisdiction					
Newfoundland and Labrador	245 946	3 979	2 872	1 197	253 994
Prince Edward Island	73 636	1 715	2 589	66	78 006
Nova Scotia	525 825	8 912	7 592	1 849	544 178
New Brunswick	441 665	6 952	3 787	2 666	455 070
Quebec	4 108 738	56 303	36 038	16 883	4 217 962
Ontario	6 621 683	83 219	107 626	28 204	6 840 732
Manitoba	602 735	9 927	13 365	3 643	629 670
Saskatchewan	639 352	39 435	23 546	3 791	706 124
Alberta	2 088 041	88 797	67 892	12 633	2 257 363
British Columbia	2 287 088	72 831	13 634	8 036	2 381 589
Yukon Territory	23 525	1 404	1 185	259	26 373
Northwest Territories	19 203	575	971	94	20 843
Nunavut	2 680	213	117	13	3 023
Total - Canada	17 680 117	374 262	281 214	79 334	18 414 927

DUE TO ROUNDING THE NUMBERS MAY NOT ADD UP AND MAY DIFFER SLIGHTLY AMONG THE TABLES.

Vehicles up to 4.5t

							 Jurisdiction	 1						
	Newfound- land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatche- wan	Alberta	British Columbia	Yukon Territory	Northwest Territor- ies	Nunavut	TOTAL
Vehicle Model Year														
Earlier then 1986	6 170	3 704	24 224	17 445	118 638	263 897	51 402	95 743	228 606	240 558	3 611	1 827	182	1 056 007
1986	2 288	1 291	7 707	6 492	51 975	88 768	16 313	22 041	58 573	71 739	838	437	49	328 511
1987	3 206	1 835	10 382	8 995	76 900	118 334	16 754	19 582	54 146	76 749	903	408	68	388 262
1988	6 586	2 942	16 124	14 768	125 639	196 575	22 190	25 091	75 507	95 942	1 110	643	115	583 232
1989	8 223	3 559	19 432	17 631	148 509	239 254	24 354	26 546	84 970	110 205	1 202	710	94	684 689
1990	9 056	4 196	22 816	20 382	179 361	279 487	28 260	28 957	94 779	125 892	1 217	765	99	795 267
1991	11 004	4 169	24 561	22 128	204 125	299 750	31 045	31 049	99 393	125 713	1 139	776	122	854 974
1992	12 887	5 036	29 075	26 519	245 060	349 965	33 466	32 141	99 258	129 683	1 089	728	152	965 059
1993	14 945	5 027	29 668	25 004	230 710	347 786	30 942	30 009	92 748	120 949	1 078	706	148	929 720
1994	15 754	5 140	31 523	26 267	224 640	359 983	31 005	32 281	98 302	116 072	1 117	817	167	943 068
1995	15 135	5 375	32 773	27 403	240 223	392 903	34 041	34 490	104 639	119 911	1 164	882	162	1 009 101
1996	11 671	4 359	27 767	22 681	193 974	331 603	30 034	28 733	89 111	95 687	878	737	115	837 350
1997	15 816	5 236	34 669	27 707	243 332	428 747	39 360	37 904	121 164	123 084	1 226	1 073	180	1 079 498
1998	18 167	5 387	38 249	31 020	266 786	470 497	41 260	38 605	135 731	122 767	1 073	1 188	168	1 170 898
1999	17 983	4 606	35 234	28 458	260 130	449 745	35 273	31 350	114 935	109 460	1 002	1 225	180	1 089 581
2000	21 812	4 414	40 227	34 690	322 047	546 799	37 167	33 797	129 230	125 789	1 038	1 555	173	1 298 738
2001	20 927	2 720	34 251	28 952	323 697	514 134	35 701	33 476	138 057	126 332	1 230	1 691	199	1 261 367
2002	24 205	3 117	41 645	34 518	386 294	568 660	41 547	37 221	161 447	154 033	1 494	1 894	232	1 456 307
2003	9 966	1 489	24 623	20 094	257 893	367 621	22 202	20 008	104 981	94 171	1 081	1 129	74	925 332
2004	122	32	875	505	6 549	7 177	420	330	2 466	2 355	34	10	0	20 875
Unknown	20	0	0	4	2 255	0	0	0	0	0	0	0	0	2 279
TOTAL	245 943	73 634	525 825	441 663	4 108 737	6 621 685	602 736	639 354	2 088 043	2 287 091	23 524	19 201	2 679	17 680 115

Trucks 4.5t - 15t

							Jurisdictio	า						
	Newfound- land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatche- wan	Alberta	British Columbia	Yukon Territory	Northwest Territor- ies	Nunavut	TOTAL
Vehicle Model Year														
Earlier then 1986	760	865	1 950	879	10 012	6 236	2 715	29 698	35 100	12 920	489	129	38	101 791
1986	153	78	279	163	2 022	1 774	374	631	2 152	1 822	30	18	9	9 505
1987	150	75	370	165	2 630	2 161	313	457	1 782	1 675	33	8	14	9 833
1988	227	83	412	208	3 372	2 943	373	475	2 529	2 452	54	16	12	13 156
1989	182	93	401	212	2 716	2 991	363	406	2 609	2 756	57	22	9	12 817
1990	206	60	423	214	2 821	3 340	491	543	2 683	3 088	56	33	8	13 966
1991	200	50	301	221	1 923	2 382	425	484	2 136	2 448	38	21	6	10 635
1992	150	35	293	260	1 750	2 473	363	446	2 026	2 511	42	17	10	10 376
1993	153	43	339	303	1 958	3 126	404	504	2 149	3 008	34	18	13	12 052
1994	200	56	339	382	2 504	3 897	399	523	2 523	3 330	50	21	9	14 233
1995	259	57	552	427	3 226	5 029	554	686	3 030	3 926	35	37	25	17 843
1996	143	25	331	339	2 040	3 601	397	425	2 107	2 725	35	21	5	12 194
1997	190	37	419	416	2 112	5 063	499	641	3 417	3 680	49	31	10	16 564
1998	156	20	472	419	2 702	5 212	401	610	3 241	3 164	46	21	11	16 475
1999	219	49	573	577	3 753	7 842	491	571	3 878	4 134	67	38	10	22 202
2000	197	26	475	403	3 120	6 918	341	492	3 450	3 798	56	41	9	19 326
2001	167	23	392	471	2 439	7 024	402	683	5 532	4 668	82	34	4	21 921
2002	191	21	362	447	2 209	6 656	357	686	4 852	5 339	78	30	6	21 234
2003	71	17	223	441	2 070	4 490	252	473	3 551	5 354	72	18	5	17 037
2004	2	0	7	3	187	61	12	2	49	28	0	1	0	352
Unknown	3	0	0	0	738	0	0	0	0	0	0	0	0	741
TOTAL	3 979	1 713	8 913	6 950	56 304	83 219	9 926	39 436	88 796	72 826	1 403	575	213	374 253

Trucks 15t or more

							Jurisdictio	 1						
	Newfound- land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatche- wan	Alberta	British Columbia	Yukon Territory	Northwest Territor- ies	Nunavut	TOTAL
Vehicle Model Year														
Earlier then 1986	328	984	830	709	915	5 781	1 546	7 876	17 230	2 531	218	156	16	39 120
1986	80	164	185	172	356	2 102	308	861	1 731	390	27	18	0	6 394
1987	102	207	262	264	578	2 950	360	890	1 486	456	17	15	4	7 591
1988	147	189	285	226	773	3 224	366	965	2 113	528	30	22	1	8 869
1989	164	150	303	205	674	3 445	352	824	1 929	506	24	38	3	8 617
1990	100	120	208	231	620	3 295	322	779	2 171	854	39	30	4	8 773
1991	100	79	132	126	378	2 087	210	552	1 620	471	24	29	8	5 816
1992	93	42	142	99	571	2 111	261	528	1 375	638	37	23	3	5 923
1993	88	54	228	153	903	3 097	436	825	1 824	578	31	36	2	8 255
1994	152	78	374	175	1 727	4 640	665	1 048	2 868	708	50	59	6	12 550
1995	205	125	543	247	2 648	7 733	788	1 370	3 664	786	53	62	10	18 234
1996	174	79	405	151	1 879	5 653	768	984	2 886	721	66	48	7	13 821
1997	154	34	338	126	1 969	5 812	702	979	3 524	763	53	54	4	14 512
1998	216	61	610	188	3 610	10 051	1 090	1 265	4 937	730	81	78	9	22 926
1999	202	71	673	208	4 141	11 635	1 235	985	4 066	693	84	71	17	24 081
2000	228	71	862	187	5 453	13 264	1 493	1 014	4 082	613	109	72	6	27 454
2001	123	35	452	109	3 164	8 069	899	765	4 090	622	106	67	5	18 506
2002	97	10	289	89	2 051	5 515	568	447	3 232	548	66	47	1	12 960
2003	103	29	412	113	3 239	6 632	870	538	2 781	459	58	44	10	15 288
2004	13	5	57	7	329	528	126	50	284	37	13	1	0	1 450
Unknown	3	0	0	0	58	0	0	0	0	0	0	0	0	61
TOTAL	2 872	2 587	7 590	3 785	36 036	107 624	13 365	23 545	67 893	13 632	1 186	970	116	281 201

Buses

							Jurisdictio	า						
	Newfound- land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatche- wan	Alberta	British Columbia	Yukon Territory	Northwest Territor- ies	Nunavut	TOTAL
Vehicle Model Year														
Earlier then 1986	31	17	148	912	496	1 603	371	558	2 154	834	42	12	4	7 182
1986	7	3	42	98	154	283	110	114	279	132	3	1	0	1 226
1987	16	2	47	69	114	451	135	280	385	166	1	1	1	1 668
1988	27	1	57	88	180	644	199	188	499	258	4	2	0	2 147
1989	128	2	59	77	332	806	153	213	595	375	4	3	0	2 747
1990	185	2	104	162	551	1 330	125	249	650	384	3	1	0	3 746
1991	179	1	118	74	884	1 507	189	206	569	481	4	0	0	4 212
1992	173	2	72	83	984	1 572	197	169	574	369	5	1	0	4 201
1993	64	0	103	98	855	1 384	179	179	551	328	4	1	0	3 746
1994	40	0	45	36	1 392	1 224	242	114	389	359	8	2	0	3 851
1995	31	1	173	166	892	1 796	172	127	518	460	11	3	1	4 351
1996	24	3	67	24	1 176	1 882	169	152	433	553	14	0	0	4 497
1997	50	0	110	129	1 108	1 545	161	162	671	357	26	2	1	4 322
1998	34	0	194	201	1 062	1 954	194	184	713	600	8	0	0	5 144
1999	69	0	107	95	1 392	2 351	230	220	746	518	7	20	0	5 755
2000	59	2	181	104	1 311	2 618	206	175	815	626	12	9	5	6 123
2001	49	2	82	115	1 440	2 303	131	212	843	591	61	13	1	5 843
2002	28	21	109	112	1 454	1 621	345	188	728	361	15	16	0	4 998
2003	3	1	32	20	818	1 308	114	99	504	268	22	6	0	3 195
2004	0	6	1	1	186	21	19	1	17	15	0	0	0	267
Unknown	0	0	0	1	101	0	0	0	0	0	0	0	0	102
TOTAL	1 197	66	1 851	2 665	16 882	28 203	3 641	3 790	12 633	8 035	254	93	13	79 323

Estimates of the

Number of Vehicles in Scope by Type of Vehicle and Jurisdiction

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	е	Buses		Total	
Jurisdiction										
Newfoundland and Labrador	239 627	А	3 234	В	2 872	А	1 197	А	246 929	A
Prince Edward Island	73 636	А	1 633	В	2 589	А		F	77 858	А
Nova Scotia	520 325	А	8 175	В	7 468	А	1 796	А	537 764	А
New Brunswick	429 038	А	5 283	С	3 642	А	1 624	С	439 587	А
Quebec	4 101 516	А	53 107	А	34 477	А	16 530	А	4 205 630	А
Ontario	6 562 186	А	74 122	А	106 328	А	27 786	А	6 770 422	А
Manitoba	599 494	А	9 640	А	13 129	А	3 643	А	625 906	А
Saskatchewan	628 554	А	37 566	А	23 546	А	3 791	А	693 457	А
Alberta	2 020 796	А	77 275	В	69 687	А	11 938	В	2 179 696	А
British Columbia	2 279 447	А	57 842	В	13 634	А	8 035	А	2 358 958	А
Yukon Territory	22 831	А	916	В	1 035	С		F	24 784	А
Northwest Territories	19 244	А	426	С	1 020	В	94	А	20 783	А
Nunavut	2 721	А	293	D	117	Α		F	3 133	А
Total - Canada	17 499 416	А	329 512	А	279 542	Α	76 439	А	18 184 909	А

Estimates for Canada of the

Number of Vehicles in Scope by Type of Vehicle and Vehicle Model Year

	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more		Buses		Total	
Vehicle Model Year										
Later than 2000	3 291 809	А	41 347	С	36 124	В	12 985	С	3 382 265	А
1998 - 2000	3 816 702	А	64 510	В	85 163	Α	18 804	С	3 985 179	А
1994 - 1997	3 950 713	А	56 328	С	68 741	В	16 519	С	4 092 302	А
1990 - 1993	3 588 814	А	49 797	С	23 938	D	14 244	С	3 676 792	А
Earlier than 1990	2 851 377	В	117 530	В	65 576	В	13 887	С	3 048 371	А
Total	17 499 416	А	329 512	А	279 542	Α	76 439	А	18 184 909	А

Estimates for Canada of the

Number of Vehicles in Scope by Type of Vehicle and Vehicle Body Type $\,$

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Vehicle Body Type										
Car	10 853 012	А							10 853 012	А
Station wagon	425 166	D							425 166	D
Van	2 095 058	В		F			6 196	Е	2 119 948	В
Sport utility vehicle	1 520 463	В							1 520 463	В
Pickup	2 578 950	В	47 384	Е					2 626 334	В
Straight truck		F	248 298	А	110 444	В		F	386 024	В
Tractor trailer			8 641	Е	164 048	А			172 689	А
Bus				F			69 728	А	69 913	А
Other			6 311	Е		F			11 362	Е
Total	17 499 416	А	329 512	А	279 542	Α	76 439	А	18 184 909	А

Estimates for Canada of the

Number of Vehicles in Scope by Type of Vehicle and Type of Fuel

		Vehicle Type											
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total				
Fuel Type													
Gasoline	17 094 652	Α	120 077	В	17 404	Е	12 638	С	17 244 771	A			
Diesel	360 225	D	197 944	Α	262 072	Α	61 612	А	881 853	В			
Other		F	11 491	Е		F		F	58 285	Е			
Total	17 499 416	Α	329 512	Α	279 542	Α	76 439	А	18 184 909	А			

Estimates of

 $\label{thm:condition} \mbox{Vehicle-km ('000 000) by Type of Vehicle and Jurisdiction}$

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or mor	е	Buses		Total	
Jurisdiction										
Newfoundland and Labrador	951.1	С	13.5	E	38.6	E		F	1 007.0	В
Prince Edward Island	319.1	D	3.7	Е		F		F	335.1	D
Nova Scotia	2 598.7	В	50.4	D	79.5	D		F	2 739.1	В
New Brunswick	2 297.4	В	32.3	Е	13.2	Е	6.4	Е	2 349.3	В
Quebec	15 757.8	В	242.6	С	733.8	С	140.5	В	16 874.7	В
Ontario	28 589.7	В	489.4	С	2 257.0	С	106.6	С	31 442.8	В
Manitoba	2 568.3	В	45.9	D	233.1	С	9.3	Е	2 856.6	В
Saskatchewan	2 885.2	В	56.6	Е	273.6	Е	13.6	D	3 228.9	В
Alberta	8 342.2	В	238.7	D	952.6	С	86.4	D	9 619.9	В
British Columbia	8 272.7	В	389.5	Е	82.8	С	30.4	Е	8 775.3	В
Yukon Territory	77.7	В	3.2	D	22.2	Е		F	103.1	В
Northwest Territories	63.5	С		F	7.3	Е		F	73.8	С
Nunavut	5.4	В		F		F		F	7.1	С
Total - Canada	72 728.8	А	1 568.0	В	4 707.2	В	408.9	В	79 412.9	А

Estimates of

Passenger-km ('000 000) by Type of Vehicle and Jurisdiction

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Jurisdiction										
Newfoundland and Labrador	1 692.0	D		F		F	107.3	E	1 868.4	С
Prince Edward Island		F		F		F		F		F
Nova Scotia	4 672.2	С		F	79.7	Е	301.6	Е	5 164.7	С
New Brunswick		F		F		F		F		F
Quebec		F	385.3	Е		F	1 528.3	Е	26 286.2	В
Ontario		F		F		F	1 026.2	Е		F
Manitoba	3 941.6	С	72.4	Е		F	80.9	Е	4 329.3	С
Saskatchewan		F		F		F	180.0	Е		F
Alberta		F		F	994.3	Е	1 312.6	Е	16 493.5	D
British Columbia	14 244.2	С		F	106.0	D		F	15 946.6	С
Total - Provinces		F		F		F	5 644.6	D	133 161.9	В

THE SYMBOL BESIDE EACH ESTIMATE CLASSIFIES ITS QUALITY: A - EXCELLENT, B - VERY GOOD, C - GOOD, D - ACCEPTABLE, E - USE WITH CAUTION,

F - TOO UNRELIABLE TO BE PUBLISHED, ... - NOT APPLICABLE, . - NOT AVAILABLE FOR ANY REFERENCE PERIOD.

DUE TO ROUNDING THE NUMBERS MAY NOT ADD UP AND MAY DIFFER SLIGHTLY AMONG THE TABLES.

ALL PASSENGER-KM ESTIMATES EXCLUDE URBAN TRANSIT BUSES AND THE TERRITORIES.

Estimates for Canada of

Vehicle-km ('000 000) by Type of Vehicle and Vehicle Model Year

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	Trucks 15t or more			Total	
Vehicle Model Year										
Later than 2000	19 586.5	В	315.8	С	1 124.8	С	91.6	D	21 118.7	В
1998 - 2000	19 568.1	В	526.3	С	2 177.1	В	101.1	С	22 372.6	В
1994 - 1997	15 566.3	В	430.8	Е	971.1	D	114.0	С	17 082.3	В
1990 - 1993	10 945.3	В	188.5	Е		F	67.5	Е	11 473.9	В
Earlier than 1990	7 062.6	С	106.6	Е		F		F	7 365.5	С
Total	72 728.8	А	1 568.0	В	4 707.2	В	408.9	В	79 412.9	А

Estimates of the Provincial Total of

Passenger-km ('000 000) by Type of Vehicle and Vehicle Model Year

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	Trucks 4.5t - 15t		Trucks 15t or more			Total	
Vehicle model year										
Later than 2000		F		F		F		F		F
1998 - 2000		F		F		F	1 293.4	Е	38 655.6	С
1994 - 1997	24 791.6	С		F	1 057.3	Е	1 435.5	D	28 017.1	С
1990 - 1993	16 921.2	С		F		F	1 377.7	Е	18 907.7	С
Earlier than 1990		F		F		F	173.2	Е		F
Total		F		F		F	5 644.6	D	133 161.9	В

THE SYMBOL BESIDE EACH ESTIMATE CLASSIFIES ITS QUALITY: A - EXCELLENT, B - VERY GOOD, C - GOOD, D - ACCEPTABLE, E - USE WITH CAUTION,

F - TOO UNRELIABLE TO BE PUBLISHED, ... - NOT APPLICABLE, . - NOT AVAILABLE FOR ANY REFERENCE PERIOD.

DUE TO ROUNDING THE NUMBERS MAY NOT ADD UP AND MAY DIFFER SLIGHTLY AMONG THE TABLES.

ALL PASSENGER-KM ESTIMATES EXCLUDE URBAN TRANSIT BUSES AND THE TERRITORIES.

Estimates for Canada of

Vehicle-km ('000 000) by Type of Vehicle and Vehicle Body Type

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Vehicle Body Type										
Car	42 530.9	A							42 530.9	А
Station wagon	1 861.6	Е							1 861.6	Е
Van	10 812.5	В	113.0	Е			22.4	Е	10 948.0	В
Sport utility vehicle	6 480.9	С							6 480.9	С
Pickup	10 936.1	С		F					11 170.8	С
Straight truck		F	1 160.0	В	710.5	Е		F	1 978.6	С
Tractor trailer				F	3 995.4	В			4 039.2	В
Bus				F			385.3	В	388.3	В
Other				F		F				F
Total	72 728.8	А	1 568.0	В	4 707.2	В	408.9	В	79 412.9	А

Estimates of the Provincial Total of

Passenger-km ('000 000) by Type of Vehicle and Vehicle Body Type

					Vehicle Type					
V	ehicles up to 4.5	it	Trucks 4.5t - 151	t	Trucks 15t or more	е	Buses		Total	
Vehicle Body Type										
Car		F								F
Station wagon		F								F
Van	20 506.7	С		F				F	20 880.9	С
Sport utility vehicle		F								F
Pickup		F		F						F
Straight truck		F		F		F		F		F
Tractor trailer				F		F				F
Bus				F			5 436.3	Е	5 445.8	Е
Other				F		F				F
Total		F		F		F	5 644.6	D	133 161.9	В

THE SYMBOL BESIDE EACH ESTIMATE CLASSIFIES ITS QUALITY: A - EXCELLENT, B - VERY GOOD, C - GOOD, D - ACCEPTABLE, E - USE WITH CAUTION,

F - TOO UNRELIABLE TO BE PUBLISHED, ... - NOT APPLICABLE, . - NOT AVAILABLE FOR ANY REFERENCE PERIOD.

DUE TO ROUNDING THE NUMBERS MAY NOT ADD UP AND MAY DIFFER SLIGHTLY AMONG THE TABLES.

ALL PASSENGER-KM ESTIMATES EXCLUDE URBAN TRANSIT BUSES AND THE TERRITORIES.

Estimates for Canada of

Vehicle-km ('000 000) by Type of Vehicle and Type of Fuel

		Vehicle Type											
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total				
Fuel Type													
Gasoline	70 513.9	А	311.2	D		F	34.8	D	70 994.1	A			
Diesel	2 069.0	Е	1 200.1	В	4 569.7	В	374.1	В	8 212.9	В			
Other		F		F		F				F			
Total	72 728.8	А	1 568.0	В	4 707.2	В	408.9	В	79 412.9	А			

Passenger-km ('000 000) by Type of Vehicle and Type of Fuel

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	Э	Buses		Total	
Fuel Type										
Gasoline		F		F		F	464.4	Е		F
Diesel	3 171.2	Е		F		F	5 180.2	Е	15 093.7	С
Other		F		F						F
Total		F		F		F	5 644.6	D	133 161.9	В

Vehicle-km ('000 000) by Type of Vehicle and Day of Week

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	е	Buses		Total	
Day of the Week										
Sunday	9 776.2	В		F	258.9	Е	15.9	E	10 115.9	В
Monday	10 188.4	В	242.8	Е	941.8	Е	64.9	С	11 437.8	В
Tuesday	9 919.0	В		F	840.7	С	80.1	В	11 130.1	В
Wednesday	10 897.9	В		F	778.5	С	79.8	В	12 027.3	В
Thursday	10 549.8	В	323.0	Е	777.8	С	82.3	В	11 732.9	В
Friday	12 220.2	В		F	824.6	С	69.9	В	13 425.7	В
Saturday	9 030.8	В		F	254.2	Е	14.6	Е	9 359.1	В
Total	72 582.3	А	1 562.6	В	4 676.6	В	407.5	В	79 229.0	А

Passenger-km ('000 000) by Type of Vehicle and Day of Week

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Day of the Week										
Sunday	18 584.7	С		F		F		F	18 991.3	С
Monday		F		F		F	925.4	Е		F
Tuesday		F		F		F	1 109.2	Е	17 865.1	В
Wednesday		F		F	829.8	D	1 274.5	Е		F
Thursday	16 191.6	В		F	813.1	С	1 120.3	Е	18 652.3	В
Friday		F		F		F	1 059.0	Е		F
Saturday		F		F	274.5	Е		F		F
Total		F		F		F	5 644.6	D	133 161.9	В

Vehicle-km ('000 000) by Type of Vehicle and Driver Age Group

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Age of Driver										
Under 20 years		F		F		F		F		F
20 - 24 years		F		F		F		F		F
25 - 34 years		F		F	597.7	Е	29.3	Е		F
35 - 44 years	15 391.5	С		F		F	104.5	Е		F
45 - 54 years	22 585.5	С		F	1 799.0	Е	108.6	С	24 904.7	В
55 - 64 years	11 511.9	С		F	692.5	Е	147.8	D	12 488.9	С
65 years and over	8 192.1	С		F		F		F	8 263.7	С
Total	72 582.3	А	1 562.6	В	4 676.6	В	407.5	В	79 229.0	А

40

Passenger-km ('000 000) by Type of Vehicle and Driver Age Group

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	е	Buses		Total	
Age of Driver										1
Under 20 years		F		F		F		F		F
20 - 24 years		F		F		F		F		F
25 - 34 years		F		F		F		F		F
35 - 44 years		F		F		F	1 091.4	D		F
45 - 54 years		F		F		F		F		F
55 - 64 years	18 251.2	С		F	701.8	Е	2 590.6	Е	21 769.9	С
65 years and over	13 759.9	С		F		F		F	13 938.1	С
Total		F		F		F	5 644.6	D	133 161.9	В

Vehicle-km ('000 000) by Type of Vehicle and Sex of Driver

					Vehicle Type					
	Vehicles up to 4.5	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Sex of Driver										
Male	47 721.1	В		F	4 671.8	С	254.8	D	54 182.7	В
Female	24 861.2	В		F		F	152.7	С	25 046.3	В
Total	72 582.3	А	1 562.6	В	4 676.6	В	407.5	В	79 229.0	А

Passenger-km ('000 000) by Type of Vehicle and Sex of Driver

					Vehicle Type					
	Vehicles up to 4.5	5t	Trucks 4.5t - 151	t	Trucks 15t or more	9	Buses		Total	
Sex of Driver										
Male		F		F		F	3 124.2	Е		F
Female	37 990.7	В		F		F	2 520.4	Е	40 573.6	В
Total		F		F		F	5 644.6	D	133 161.9	В

Vehicle-km ('000 000) by Type of Vehicle and Time of Day

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Time of Day										
00:00 - 05:59	1 777.9	С		F	575.7	Е	9.2	Е	2 407.2	С
06:00 - 11:59	23 847.5	В		F	1 558.7	С	187.1	В	26 272.7	В
12:00 - 17:59	32 972.0	В		F	1 536.6	С	182.1	В	35 380.3	В
18:00 - 23:59	13 984.9	В		F	1 005.6	D	29.1	D	15 168.8	В
Total	72 582.3	А	1 562.6	В	4 676.6	В	407.5	В	79 229.0	А

Passenger-km ('000 000) by Type of Vehicle and Time of Day

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 151	ŧ	Trucks 15t or more	9	Buses		Total	
Time of Day										
00:00 - 05:59	2 595.3	D		F		F		F	3 318.5	С
06:00 - 11:59		F		F		F	2 803.3	D	41 850.5	В
12:00 - 17:59		F		F		F	2 636.3	D		F
18:00 - 23:59		F		F		F		F		F
Total		F		F		F	5 644.6	D	133 161.9	В

Vehicle-km ('000 000) by Type of Vehicle and Carrying Dangerous Goods

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Carrying Dangerous Goods										
Declared - yes		F		F		F				F
Declared - no	72 577.0	В		F	4 300.8	С	407.5	В	78 817.5	В
Total	72 582.3	Α	1 562.6	В	4 676.6	В	407.5	В	79 229.0	А

Passenger-km ('000 000) by Type of Vehicle and Carrying Dangerous Goods

					Vehicle Type					
	Vehicles up to 4.5	t	Trucks 4.5t - 151		Trucks 15t or more	9	Buses		Total	
Carrying Dangerous Goods										
Declared - yes		F		F		F				F
Declared - no		F		F		F	5 644.6	D	132 650.4	В
Total		F		F		F	5 644.6	D	133 161.9	В

Vehicle-km ('000 000) by Type of Vehicle and Type of Day

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Type of Day										
Weekends and Holidays	21 087.5	В		F	697.2	Е	42.7	Е	22 016.5	В
Weekdays	51 494.8	В	1 373.5	Е	3 979.4	С	364.8	В	57 212.5	В
Total	72 582.3	А	1 562.6	В	4 676.6	В	407.5	В	79 229.0	А

Passenger-km ('000 000) by Type of Vehicle and Type of Day

		Vehicle Type										
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total			
Type of Day												
Weekends and Holidays	38 503.3	С		F	756.4	Е		F	39 779.6	В		
Weekdays		F		F		F	5 453.4	D	93 382.3	В		
Total		F		F		F	5 644.6	D	133 161.9	В		

 $\label{lem:Vehicle-km} \mbox{ ('000 000) by Type of Vehicle and Road Type}$

					Vehicle Type					
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Road Type										
Road with posted maximum speed of 80km/h or more	36 862.1	В		F	2 440.3	D	100.8	С	40 146.8	В
Other roads	35 720.2	В		F	2 236.2	D	306.7	В	39 082.1	В
Total	72 582.3	А	1 562.6	В	4 676.6	В	407.5	В	79 229.0	А

Passenger-km ('000 000) by Type of Vehicle and Road Type

	Vehicle Type											
	Vehicles up to 4.5	5t	Trucks 4.5t - 151	:	Trucks 15t or more	9	Buses		Total			
Road Type												
Road with posted maximum speed of 80km/h or more		F		F	2 620.8	D	2 172.7	E		F		
Other roads	55 571.0	В		F		F	3 472.0	D	62 750.5	В		
Total		F		F		F	5 644.6	D	133 161.9	В		

Vehicles up to 4.5t: Passenger-km ('000 000) by Passenger Age Group

	Estimates for	
	Vehicles up to 4.5	5t
Passenger Age		
Under 5 years	2 430.1	D
5-14 years		F
15 years and over		F
Total		F

Passenger-km and Vehicle-km for Buses by Trip Purpose

	Est	tima	tes of	
	Passenger-km ('000 (000)	Vehicle-km ('000 0	00)
Trip Purpose				
Scheduled urban			116.1	D
Scheduled intercity				
School	5 042.7	Е	236.3	В
Charter		F		F
Other		F	39.6	Е
Total	5 644.6	D	407.5	В

Vehicles up to 4.5t: Vehicle-km ('000 000) by Vehicle Group and Trip Purpose

			Vehicle Group			
	Car and Station was	gon	Other below 4.5t		Total	
Trip Purpose						
To go home	11 909.3	В	7 085.1	С	18 994.4	В
To go to work or school	8 123.8	С	5 147.9	С	13 271.7	В
To do shopping or errands	9 987.0	В		F	14 427.6	В
To go to a recreational or social activity	5 610.8	В	3 649.6	С	9 260.4	В
To go somewhere else		F		F		F
(Job) picking up or delivering goods		F	780.5	Е	830.1	E
(Job) to or from service call		F		F		F
(Job) other work purpose		F	1 241.9	Е		F
Total	44 350.4	А	28 231.9	В	72 582.3	А

Vehicles up to 4.5t: Passenger-km ('000 000) by Vehicle Group and Trip Purpose

			Vehicle Group			
	Car and Station wa	gon	Other below 4.5t		Total	
Trip Purpose						
To go home		F		F		F
To go to work or school	10 263.8	С	7 467.4	D	17 731.2	В
To do shopping or errands	16 531.7	С		F		F
To go to a recreational or social activity	10 785.2	С	7 264.8	С	18 049.9	В
To go somewhere else		F		F		F
(Job) picking up or delivering goods		F	1 097.3	Е	1 154.0	E
(Job) to or from service call		F		F		F
(Job) other work purpose		F		F		F
Total		F		F		F

Trucks 4.5t or more: Vehicle-km ('000 000) by Vehicle Group and Trip Purpose

		Vel	nicle	е Туре	
		Trucks 4.5t - 15	:	Trucks 15t or mor	·е
Vehicle Group	Trip Purpose				
Straight truck	Driving to or from service call		F		F
	Carrying goods or equipment		F		F
	Empty		F		F
	Other work purpose		F		F
	Non work purpose		F		F
	Total	1 518.8	С	710.5	Е
Other over 4.5t	Driving to or from service call				F
	Carrying goods or equipment		F	3 323.5	D
	Empty		F	485.0	Е
	Other work purpose				F
	Non work purpose				F
	Total		F	3 966.0	В
Total	Driving to or from service call		F		F
	Carrying goods or equipment		F	3 915.6	D
	Empty		F	522.5	E
	Other work purpose		F		F
	Non work purpose		F	179.0	Е
	Total	1 562.6	В	4 676.6	В

Trucks 4.5t or more: Passenger-km ('000 000) by Vehicle Group and Trip Purpose

		Vehicl	е Туре	
		Trucks 4.5t - 15t	Trucks 15t or mor	·e
Vehicle Group	Trip Purpose			
Straight truck	Driving to or from service call	F		F
	Carrying goods or equipment	F		F
	Empty	F		F
	Other work purpose	F		F
	Non work purpose	F		F
	Total	F		F
Other over 4.5t	Driving to or from service call			F
ther over 4.5t	Carrying goods or equipment	F		F
	Empty	F	542.7	E
	Other work purpose			F
	Non work purpose			F
	Total	F		F
Total	Driving to or from service call	F		F
	Carrying goods or equipment	F		F
	Empty	F	590.2	Е
	Other work purpose	F		F
	Non work purpose	F	195.8	Е
	Total	F		F

 $\label{thm:condition} \mbox{Vehicle-km ('000 000) by Type of Vehicle, Type of Day and Time of Day}$

						Vehicle Type					
		Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	е	Buses		Total	
Type of Day	Time of Day										
Weekends and Holidays	00:00 - 05:59	451.4	D		F		F	4.1	Е	551.3	D
notiuays	06:00 - 11:59	6 380.4	В		F	238.4	Е	12.6	Е	6 711.3	В
	12:00 - 17:59	10 044.4	В		F	214.2	Е	16.5	Е	10 352.3	В
	18:00 - 23:59	4 211.4	С		F	154.4	Е	9.5	Е	4 401.6	С
	Total	21 087.5	В		F	697.2	Е	42.7	Е	22 016.5	В
Weekdays	00:00 - 05:59	1 326.5	D		F	485.5	Е	5.2	Е	1 855.9	С
	06:00 - 11:59	17 467.2	В	599.4	Е	1 320.3	С	174.5	В	19 561.3	В
	12:00 - 17:59	22 927.5	В		F	1 322.4	С	165.6	В	25 028.0	В
	18:00 - 23:59	9 773.5	В		F	851.2	D	19.5	D	10 767.2	В
	Total	51 494.8	В	1 373.5	Е	3 979.4	С	364.8	В	57 212.5	В
Total	00:00 - 05:59	1 777.9	С		F	575.7	Е	9.2	Е	2 407.2	С
	06:00 - 11:59	23 847.5	В		F	1 558.7	С	187.1	В	26 272.7	В
	12:00 - 17:59	32 972.0	В		F	1 536.6	С	182.1	В	35 380.3	В
	18:00 - 23:59	13 984.9	В		F	1 005.6	D	29.1	D	15 168.8	В
	Total	72 582.3	А	1 562.6	В	4 676.6	В	407.5	В	79 229.0	А

Passenger-km ('000 000) by Type of Vehicle, Type of Day and Time of Day $\,$

						Vehicle Type					
		Vehicles up to 4.	5t	Trucks 4.5t - 15t		Trucks 15t or more	9	Buses		Total	
Type of Day	Time of Day										
Weekends and	00:00 - 05:59	651.5	D		F		F		F	783.8	D
Holidays	06:00 - 11:59	10 817.3	С		F		F		F	11 263.2	В
	12:00 - 17:59	18 795.4	С		F	231.4	Е		F	19 241.4	С
	18:00 - 23:59		F		F		F		F	8 491.2	С
	Total	38 503.3	С		F	756.4	Е		F	39 779.6	В
Veekdays 00	00:00 - 05:59		F		F		F		F		F
	06:00 - 11:59		F		F		F	2 751.5	D	30 587.3	В
	12:00 - 17:59		F		F		F	2 567.1	D		F
	18:00 - 23:59		F		F		F		F		F
	Total		F		F		F	5 453.4	D	93 382.3	В
Total	00:00 - 05:59	2 595.3	D		F		F		F	3 318.5	С
	06:00 - 11:59		F		F		F	2 803.3	D	41 850.5	В
	12:00 - 17:59		F		F		F	2 636.3	D		F
	18:00 - 23:59		F		F		F		F		F
	Total		F		F		F	5 644.6	D	133 161.9	В

						Vehicle Type					
		Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	е	Buses		Total	
Age of Driver	Sex of Driver										
Under 25 years	Male		F		F		F		F		F
	Female	4 381.4	D		F		F		F	4 384.0	D
	Total		F		F		F		F		F
25 - 55 years	Male		F		F		F	140.1	Е		F
	Female	14 919.7	В		F		F	102.4	D	15 053.8	В
	Total	45 742.9	В		F		F	242.4	С	51 223.2	В
55 years and over	Male	14 144.0	В		F	735.6	Е	113.2	Е	15 144.2	В
	Female	5 560.1	С		F		F	48.4	Е	5 608.4	С
	Total	19 704.0	В		F	735.6	Е	161.6	С	20 752.6	В
Total	Male	47 721.1	В		F	4 671.8	С	254.8	D	54 182.7	В
	Female	24 861.2	В		F		F	152.7	С	25 046.3	В
	Total	72 582.3	А	1 562.6	В	4 676.6	В	407.5	В	79 229.0	А

Passenger-km ('000 000) by Type of Vehicle, Driver Age Group and Sex of Driver

	Vehicle Type										
		Vehicles up to 4.	5t	Trucks 4.5t - 15t		Trucks 15t or mor	e	Buses		Total	
Age of Driver	Sex of Driver										
Under 25 years	Male		F		F		F		F		F
	Female	6 711.1	D		F		F		F	6 731.5	D
	Total		F		F		F		F		F
25 - 55 years	Male		F		F		F	1 157.0	Е		F
	Female		F		F		F		F	24 317.9	В
	Total		F		F		F	2 915.3	Е		F
55 years and over	Male	23 229.3	С		F		F		F	26 183.8	С
	Female		F		F		F	742.4	Е	9 524.2	С
	Total	32 011.1	В		F	750.4	Е	2 699.3	Е	35 708.0	В
Total	Male		F		F		F	3 124.2	Е		F
	Female	37 990.7	В		F		F	2 520.4	Е	40 573.6	В
	Total		F		F		F	5 644.6	D	133 161.9	В

Fuel ('000 000 litres) Purchased by Type of Vehicle and Type of Fuel

	Vehicle Type									
	Vehicles up to 4.	5t	Trucks 4.5t - 15	t	Trucks 15t or more	9	Buses		Total	
Fuel Type										
Gasoline	8 094.8	В		F		F	12.1	Е	8 241.6	В
Diesel	229.3	Е		F	1 843.3	С	102.1	В	2 474.8	С

FOR FURTHER READING

Selected Publications from Statistics Canada

Catalogue	
53-223-XIE	Canadian Vehicle Survey – Annual. English.
53-223-XIF	Canadian Vehicle Survey – Annual. French.
50-002-XIB	Surface and Marine Transport - Service Bulletin. Bilingual.
51-004-XIB	Aviation - Service Bulletin - Bilingual.
51-203-XIB	Air Carrier Traffic at Canadian Airports - Annual. Bilingual.
51-204-XIE	Air Passenger Origin and Destination: Domestic Report - Annual. English.
51-204-XIF	Air Passenger Origin and Destination: Domestic Report - Annual. French.
51-206-XIB	Canadian Civil Aviation - Annual. Bilingual.
51-207-XIB	Air Charter Statistics - Annual. Bilingual.
52-001-XIE	Railway Carloadings - Monthly. English.
52-001-XIF	Railway Carloadings - Monthly. French.
52-216-XIB	Rail in Canada - Annual. Bilingual.
53-215-XIB	Passenger Bus and Urban Transit Statistics - Annual. Bilingual.
53-222-XIB	Trucking in Canada - Annual. Bilingual.
54-205-XIB	Shipping in Canada - Annual. Bilingual.
66-001-PPB	International Travel, Advance Information (Touriscope) - Monthly. Bilingual.
66-201-XIB	International Travel - Annual. Bilingual.
87-003-XIB	Travel Log - Quarterly. Bilingual.

To order a publication in Canada or the United States, please use the following toll free numbers: 1 800 267-6677 (telephone) or 1 877 287-4369 (fax). When ordering by telephone or facsimile, a written confirmation is not required.