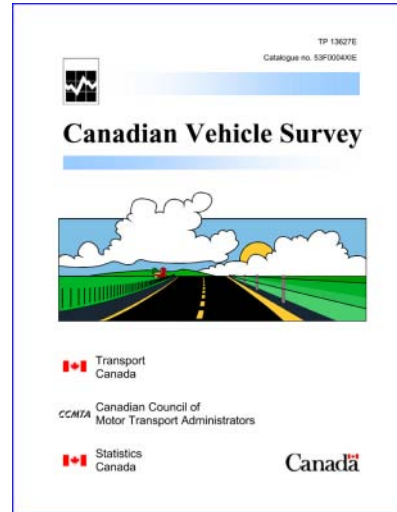




Catalogue no. 53F0004XIE

Canadian vehicle survey

Fourth quarter 2003



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	1 800 263-1136
National telecommunications device for the hearing impaired	1 800 363-7629
Depository Services Program inquiries	1 800 700-1033
Fax line for Depository Services Program	1 800 889-9734
E-mail inquiries	infostats@statcan.ca
Web site	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

Fourth quarter 2003

Published by authority of the Minister
responsible for Statistics Canada

© Minister of Industry, 2004

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.

May 2004

Catalogue no. 53F0004XIE

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:

.	<i>not available for any reference period</i>
..	<i>not available for a specific reference period</i>
...	<i>not applicable</i>
0	<i>true zero or a value rounded to zero</i>
0 ^S	<i>value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded</i>
P	<i>preliminary</i>
r	<i>revised</i>
x	<i>suppressed to meet confidentiality requirements of the Statistics Act</i>
A	<i>excellent</i>
B	<i>very good</i>
C	<i>good</i>
D	<i>acceptable</i>
E	<i>use with caution</i>
F	<i>too unreliable to be published</i>

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 **Ed Hamilton**, 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 Section

Kevin Ringuette, Real Dery

Business Surveys Methods Division

François Gagnon, Daniel Finch, Martin Beaulieu

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 <i>Survey population</i>	11
4.1.2 <i>Sample design</i>	11
4.1.3 <i>Sample size</i>	12
4.2 Data collection and processing	12
4.2.1 <i>Data collection</i>	12
4.2.2 <i>Edit and imputation</i>	13
4.2.3 <i>Estimation</i>	13
5. Data quality	14
5.1 Sources of errors	14
5.2 Sampling error	14
5.3 Non-sampling errors	14
5.3.1 <i>Coverage errors</i>	15
5.3.2 <i>Response errors</i>	15
5.3.3 <i>Nonresponse errors</i>	15
5.3.4 <i>Processing errors</i>	16
5.4 Measuring quality	16
5.4.1 <i>Response rates</i>	16
5.4.2 <i>Relative imputation rates and percentage of vehicle days imputed</i>	17
5.4.3 <i>Coefficient of variation</i>	17
5.4.4 <i>Quality indicator</i>	18
5.5 Notes for historical comparison	19
6. Glossary	20

List of tables

1.	Number of vehicles on the registration lists by type of vehicle and jurisdiction	21
2.	Number of vehicles on the registration lists by jurisdiction and vehicle model year for vehicles up to 4.5 t	22
3.	Number of vehicles on the registration lists by jurisdiction and vehicle model year for trucks 4.5 t - 15 t	23
4.	Number of vehicles on the registration lists by jurisdiction and vehicle model year for trucks 15 t or more	24
5.	Number of vehicles on the registration lists by jurisdiction and vehicle model year for buses	25
6.	Estimates of the number of vehicles in scope by type of vehicle and jurisdiction	26
7.	Estimates for Canada of the number of vehicles in scope by type of vehicle and vehicle model year	27
8.	Estimates for Canada of the number of vehicles in scope by type of vehicle and vehicle body type	28
9.	Estimates for Canada of the number of vehicles in scope by type of vehicle and type of fuel	29
10.	Estimates of the vehicle-km by type of vehicle and jurisdiction	30
11.	Estimates of the passenger-km by type of vehicle and jurisdiction	31
12.	Estimates for Canada of vehicle-km by type of vehicle and vehicle model year	32
13.	Estimates of the provincial total of passenger-km by type of vehicle and vehicle model year	33
14.	Estimates for Canada of vehicle-km by type of vehicle and vehicle body type	34
15.	Estimates of the provincial total of passenger-km by type of vehicle and vehicle body type	35
16.	Estimates for Canada of vehicle-km by type of vehicle and type of fuel	36
17.	Estimates of the provincial total of passenger-km by type of vehicle and type of fuel	37
18.	Estimates of the provincial total of vehicle-km by type of vehicle and day of the week	38
19.	Estimates of the provincial total of passenger-km by type of vehicle and day of the week	39
20.	Estimates of the provincial total of vehicle-km by type of vehicle and driver age group	40
21.	Estimates of the provincial total of passenger-km by type of vehicle and driver age group	41
22.	Estimates of the provincial total of vehicle-km by type of vehicle and sex of driver	42
23.	Estimates of the provincial total of passenger-km by type of vehicle and sex of driver	43
24.	Estimates of the provincial total of vehicle-km by type of vehicle and time of day	44
25.	Estimates of the provincial total of passenger-km by type of vehicle and time of day	45
26.	Estimates of the provincial total of vehicle-km by type of vehicle and carrying dangerous goods	46
27.	Estimates of the provincial total of passenger-km by type of vehicle carrying dangerous goods	47
28.	Estimates of the provincial total of vehicle-km by type of vehicle and type of day	48
29.	Estimates of the provincial total of passenger-km by type of vehicle and type of day	49
30.	Estimates of the provincial total of vehicle-km by type of vehicle and road type	50
31.	Estimates of the provincial total of passenger-km by type of vehicle and road type	51
32.	Estimates of the provincial total of vehicles up to 4.5 t: passenger-km by passenger age group	52
33.	Estimates of the provincial total of passenger-km and vehicle-km for buses by trip purpose	53
34.	Estimates of the provincial total for vehicles up to 4.5 t: vehicle-km by vehicle group and trip purpose	54
35.	Estimates of the provincial total for vehicles up to 4.5 t: passenger-km by vehicle group and trip purpose	55
36.	Estimates of the provincial total for trucks 4.5 t or more: vehicle-km by vehicle group and trip purpose	56
37.	Estimates of the provincial total for trucks 4.5 t or more: passenger-km by vehicle group and trip purpose	57
38.	Estimates of the provincial total of vehicle-km by type of vehicle, type of day and time of day	58
39.	Estimates of the provincial total of passenger-km by type of vehicle, type of day and time of day	59
40.	Estimates of the provincial total of vehicle-km by type of vehicle, driver age group and sex of driver	60
41.	Estimates of the provincial total of passenger-km by type of vehicle, driver age group and sex of driver	61
42.	Estimates of the provincial total of fuel purchased by type of vehicle and type of fuel	62

Highlights

- Over 18.3 million vehicles were in-scope for the Canadian Vehicle Survey during this quarter.
- Between October 1 and December 31, 2003, these vehicles travelled an estimated 73.9 billion kilometres.
- During this quarter, vehicles weighing less than 4 500 kilograms were driven an average of 3 850 kilometres while the largest of the trucks (trucks with gross weight 15 000 kilograms or more) were driven an average of 15 150 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 fourth quarter 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.

Passenger-kilometres 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.

Fuel purchased 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.

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

The number of vehicles in scope 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

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

The respondent determines vehicle body type. 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.

Fuel type 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.

Vehicle model year is derived based on the information available on the registration lists.

3.4 Definitions of vehicle usage characteristics

The CVS definition of a *Trip* determines the trip characteristics. The definition of what delimits a trip depends on the *vehicle type*:

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 *vehicles (trucks) weighing 4.5 tonnes or more* 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 *time of day* and *day of week* the trip takes place.
- *Driver age group* and *driver sex*.
- The *trip purpose* 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 *dangerous goods* 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*
- *Age group (0 - 4, 5 - 14 and 15 years and over) of passengers and the number of passengers within each group*, 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 July 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 July 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 eleven lists provided in July 2003 to Statistics Canada for CVS and the most recent list available for the Yukon and Nunavut created in April 2003. This set of prepared vehicle lists and the set of days within the fourth 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 5,000 vehicles out of 18,530,946 from the survey population were drawn for the ten provinces. Another 2,557 vehicles out of 48,927 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 has 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-kilometres only) answers to the survey divided by the total number of in-sample and in-scope vehicle-days.

PROVINCES	Vehicle-kilometres and trip characteristics reported			Only vehicle-kilometres reported (trip characteristics imputed)			Vehicles out of scope	Contact made but no data
	All	0 km	Non - 0 km	All	0 km	Non - 0 km		
Light vehicles	28%	12%	16%	32%	6%	26%	4%	4%
Trucks 4.5t – 15t	30%	23%	7%	16%	6%	10%	7%	11%
Trucks 15t or more	34%	24%	10%	21%	6%	14%	4%	10%
Buses	31%	19%	12%	2%	0%	2%	6%	32%

TERRITORIES	Vehicle-kilometres and trip characteristics reported			Vehicle-kilometres reported			Vehicles out of scope	Contact made but no data
	All	0 km	Non - 0 km	All	0 km	Non - 0 km		
Light vehicles	N/A	N/A	N/A	14%	1%	13%	7%	9%
Trucks 4.5t – 15t	N/A	N/A	N/A	9%	0%	8%	7%	8%
Trucks 15t or more	N/A	N/A	N/A	12%	0%	12%	5%	10%
Buses	N/A	N/A	N/A	14%	3%	11%	12%	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	Vehicle days reported			Vehicle days imputed		
	All	0 km	Non - 0 km	All	0 km	Non - 0 km
Light vehicles	47%	20%	26%	53%	10%	43%
Trucks 4.5t – 15t	66%	50%	15%	34%	13%	21%
Trucks 15t or more	62%	45%	17%	38%	11%	26%
Buses	93%	58%	35%	7%	0%	7%

TERRITORIES	Vehicle km reported			Vehicle km imputed		
	All	0 km	Non - 0 km	All	0 km	Non - 0 km
Light vehicles	100%	5%	95%	N/A	N/A	N/A
Trucks 4.5t – 15t	100%	4%	96%	N/A	N/A	N/A
Trucks 15t or more	100%	0%	100%	N/A	N/A	N/A
Buses	100%	23%	77%	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
B	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.

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	260 185	4 089	2 954	1 350	268 578
Prince Edward Island	74 952	1 745	2 771	49	79 517
Nova Scotia	529 004	8 797	7 678	1 837	547 316
New Brunswick	441 836	7 674	4 004	2 736	456 250
Quebec	4 212 149	58 131	37 324	17 033	4 324 637
Ontario	6 665 219	82 993	107 035	28 255	6 883 502
Manitoba	610 233	10 095	13 849	3 738	637 915
Saskatchewan	641 595	38 461	23 813	3 865	707 734
Alberta	2 131 215	96 345	67 937	12 758	2 308 255
British Columbia	2 287 924	75 504	14 561	8 575	2 386 564
Yukon Territory	24 077	1 493	1 165	254	26 989
Northwest territories	20 826	635	1 024	98	22 583
Nunavut	3 121	265	157	18	3 561
Total - Canada	17 902 336	386 227	284 272	80 566	18 653 401

Due to rounding, the numbers may not add up and may differ slightly among the tables.

Number of vehicles on the registration lists by jurisdiction and vehicle model year for

vehicles up to 4.5t

Vehicle Model Year	Jurisdiction													TOTAL
	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	
Earlier then 1986	6 176	3 562	21 819	15 455	110 488	246 938	46 611	88 809	211 676	219 313	3 593	1 907	201	976 548
1986	2 164	1 145	6 553	5 491	45 882	71 025	14 577	20 209	53 441	65 767	828	435	58	287 575
1987	2 956	1 637	8 721	7 516	67 562	103 215	15 178	18 040	49 956	71 058	884	419	69	347 211
1988	5 997	2 638	13 713	12 593	112 101	161 627	20 214	23 442	70 512	89 673	1 092	672	113	514 387
1989	7 441	3 162	16 846	15 291	134 201	213 074	22 549	25 014	80 508	104 170	1 204	723	110	624 293
1990	8 344	3 826	20 157	17 936	166 236	245 078	26 609	27 585	91 276	120 580	1 221	797	103	729 748
1991	10 277	3 882	22 246	20 128	193 850	277 825	29 564	29 775	96 754	121 235	1 160	818	135	807 649
1992	12 526	4 805	27 190	24 942	237 069	324 594	32 391	31 270	97 739	126 112	1 083	751	167	920 639
1993	14 934	4 903	28 345	24 005	226 198	334 552	30 257	29 279	91 763	117 765	1 087	716	167	903 971
1994	16 119	5 064	30 661	25 747	222 587	346 384	30 585	31 671	97 522	113 812	1 126	854	184	922 316
1995	15 487	5 383	31 992	27 013	239 131	385 358	33 671	33 919	104 062	117 699	1 174	891	184	995 964
1996	11 985	4 448	27 393	22 537	194 107	325 438	29 892	28 323	88 881	94 366	894	752	133	829 149
1997	16 241	5 355	34 385	27 586	243 674	425 364	39 314	37 506	120 999	121 639	1 224	1 100	204	1 074 591
1998	18 589	5 462	38 180	30 952	268 128	465 799	41 302	38 215	135 855	121 843	1 097	1 210	194	1 166 826
1999	18 509	4 879	35 459	28 623	262 434	452 084	35 839	31 463	115 856	109 232	1 016	1 244	208	1 096 846
2000	22 128	5 149	40 857	34 689	323 752	544 846	38 992	35 221	130 465	125 899	1 053	1 580	220	1 304 851
2001	21 462	2 937	33 969	28 893	323 357	504 195	35 709	33 317	137 991	124 582	1 234	1 739	220	1 249 605
2002	24 558	3 443	43 030	34 748	392 104	578 324	43 648	39 039	165 947	154 177	1 438	1 959	253	1 482 668
2003	22 535	2 843	41 326	33 415	393 699	569 663	38 865	35 855	165 861	147 200	1 543	2 133	189	1 455 127
2004	1 735	430	6 163	4 267	53 731	89 838	4 464	3 644	24 152	21 798	123	125	6	210 476
2005	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Unknown	20	0	0	5	1 858	0	0	0	0	0	0	0	1	1 884
TOTAL	260 183	74 953	529 005	441 832	4 212 149	6 665 221	610 232	641 596	2 131 216	2 287 920	24 074	20 825	3 119	17 902 325

Due to rounding, the numbers may not add up to the totals and may differ slightly among the tables.

Number of vehicles on the registration lists by jurisdiction and vehicle model year for

trucks 4.5t - 15t

Vehicle Model Year	Jurisdiction													TOTAL
	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	
Earlier than 1986	760	878	1 836	994	10 422	5 776	2 711	28 342	34 632	12 542	506	136	48	99 583
1986	149	80	250	164	2 049	1 601	355	617	2 267	1 767	29	19	10	9 357
1987	136	71	341	179	2 651	1 970	310	445	1 920	1 643	33	11	17	9 727
1988	222	81	389	218	3 397	2 709	372	462	2 618	2 410	55	23	16	12 972
1989	187	92	373	214	2 765	2 783	363	403	2 723	2 719	61	24	12	12 719
1990	207	60	399	223	2 832	3 109	479	522	2 924	3 045	54	34	10	13 898
1991	197	48	290	233	1 904	2 209	423	478	2 257	2 447	37	20	8	10 551
1992	155	40	286	270	1 755	2 299	367	444	2 215	2 465	47	20	11	10 374
1993	151	40	315	329	1 979	2 934	399	488	2 294	2 998	33	18	14	11 992
1994	205	56	329	401	2 509	3 692	416	524	2 734	3 288	49	23	12	14 238
1995	264	60	544	452	3 270	4 820	556	684	3 460	3 804	32	42	30	18 018
1996	145	27	321	338	2 044	3 472	393	436	2 417	2 698	32	21	7	12 351
1997	196	38	420	429	2 128	4 863	493	643	3 937	3 637	52	32	11	16 879
1998	160	20	463	429	2 646	5 020	399	607	3 671	3 147	47	26	10	16 645
1999	226	49	575	599	3 761	7 548	491	594	4 581	4 026	69	41	14	22 574
2000	201	29	460	405	3 144	6 645	352	504	4 048	3 750	59	39	13	19 649
2001	167	21	383	476	2 442	6 847	405	703	6 038	4 586	94	32	5	22 199
2002	206	22	376	455	2 266	6 562	370	699	5 129	5 094	83	31	6	21 299
2003	139	29	381	758	2 560	6 992	373	788	5 626	8 356	113	35	8	26 158
2004	10	3	66	107	940	1 141	69	79	854	1 081	5	7	1	4 363
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	4	0	0	0	668	0	0	0	0	0	0	0	0	672
TOTAL	4 087	1 744	8 797	7 673	58 132	82 992	10 096	38 462	96 345	75 503	1 490	634	263	386 218

Due to rounding, the numbers may not add up to the totals and may differ slightly among the tables.

Number of vehicles on the registration lists by jurisdiction and vehicle model year for

trucks 15t or more

Vehicle Model Year	Jurisdiction													TOTAL
	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	
Earlier than 1986	335	1 023	773	738	886	5 407	1 504	7 821	16 720	2 554	222	155	21	38 159
1986	84	182	176	154	357	1 909	291	847	1 668	402	26	20	0	6 116
1987	109	213	250	264	573	2 762	359	883	1 417	450	17	15	5	7 317
1988	149	203	275	231	759	2 928	353	965	2 059	512	28	22	1	8 485
1989	153	154	290	204	656	3 101	352	796	1 860	508	25	33	4	8 136
1990	107	134	202	225	609	3 050	306	786	2 023	824	37	32	3	8 338
1991	101	86	128	132	372	1 952	205	545	1 523	465	22	30	9	5 570
1992	90	47	140	93	570	1 987	250	517	1 263	635	36	26	5	5 659
1993	87	64	222	167	871	2 864	444	822	1 761	598	30	24	4	7 958
1994	140	86	360	198	1 679	4 278	666	1 052	2 816	748	47	46	7	12 123
1995	207	139	534	262	2 605	7 248	785	1 417	3 584	824	48	64	15	17 732
1996	173	88	407	162	1 861	5 327	766	1 004	2 890	762	62	56	8	13 566
1997	150	37	343	141	1 973	5 510	704	1 004	3 451	814	50	60	5	14 242
1998	220	63	603	206	3 589	9 675	1 087	1 286	4 797	773	80	88	11	22 478
1999	205	77	671	229	4 143	11 291	1 213	968	3 911	758	74	73	23	23 636
2000	229	74	833	190	5 429	12 817	1 488	981	4 006	695	105	80	7	26 934
2001	121	36	440	115	3 168	7 931	909	748	3 869	674	95	68	8	18 182
2002	101	11	290	92	2 063	5 480	572	455	3 111	594	66	53	5	12 893
2003	135	33	470	131	3 558	7 571	967	616	3 246	641	68	57	11	17 504
2004	55	19	271	69	1 550	3 945	625	300	1 963	331	28	22	3	9 181
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	2	0	0	0	51	0	0	0	0	0	0	0	0	53
TOTAL	2 953	2 769	7 678	4 003	37 322	107 033	13 846	23 813	67 938	14 562	1 166	1 024	155	284 262

Due to rounding, the numbers may not add up to the totals and may differ slightly among the tables.

Number of vehicles on the registration lists by jurisdiction and vehicle model year for

buses

Vehicle Model Year	Jurisdiction													TOTAL
	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	
Earlier than 1986	33	14	117	897	423	1 513	346	503	2 039	779	39	9	5	6 717
1986	4	3	36	94	139	236	98	99	247	131	4	1	0	1 092
1987	13	2	37	64	102	393	120	261	346	163	1	1	1	1 504
1988	17	1	45	75	164	523	186	172	480	257	4	3	0	1 927
1989	25	1	48	73	299	663	149	209	564	386	4	2	0	2 423
1990	162	1	76	147	412	953	126	231	654	417	4	1	1	3 185
1991	215	0	101	74	704	1 226	193	198	560	503	3	0	0	3 777
1992	248	1	72	80	928	1 402	196	168	583	377	6	1	0	4 062
1993	131	0	97	96	830	1 300	185	178	544	333	5	1	0	3 700
1994	75	1	45	37	1 367	1 157	247	114	387	360	8	3	0	3 801
1995	44	1	176	166	879	1 757	177	125	521	460	15	3	1	4 325
1996	25	3	68	26	1 164	1 867	170	153	431	571	12	0	0	4 490
1997	56	1	120	131	1 104	1 520	161	166	671	378	25	2	1	4 336
1998	36	0	215	202	1 048	1 920	198	185	719	662	8	1	0	5 194
1999	74	0	105	95	1 386	2 321	236	231	749	562	5	22	0	5 786
2000	66	1	181	106	1 297	2 580	215	180	809	649	9	9	4	6 106
2001	57	2	81	112	1 454	2 284	139	219	832	616	58	12	1	5 867
2002	32	0	112	112	1 500	1 848	356	230	786	397	11	14	1	5 399
2003	28	0	39	53	1 096	2 006	198	157	558	406	33	13	0	4 587
2004	9	15	67	92	642	788	44	87	278	166	0	0	0	2 188
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	1	95	0	0	0	0	0	0	0	0	96
TOTAL	1 350	47	1 838	2 733	17 033	28 257	3 740	3 866	12 758	8 573	254	98	15	80 562

Due to rounding, the numbers may not add up to the totals and may differ slightly among the tables.

Estimates of the

number of vehicles in scope 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	254 983	A	3 128	C	2 680	B	1 518	C	262 308	A
Prince Edward Island	73 809	A	1 634	A	2 770	A	98	A	78 311	A
Nova Scotia	518 028	A	7 422	B	7 115	B	1 682	B	534 248	A
New Brunswick	442 111	A	6 949	B	3 793	A	1 548	B	454 401	A
Quebec	4 124 992	A	47 716	A	37 598	A	17 033	A	4 227 340	A
Ontario	6 590 464	A	75 890	A	101 914	A	28 256	A	6 796 525	A
Manitoba	595 085	A	9 523	A	13 598	A	3 738	A	621 944	A
Saskatchewan	612 241	A	36 239	A	23 352	A	3 865	A	675 697	A
Alberta	2 091 369	A	91 014	A	66 861	A	12 760	A	2 262 004	A
British Columbia	2 278 151	A	64 956	B	14 171	A	8 578	A	2 365 857	A
Yukon Territory	22 943	A	990	B	1 164	A	296	C	25 393	A
Northwest territories	19 883	A	527	B	1 031	A	112	C	21 553	A
Nunavut	3 106	A	164	E		F		F	3 270	A
Total - Canada	17 627 165	A	346 152	A	276 048	A	79 484	A	18 328 849	A

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.

Estimates for Canada of the

number of vehicles in scope by type of vehicle and vehicle model year

Vehicle model year	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Later than 2000	3 752 845	A	60 175	B	49 833	B	14 974	C	3 877 827	A
1998 - 2000	4 086 749	A	56 411	B	78 422	B	22 528	B	4 244 110	A
1994 - 1997	3 832 675	A	58 551	C	44 896	C	17 052	C	3 953 174	A
1990 - 1993	3 569 515	A	41 935	C	31 598	C	12 781	C	3 655 829	A
Earlier than 1990	2 385 381	B	129 080	B	71 299	B	12 149	C	2 597 909	B
Total	17 627 165	A	346 152	A	276 048	A	79 484	A	18 328 849	A

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.

Estimates for Canada of the

number of vehicles in scope by type of vehicle and vehicle body type

Vehicle body type	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Car	11 148 283	A	...	...	...	...	...	...	11 148 283	A
Station wagon	255 702	D	...	...	...	...	...	...	255 702	D
Van	2 089 459	B	8 252	E	...	...	F	F	2 100 056	B
Sport utility vehicle	1 383 427	B	...	...	...	...	...	...	1 383 427	B
Pickup	2 664 200	B	50 383	D	...	F	F	F	2 715 277	B
Straight truck	...	F	269 021	A	115 936	B	...	F	442 999	B
Tractor trailer	...	...	14 064	E	158 306	A	...	...	172 370	A
Bus	...	...	...	...	...	...	76 324	A	76 324	A
Other	...	F	...	F	...	F	...	...	...	F
Total	17 627 165	A	346 152	A	276 048	A	79 484	A	18 328 849	A

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.

Estimates for Canada of the

number of vehicles in scope by type of vehicle and type of fuel

Fuel type	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Gasoline	17 161 816	A	136 663	B	15 569	E	15 105	C	17 329 154	A
Diesel	449 496	D	206 414	A	260 479	A	61 428	A	977 817	B
Other		F		F		...		F		F
Total	17 627 165	A	346 152	A	276 048	A	79 484	A	18 328 849	A

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.

Estimates of
vehicle-km ('000 000) by type of vehicle and jurisdiction

Jurisdiction	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Newfoundland and Labrador	779.9	B	13.5	E		F	5.0	E	824.6	B
Prince Edward Island	306.1	C		F	7.0	E		F	317.5	C
Nova Scotia	2 591.0	C	29.2	E	58.1	E	5.6	E	2 683.9	B
New Brunswick	2 034.2	C	20.3	E	14.8	E		F	2 080.4	C
Quebec	17 158.1	B	296.5	E	948.3	B	104.4	C	18 507.4	B
Ontario	23 527.9	B	577.6	D	1 735.6	C	213.4	C	26 054.5	A
Manitoba	3 097.7	C	20.4	E	285.6	E	19.5	D	3 423.1	C
Saskatchewan	2 491.3	C		F	218.2	D	19.5	E	2 812.6	B
Alberta	9 037.7	C	365.5	D	733.4	C	110.3	C	10 246.8	B
British Columbia	6 338.0	B	225.8	D	126.8	D	9.7	E	6 700.3	B
Yukon Territory	94.5	C	3.1	E	28.4	E		F	130.6	C
Northwest territories	56.1	C	1.9	E	3.7	E	1.2	E	62.9	C
Nunavut	8.6	E		F		F		F	9.0	E
Total - Canada	67 521.0	A	1 641.6	C	4 186.1	B	504.9	B	73 853.5	A

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.

Estimates of

passenger-km ('000 000) 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	1 398.9	E		F		F	77.3	E	1 529.3	E
Prince Edward Island	472.6	E		F		F		F	494.8	E
Nova Scotia	4 420.4	E		F		F		F	4 675.4	D
New Brunswick	3 237.6	D		F		F	216.0	E	3 500.0	D
Quebec	25 786.4	E		F	1 045.4	D	1 707.6	D	28 895.4	E
Ontario	36 624.8	E	832.0	E	1 777.6	E	3 223.7	D	42 458.0	B
Manitoba	5 039.2	E	22.9	E	345.2	E	318.8	E	5 726.2	D
Saskatchewan	4 477.9	E		F	252.7	D	258.3	E	5 111.3	E
Alberta	14 346.8	D	426.4	E	815.2	E	793.8	E	16 382.2	C
British Columbia	10 309.1	C	361.6	E	145.9	E		F	10 905.9	C
Total - Provinces	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 model year	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Later than 2000	20 390.0	B	557.8	C	1 462.5	C	89.4	D	22 499.6	B
1998 - 2000	18 641.6	B	484.8	E	1 605.1	C	170.9	C	20 902.4	B
1994 - 1997	12 467.4	B	207.7	D	763.6	D	94.4	D	13 533.0	B
1990 - 1993	10 751.9	B	134.2	E	157.8	E	57.9	E	11 101.8	B
Earlier than 1990	5 270.0	C		F		F	92.3	E	5 816.6	C
Total	67 521.0	A	1 641.6	C	4 186.1	B	504.9	B	73 853.5	A

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.

Estimates of the provincial total of

passenger-km ('000 000) by type of vehicle and vehicle model year

Vehicle model year	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Later than 2000	33 548.6	E	831.4	E	1 608.3	D	1 134.2	E	37 122.5	E
1998 - 2000	28 854.6	E	637.3	E	1 661.1	D	2 960.2	D	34 113.2	C
1994 - 1997	19 993.7	C	280.3	E		F	1 556.9	E	22 686.7	C
1990 - 1993	16 556.2	E		F		F		F	17 254.6	E
Earlier than 1990	7 160.5	D		F		F		F	8 501.6	D
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 body type	Vehicle type								
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total
Car	39 242.5	A	...	...	...	...	...	39 242.5	A
Station wagon	841.3	E	...	...	...	...	...	841.3	E
Van	9 393.6	C		F	...	...	F	9 451.6	C
Sport utility vehicle	7 056.8	C		...	...	...	...	7 056.8	C
Pickup	10 505.9	C	413.6	E		F	...	10 919.5	C
Straight truck		F	1 146.2	C	610.5	D	F	1 979.2	C
Tractor trailer		...		F	3 571.9	B	...	3 604.7	B
Bus		...		...		...	491.9	491.9	B
Other		F		F		F	...		F
Total	67 521.0	A	1 641.6	C	4 186.1	B	504.9	73 853.5	A

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.

Estimates of the provincial total of
passenger-km ('000 000) by type of vehicle and vehicle body type

Vehicle body type	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Car	59 396.7	B	...	...	...	...	...	...	59 396.7	B
Station wagon	1 343.1	E	...	...	...	...	...	...	1 343.1	E
Van	18 323.2	E	...	F	...	...	...	F	18 467.3	E
Sport utility vehicle	11 621.2	E	...	...	...	...	...	...	11 621.2	E
Pickup	14 763.6	E	...	F	...	...	...	...	15 325.0	E
Straight truck	...	F	1 562.2	D	631.7	E	...	F	2 504.8	D
Tractor trailer	...	...	...	F	3 862.7	C	...	...	3 898.0	C
Bus	...	...	...	...	...	...	6 716.4	C	6 716.4	C
Other	...	F	...	F	...	F	...	...	...	F
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 - 15t		Trucks 15t or more		Buses		Total	
Fuel type										
Gasoline	64 739.6	A	365.9	E		F	34.4	E	65 149.6	A
Diesel	2 764.9	E	1 272.0	C	4 176.5	B	449.1	B	8 662.5	B
Other		F		F		...		F		F
Total	67 521.0	A	1 641.6	C	4 186.1	B	504.9	B	73 853.5	A

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.

Estimates of the provincial total of

passenger-km ('000 000) by type of vehicle and type of fuel

	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Fuel type										
Gasoline	102 310.1	E		F		F	360.1	E	103 200.6	E
Diesel	3 786.6	E	1 698.0	C	4 485.0	C	6 248.9	C	16 218.5	B
Other		F		F		...		F		F
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 of the provincial total of

vehicle-km ('000 000) by type of vehicle and day of week

Day of the week	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Sunday	7 764.2	B	53.7	E	193.7	E	22.7	E	8 034.3	B
Monday	10 666.0	B	246.0	C	732.0	C	76.8	B	11 720.7	B
Tuesday	9 598.8	B	314.6	D	836.8	C	79.5	B	10 829.7	B
Wednesday	9 519.8	B	338.9	D	836.0	C	98.2	C	10 792.9	B
Thursday	10 106.3	B	283.2	D	651.1	C	96.1	B	11 136.7	B
Friday	10 839.0	B	307.4	D	702.6	C	101.8	C	11 950.8	B
Saturday	8 867.6	B	92.5	E	201.7	E	24.0	E	9 185.9	B
Total	67 361.7	A	1 636.2	C	4 154.0	B	499.1	B	73 651.0	A

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.

Estimates of the provincial total of

passenger-km ('000 000) by type of vehicle and day of week

Day of the week	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Sunday	13 464.2	B	69.4	E	219.2	E		F	14 124.2	B
Monday	16 597.8	E	322.6	D	812.3	C	1 100.0	C	18 832.8	B
Tuesday	13 907.5	E	402.4	D	936.1	C	1 223.3	C	16 469.4	B
Wednesday	14 737.2	E	536.4	E	871.6	D	1 368.1	D	17 513.3	C
Thursday	15 709.0	E	378.5	D	678.0	C	1 150.5	C	17 916.0	B
Friday	16 477.8	E	394.2	D	758.9	D	1 404.1	D	19 035.0	B
Saturday	15 220.1	C	119.0	E	221.8	E		F	15 787.8	B
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 of the provincial total of

vehicle-km ('000 000) by type of vehicle and driver age group

	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Age of driver										
Under 20 years		F		F		F		F		F
20 - 24 years	3 482.4	E		F		F		F	3 673.6	E
25 - 34 years	9 251.3	C	238.1	E	1 276.7	D	53.1	E	10 819.2	B
35 - 44 years	14 883.0	B	282.6	D	902.8	E	166.3	C	16 234.7	B
45 - 54 years	15 508.2	B	658.3	E	940.8	E	157.3	D	17 264.6	B
55 - 64 years	12 620.0	B		F	865.8	E	104.8	D	13 904.8	B
65 years and over	10 393.1	E		F		F		F	10 491.8	E
Total	67 361.7	A	1 636.2	C	4 154.0	B	499.1	B	73 651.0	A

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.

Estimates of the provincial total of
passenger-km ('000 000) by type of vehicle and driver age group

	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Age of driver										
Under 20 years		F		F		F		F		F
20 - 24 years		F		F		F		F	5 279.0	E
25 - 34 years	15 706.5	C	298.7	E	1 366.5	E	473.7	E	17 845.4	C
35 - 44 years	24 032.4	E	408.5	D	1 062.4	E	2 254.0	D	27 757.3	C
45 - 54 years	24 807.4	E	933.9	E	990.5	E	2 550.7	E	29 282.5	B
55 - 64 years	18 842.3	C		F	883.9	E	1 227.7	E	21 320.3	B
65 years and over	15 983.7	E		F		F		F	16 412.7	E
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 of the provincial total of

vehicle-km ('000 000) by type of vehicle and sex of driver

	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Sex of driver										
Male	43 866.5	B	1 632.0	D	4 049.0	C	354.8	C	49 902.3	B
Female	23 495.2	B		F		F	144.3	C	23 748.7	B
Total	67 361.7	A	1 636.2	C	4 154.0	B	499.1	B	73 651.0	A

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.

Estimates of the provincial total of

passenger-km ('000 000) by type of vehicle and sex of driver

	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Sex of driver										
Male	72 413.6	E	2 213.6	D	4 393.0	C	4 408.6	D	83 428.9	B
Female	33 700.0	B		F		F	2 435.7	D	36 249.7	B
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 of the provincial total of

vehicle-km ('000 000) by type of vehicle and time of day

Time of day	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
00:00 - 05:59	2 417.0	D		F	584.6	D		F	3 098.3	C
06:00 - 11:59	21 204.9	B	672.6	C	1 417.8	C	222.9	B	23 518.2	B
12:00 - 17:59	30 682.5	B	722.6	C	1 425.1	C	209.4	B	33 039.6	B
18:00 - 23:59	13 057.3	B	149.2	E	726.5	C	57.4	D	13 990.4	B
Total	67 361.7	A	1 636.2	C	4 154.0	B	499.1	B	73 651.0	A

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.

Estimates of the provincial total of

passenger-km ('000 000) by type of vehicle and time of day

Time of day	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
00:00 - 05:59	3 228.4	E		F	597.8	D		F	4 054.2	E
06:00 - 11:59	30 626.1	E	900.6	D	1 550.1	C	3 251.2	C	36 328.1	B
12:00 - 17:59	49 811.4	E	1 034.6	C	1 553.0	C	2 895.7	C	55 294.6	B
18:00 - 23:59	22 447.8	E	188.6	E	797.1	C	559.8	E	23 993.3	E
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 of the provincial total of

vehicle-km ('000 000) by type of vehicle and carrying dangerous goods

	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Carrying dangerous goods										
Declared - yes		F		F	199.7	E		...	326.1	E
Declared - no	67 287.1	B	1 584.4	D	3 954.3	C	499.1	B	73 324.9	A
Total	67 361.7	A	1 636.2	C	4 154.0	B	499.1	B	73 651.0	A

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.

Estimates of the provincial total of

passenger-km ('000 000) by type of vehicle and carrying dangerous goods

	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Carrying dangerous goods										
Declared - yes		F		F	204.4	E		...	337.8	E
Declared - no	106 039.0	E	2 163.8	D	4 293.6	C	6 844.3	C	119 340.7	B
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 of the provincial total of

vehicle-km ('000 000) by type of vehicle and type of day

Type of day	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Weekends and holidays	18 940.8	B	166.2	E	543.3	D	50.2	E	19 700.7	B
Weekdays	48 420.9	A	1 470.0	C	3 610.6	B	448.9	B	53 950.4	A
Total	67 361.7	A	1 636.2	C	4 154.0	B	499.1	B	73 651.0	A

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.

Estimates of the provincial total of

passenger-km ('000 000) by type of vehicle and type of day

Type of day	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Weekends and holidays	32 563.8	B	211.2	E	602.2	E		F	34 035.1	B
Weekdays	73 549.9	E	2 011.4	D	3 895.8	C	6 186.3	B	85 643.4	B
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 of the provincial total of

vehicle-km ('000 000) by type of vehicle and road type

Road type	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Road with posted maximum speed of 80km/h or more	37 340.3	B	783.6	D	2 431.0	C	146.7	D	40 701.6	B
Other roads	30 021.4	A	852.6	C	1 723.0	C	352.4	B	32 949.4	A
Total	67 361.7	A	1 636.2	C	4 154.0	B	499.1	B	73 651.0	A

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.

Estimates of the provincial total of

passenger-km ('000 000) by type of vehicle and road type

Road type	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Road with posted maximum speed of 80km/h or more	60 118.8	E	1 071.9	E	2 569.4	C	2 796.3	D	66 556.4	B
Other roads	45 994.9	A	1 150.7	C	1 928.6	C	4 047.9	C	53 122.1	A
Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 of provincial total for

vehicles up to 4.5t: passenger-km ('000 000) by passenger age group

Passenger age	Estimates for	
	Vehicles up to 4.5t	
Under 5 years	4 171.5	D
5-14 years	6 425.0	E
15 years and over	95 517.1	E
Total	106 113.7	E

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 of the provincial total of

passenger-km and vehicle-km for buses by trip purpose

Trip purpose	Estimates of			
	passenger-km ('000 000)		vehicle-km ('000 000)	
Scheduled urban	.		147.6	E
Scheduled intercity		F		F
School	4 739.4	C	240.6	B
Charter	1 734.0	E	75.3	E
Other	80.1	E	11.9	E
Total	6 844.3	C	499.1	B

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 of the provincial total for

vehicles up to 4.5t: vehicle-km ('000 000) by vehicle group and trip purpose

	Vehicle group					
	Car and station wagon		Other below 4.5t		Total	
Trip purpose						
To go home	12 171.3	B	6 325.2	E	18 496.5	B
To go to work or school	7 887.7	C	4 537.4	C	12 425.1	B
To do shopping or errands	8 330.2	B	4 626.0	B	12 956.2	B
To go to a recreational or social activity	5 245.8	C	4 410.7	E	9 656.5	E
To go somewhere else	4 290.3	C	3 143.6	E	7 433.9	C
(Job) picking up or delivering goods		F		F		F
(Job) to or from service call		F		F	889.7	E
(Job) other work purpose		F		F	4 175.1	E
Total	40 043.1	A	27 318.6	B	67 361.7	A

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.

Estimates of the provincial total for

vehicles up to 4.5t: passenger-km ('000 000) by vehicle group and trip purpose

Trip purpose	Vehicle group					
	Car and station wagon		Other below 4.5t		Total	
To go home	17 758.3	B	10 764.4	E	28 522.7	B
To go to work or school	9 863.8	C	5 921.4	C	15 785.2	B
To do shopping or errands	13 828.8	C	8 065.7	C	21 894.5	B
To go to a recreational or social activity	9 287.4	C	9 309.5	E	18 596.9	E
To go somewhere else	7 478.7	C	6 444.2	E	13 922.9	E
(Job) picking up or delivering goods		F		F		F
(Job) to or from service call		F		F		F
(Job) other work purpose		F		F	4 914.9	E
Total	60 739.8	B	45 373.8	E	106 113.7	E

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 of the provincial total for

trucks 4.5t or more: vehicle-km ('000 000) by vehicle group and trip purpose

		Vehicle type			
		Trucks 4.5t - 15t		Trucks 15t or more	
Vehicle group	Trip purpose				
Straight truck	Driving to or from service call	190.3	E		F
	Carrying goods or equipment	997.8	E	457.8	E
	Empty		F		F
	Other work purpose	63.0	E		F
	Non work purpose	244.8	E		F
	Total	1 603.5	C	605.1	D
Other over 4.5t	Driving to or from service call		F		F
	Carrying goods or equipment		F	2 916.8	C
	Empty		F	459.0	D
	Other work purpose		F		F
	Non work purpose		F		F
	Total		F	3 548.8	B
Total	Driving to or from service call	208.5	E	86.8	E
	Carrying goods or equipment	1 005.5	E	3 374.6	C
	Empty		F	512.0	D
	Other work purpose	63.1	E		F
	Non work purpose	251.4	E	139.9	E
	Total	1 636.2	C	4 154.0	B

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.

Estimates of the provincial total for

trucks 4.5t or more: passenger-km ('000 000) by vehicle group and trip purpose

		Vehicle type			
		Trucks 4.5t - 15t		Trucks 15t or more	
Vehicle group	Trip purpose				
Straight truck	Driving to or from service call	276.3	E		F
	Carrying goods or equipment	1 306.5	E	475.0	E
	Empty		F		F
	Other work purpose		F		F
	Non work purpose	344.2	E		F
	Total	2 187.4	D	631.7	E
Other over 4.5t	Driving to or from service call		F		F
	Carrying goods or equipment		F	3 063.0	C
	Empty		F	521.9	E
	Other work purpose		F		F
	Non work purpose		F		F
	Total		F	3 866.3	C
Total	Driving to or from service call	294.8	E		F
	Carrying goods or equipment	1 314.3	E	3 538.0	C
	Empty		F	575.4	E
	Other work purpose		F		F
	Non work purpose	353.0	D	202.9	E
	Total	2 222.6	D	4 498.0	C

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 of the provincial total for

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 - 15t		Trucks 15t or more		Buses		Total	
Type of day	Time of day										
Weekends and holidays	00:00 - 05:59	759.4	E		F	55.7	E		F	826.2	D
	06:00 - 11:59	5 522.6	B	59.8	E	165.0	E	13.0	E	5 760.4	B
	12:00 - 17:59	8 809.9	B	80.1	D	205.4	E	22.6	E	9 117.9	B
	18:00 - 23:59	3 848.9	B		F	117.3	E	13.7	E	3 995.8	B
	Total	18 940.8	B	166.2	E	543.3	D	50.2	E	19 700.7	B
Weekdays	00:00 - 05:59	1 657.5	D		F	528.9	D		F	2 272.2	C
	06:00 - 11:59	15 682.3	B	612.9	C	1 252.7	B	210.0	B	17 757.8	B
	12:00 - 17:59	21 872.7	B	642.5	C	1 219.8	B	186.8	B	23 921.8	A
	18:00 - 23:59	9 208.4	B	133.4	E	609.2	C	43.6	D	9 994.6	B
	Total	48 420.9	A	1 470.0	C	3 610.6	B	448.9	B	53 950.4	A
Total	00:00 - 05:59	2 417.0	D		F	584.6	D		F	3 098.3	C
	06:00 - 11:59	21 204.9	B	672.6	C	1 417.8	C	222.9	B	23 518.2	B
	12:00 - 17:59	30 682.5	B	722.6	C	1 425.1	C	209.4	B	33 039.6	B
	18:00 - 23:59	13 057.3	B	149.2	E	726.5	C	57.4	D	13 990.4	B
	Total	67 361.7	A	1 636.2	C	4 154.0	B	499.1	B	73 651.0	A

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.

Estimates of the provincial total of
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		Buses		Total	
Type of day	Time of day										
Weekends and holidays	00:00 - 05:59		F		F		F		F		F
	06:00 - 11:59	8 659.5	E	76.1	E	195.6	E		F	9 131.7	E
	12:00 - 17:59	15 697.9	B	107.4	E	225.4	E		F	16 351.5	B
	18:00 - 23:59	7 032.3	E		F	124.7	E		F	7 307.5	E
	Total	32 563.8	B	211.2	E	602.2	E		F	34 035.1	B
Weekdays	00:00 - 05:59	2 054.3	E		F	541.3	D		F	2 810.1	C
	06:00 - 11:59	21 966.6	B	824.5	D	1 354.6	C	3 050.7	C	27 196.4	B
	12:00 - 17:59	34 113.4	E	927.2	D	1 327.6	C	2 574.9	C	38 943.1	B
	18:00 - 23:59	15 415.5	E	171.4	E	672.4	D	426.5	E	16 685.8	E
	Total	73 549.9	E	2 011.4	D	3 895.8	C	6 186.3	B	85 643.4	B
Total	00:00 - 05:59	3 228.4	E		F	597.8	D		F	4 054.2	E
	06:00 - 11:59	30 626.1	E	900.6	D	1 550.1	C	3 251.2	C	36 328.1	B
	12:00 - 17:59	49 811.4	E	1 034.6	C	1 553.0	C	2 895.7	C	55 294.6	B
	18:00 - 23:59	22 447.8	E	188.6	E	797.1	C	559.8	E	23 993.3	E
	Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C	119 678.5	B

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 of the provincial total of

vehicle-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 more		Buses		Total		
Age of driver	Sex of driver											
Under 25 years	Male	2 461.5	E		F		F		F		2 690.9	E
	Female		F		F		F		F			F
	Total	4 706.1	E		F		F		F		4 935.9	E
25 - 55 years	Male	25 474.3	E	1 175.5	D	3 015.3	C	252.0	C		29 917.2	B
	Female	14 168.1	B		F		F	124.7	C		14 401.3	B
	Total	39 642.5	B	1 179.0	D	3 120.3	C	376.7	B		44 318.5	B
55 years and over	Male	15 930.7	B		F	891.4	E	102.8	E		17 294.1	B
	Female	7 082.5	C		F		F		F		7 102.5	C
	Total	23 013.1	B		F	891.4	E	122.1	D		24 396.6	B
Total	Male	43 866.5	B	1 632.0	D	4 049.0	C	354.8	C		49 902.3	B
	Female	23 495.2	B		F		F	144.3	C		23 748.7	B
	Total	67 361.7	A	1 636.2	C	4 154.0	B	499.1	B		73 651.0	A

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.

Estimates of the provincial total of
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 more		Buses		Total			
Age of driver	Sex of driver												
Under 25 years	Male	3 455.8	E		F		F		F		F	3 774.2	E
	Female		F		F		F		F		F		F
	Total	6 741.3	E		F		F		F		F	7 060.4	E
25 - 55 years	Male	43 769.1	E	1 634.3	D	3 314.4	C	3 158.2	D			51 876.0	E
	Female	20 777.2	B		F		F	2 120.3	E			23 009.2	B
	Total	64 546.3	E	1 641.0	D	3 419.4	C	5 278.4	C			74 885.2	B
55 years and over	Male	25 188.7	C	430.0	E	909.6	E	1 250.4	E			27 778.7	B
	Female	9 637.3	C		F		F		F			9 954.2	C
	Total	34 826.0	B	432.3	E	909.6	E	1 565.2	E			37 733.0	B
Total	Male	72 413.6	E	2 213.6	D	4 393.0	C	4 408.6	D			83 428.9	B
	Female	33 700.0	B		F		F	2 435.7	D			36 249.7	B
	Total	106 113.7	E	2 222.6	D	4 498.0	C	6 844.3	C			119 678.5	B

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 of the provincial total of

fuel ('000 000 litres) purchased by type of vehicle and type of fuel

	Vehicle type									
	Vehicles up to 4.5t		Trucks 4.5t - 15t		Trucks 15t or more		Buses		Total	
Fuel type										
Gasoline	7 733.5	B		F		F	13.7	E	7 844.7	B
Diesel		F	299.7	C	1 754.9	C	171.9	C	2 492.1	C

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.

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.