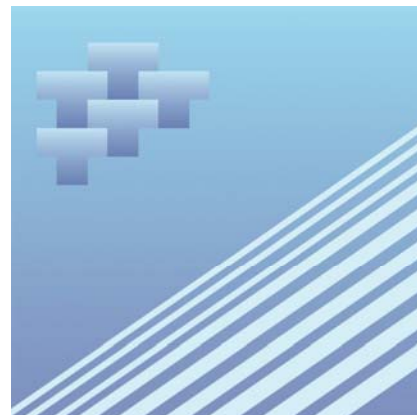


Catalogue no. 53-223-X

# Canadian Vehicle Survey: Annual

2007



Statistics  
Canada

Statistique  
Canada

Canada

## How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website at [www.statcan.ca](http://www.statcan.ca), e-mail us at [infostats@statcan.ca](mailto:infostats@statcan.ca), or telephone us, Monday to Friday from 8:30 a.m. to 4:30 p.m., at the following numbers:

### Statistics Canada's National Contact Centre

Toll-free telephone (Canada and the United States):

Inquiries line	1-800-263-1136
National telecommunications device for the hearing impaired	1-800-363-7629
Fax line	1-877-287-4369

Local or international calls:

Inquiries line	1-613-951-8116
Fax line	1-613-951-0581

### Depository Services Program

Inquiries line	1-800-635-7943
Fax line	1-800-565-7757

## To access this product

This product, Catalogue no. 53-223-X, is available free in electronic format. To obtain a single issue, visit our website at [www.statcan.ca](http://www.statcan.ca) and select "Publications" > "Free Internet publications."

## Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed *standards of service* that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on [www.statcan.ca](http://www.statcan.ca) under "About us" > "Providing services to Canadians."

# Canadian Vehicle Survey: Annual

2007

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2008 and the © Minister of Transport, 2008.

All rights reserved. The content of this electronic publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it be done solely for the purposes of private study, research, criticism, review or newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, year of publication, name of product, catalogue number, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, by any means—electronic, mechanical or photocopy—or for any purposes without prior written permission of Licensing Services, Client Services Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

July 2008

Catalogue no. 53-223-X

ISSN 1499-318X

Frequency: Annual

Ottawa

La version française de cette publication est disponible sur demande (n° 53-223-X au catalogue).

---

#### **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, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.*

# User information

---

## Symbols

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0<sup>s</sup> value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- p preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published

## 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 **Réjean Doiron**.

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

**Transportation Division, Canadian Vehicle Survey Unit**

Réjean Doiron, Mike Fahey, Sean Fagan, Twyla Weimer

**Transportation Division, Systems & Data Integration section**

Kevin Ringuette, Real Dery

**Business Surveys Methods Division**

Sophie Arsenault, Susan Storey, Yulia Tsutsa

**Operations and Integration Division**

**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 and Natural Resources Canada whose vision and funding made this survey possible.

# Table of contents

---

<b>Highlights</b>	<b>5</b>
<b>Introduction</b>	<b>6</b>
<b>Survey overview</b>	<b>7</b>
<b>Related products</b>	<b>8</b>
<b>Statistical tables</b>	
1 Number of vehicles on the registration lists by type of vehicle and jurisdiction	12
2 Number of vehicles on the registration lists by jurisdiction and vehicle model year	13
2-1 Vehicles up to 4.5 tonnes	13
2-2 Trucks 4.5 tonnes to 14.9 tonnes	14
2-3 Trucks 15 tonnes or more	15
3 Estimates of number of vehicles in scope for Canada	16
3-1 by type of vehicle and jurisdiction	16
3-2 by type of vehicle and vehicle model year	16
3-3 by type of vehicle and vehicle body type	16
3-4 by type of vehicle and type of fuel	17
4 Estimates of vehicle-kilometres for Canada	17
4-1 by type of vehicle and jurisdiction	17
4-2 by type of vehicle and vehicle model year	17
4-3 by type of vehicle and vehicle body type	18
4-4 by type of vehicle and type of fuel	18
5 Estimates of passenger-kilometres for provinces only	18
5-1 by type of vehicle and jurisdiction	18
5-2 by type of vehicle and vehicle model year	19
5-3 by type of vehicle and vehicle body type	19
5-4 by type of vehicle and type of fuel	19
5-5 by passenger age group for vehicles up to 4.5 tonnes	20

## Table of contents – continued

6	Estimates of vehicle-kilometres and passenger-kilometres for provinces only	20
6-1	by type of vehicle and driver age group	20
6-2	by type of vehicle and sex of driver	20
6-3	by driver age group and sex of driver	21
6-4	by type of vehicle and day of week	22
6-5	by type of vehicle and type of day	22
6-6	by type of vehicle and time of day	22
6-7	by type of vehicle, type of day and time of day	23
6-8	by type of vehicle and road type	24
6-9	by origin and destination of trips for vehicles up to 4.5 tonnes	24
6-10	by part of the driver's job for vehicles up to 4.5 tonnes	24
6-11	by vehicle group and trip purpose for trucks weighing 4.5 tonnes or more	25
6-12	by carrying dangerous goods for trucks weighing 4.5 tonnes or more	26
7	Estimates by type of vehicle, type of fuel and vehicle body type for provinces only	26
7-1	Vehicle-kilometres	26
7-2	Fuel consumed	26
8	Activity type for trucks weighing 4.5 tonnes or more for provinces only	27
8-1	Number of vehicles in scope by type of vehicle	27
8-2	Vehicle-kilometres and passenger-kilometres for trucks 4.5 tonnes to 14.9 tonnes	27
8-3	Vehicle-kilometres and passenger-kilometres for trucks 15 tonnes or more	27
9	Trip type for trucks weighing 4.5 tonnes or more for provinces only	27
9-1	Vehicle-kilometres and passenger-kilometres for trucks 4.5 tonnes to 14.9 tonnes	27
9-2	Vehicle-kilometres and passenger-kilometres for trucks 15 tonnes or more	28
<b>Data quality, concepts and methodology</b>		
	Concepts and definitions	29
	Methodology	31
	Data quality	35
<b>Appendix</b>		
I	Glossary	41

## Highlights

---

- The number of light vehicles (weighing up to 4.5 tonnes) registered increased by 2.5% from 2006. That was the second highest increase since 2002. Alberta led the provinces in registration growth, while Prince Edward Island was the province with the smallest increase.
- Large passenger styles (vans, sport utility vehicles and pickup trucks) continued to be popular with Canadian drivers. For the first time since the survey began, larger styles were driven as much as smaller styles (cars and station wagons). Each now account for approximately half of all kilometres driven by light vehicles. In 2000, cars and station wagons drove 60% of all light vehicle kilometres.
- Canadians also drove these vehicles more than ever recorded by the survey. Nationally, vehicles travelled more than 332 billion kilometres in 2007. Light vehicles travelled 1.1% more kilometres in 2007 than they had the year before. Despite rising gasoline prices, light vehicle kilometres have increased each year since 2004 at a rate averaging 1.2% per year.
- Light vehicles in Canada traveled an average of 15,797 kilometres during 2007, the lowest annual average ever recorded by the survey. The average dropped, despite a slight increase in kilometres driven, due to the larger increase in the number of vehicles on the road compared to the previous year. Among the provinces, drivers in Nova Scotia were the busiest, while drivers in British Columbia drove their vehicles the least.
- Light vehicles fuelled by gasoline have shown improved fuel efficiency over the last few years. They consumed 10.9L/100km in 2007, compared to 11.1L/100km in 2004. Newer vehicles tended to outperform older vehicles in terms of fuel efficiency. Vehicles two years old or newer at the time of the survey consumed 4% less fuel per 100 kilometres driven compared to vehicles three to five years old, and 9% less than vehicles fourteen years or older.
- As with light vehicles, there were more registrations for trucks weighing 4.5 tonnes or more than had ever been recorded by the survey. The trucks travelled 10% more kilometres in 2007 than they had in 2006. This was the most kilometres ever recorded by the survey for the heaviest vehicles on the road.

## Introduction

---

Road vehicles dominate passenger travel and freight traffic. However, prior to the Canadian Vehicle Survey (CVS), no measures of total vehicle-kilometres or passenger-kilometres were available. The 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 are the prime source of road vehicle use information for researchers and interested members of the public.

Prior to 2004, the survey was sponsored by Transport Canada. Since then, the survey has been co-sponsored by Transport Canada and Natural Resources Canada. They plan to combine the 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 year 2007.



## Survey overview

---

The CVS is a voluntary vehicle-based survey that provides quarterly and 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 steps. The first step 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 trip log specific to his/her vehicle type. The trip log is then mailed out as a second step. 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 short questionnaires. 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 questionnaire asks respondents to record the odometer reading at the beginning of the first day of the quarter. All those returning the first questionnaire are mailed a second questionnaire 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.

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](mailto:transportationstatistics@statcan.ca)

## Related products

---

### Selected publications from Statistics Canada

---

53F0004X	Canadian Vehicle Survey: Quarterly
53F0007X	Driving Characteristics of the Young and Aging Population

---

### Selected CANSIM tables from Statistics Canada

---

405-0055	Canadian vehicle survey, number of vehicles in frame, by type of vehicle, province and territory
405-0056	Canadian vehicle survey, number of vehicles in scope, by type of vehicle, province and territory
405-0057	Canadian vehicle survey, passenger-kilometres, by type of vehicle and province
405-0058	Canadian vehicle survey, vehicle-kilometres, by type of vehicle, province and territory
405-0059	Canadian vehicle survey, number of vehicles in scope, by type of vehicle and type of fuel
405-0060	Canadian vehicle survey, passenger-kilometres, by type of vehicle and age of vehicle model
405-0061	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and age of vehicle model
405-0062	Canadian vehicle survey, passenger-kilometres, by type of vehicle and type of vehicle body
405-0063	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and type of vehicle body
405-0064	Canadian vehicle survey, number of vehicles in scope, by type of vehicle and type of vehicle body
405-0065	Canadian vehicle survey, passenger-kilometres, by type of vehicle and type of fuel
405-0066	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and type of fuel
405-0067	Canadian vehicle survey, passenger-kilometres, by type of vehicle and days of the week
405-0068	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and days of the week
405-0069	Canadian vehicle survey, passenger-kilometres, by type of vehicle and driver age group
405-0070	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and driver age group
405-0072	Canadian vehicle survey, passenger-kilometres, by type of vehicle and sex of driver
405-0073	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and sex of driver
405-0074	Canadian vehicle survey, passenger-kilometres, by type of vehicle and time of day

405-0075	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and time of day
405-0076	Canadian vehicle survey, passenger-kilometres, by type of vehicle and carrying dangerous goods
405-0077	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and carrying dangerous goods
405-0078	Canadian vehicle survey, passenger-kilometres, by type of vehicle and type of day
405-0079	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and type of day
405-0080	Canadian vehicle survey, passenger-kilometres, by type of vehicle and type of road
405-0081	Canadian vehicle survey, vehicle-kilometres, by type of vehicle and type of road
405-0082	Canadian vehicle survey, passenger-kilometres, by type of vehicle and passenger age group
405-0083	Canadian vehicle survey, passenger-kilometres, by type of vehicle, type of day and time of day
405-0084	Canadian vehicle survey, vehicle-kilometres, by type of vehicle, type of day and time of day
405-0085	Canadian vehicle survey, passenger-kilometres, by type of vehicle, driver age group and sex of driver
405-0086	Canadian vehicle survey, vehicle-kilometres, by type of vehicle, driver age group and sex of driver
405-0088	Canadian vehicle survey, number of vehicles up to 4.5 tonnes, by year of vehicle model, province and territory
405-0089	Canadian vehicle survey, number of trucks 4.5 tonnes to 14.9 tonnes, by year of vehicle model, province and territory
405-0090	Canadian vehicle survey, number of trucks 15 tonnes and over, by year of vehicle model, province and territory
405-0097	Canadian vehicle survey, vehicle-kilometres for trucks over 4.5 tonnes, by vehicle group, type of vehicle and purpose of trip (specific to vehicle type)
405-0098	Canadian vehicle survey, passenger-kilometres for trucks over 4.5 tonnes, by vehicle group, type of vehicle and purpose of trip (specific to vehicle type)
405-0100	Canadian vehicle survey, number of vehicles in scope, by type of vehicle and age of vehicle model
405-0111	Canadian vehicle survey, vehicle-kilometres and passenger-kilometres for vehicles up to 4.5 tonnes, by part of driver's job
405-0112	Canadian vehicle survey, vehicle-kilometres for vehicles up to 4.5 tonnes, by origin and destination of trip
405-0113	Canadian vehicle survey, passenger-kilometres for vehicles up to 4.5 tonnes, by origin and destination of trip
405-0114	Canadian vehicle survey, vehicle-kilometres, by type of vehicle, type of fuel and type of vehicle body

405-0115	Canadian vehicle survey, fuel consumed, by type of vehicle, type of fuel and type of vehicle body
405-0116	Canadian vehicle survey, number of vehicles in scope, by type of vehicle and type of activity
405-0117	Canadian vehicle survey, vehicle-kilometres and passenger-kilometres for trucks 4.5 tonnes to 14.9 tonnes, by type of activity
405-0118	Canadian vehicle survey, vehicle-kilometres and passenger-kilometres for trucks 15 tonnes and over, by type of activity
405-0119	Canadian vehicle survey, vehicle-kilometres and passenger-kilometres for trucks 4.5 tonnes to 14.9 tonnes, by type of trip
405-0120	Canadian vehicle survey, vehicle-kilometres and passenger-kilometres for trucks 15 tonnes and over, by type of trip

---

### **Selected surveys from Statistics Canada**

---

2749	Canadian Vehicle Survey
------	-------------------------

---

# Statistical tables

---

---

**Table 1**  
**Number of vehicles on the registration lists by type of vehicle and jurisdiction**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
<b>Total - Canada</b>	<b>19,988,268</b>	<b>19,198,981</b>	<b>461,152</b>	<b>328,135</b>
Newfoundland and Labrador	275,736	268,192	4,212	3,333
Prince Edward Island	82,146	77,874	1,478	2,795
Nova Scotia	564,822	548,112	8,743	7,967
New Brunswick	482,990	471,015	7,579	4,397
Quebec	4,562,806	4,464,900	59,298	38,609
Ontario	7,255,081	7,038,701	97,824	118,557
Manitoba	671,879	643,582	11,198	17,100
Saskatchewan	749,032	683,509	37,765	27,758
Alberta	2,655,335	2,453,493	114,790	87,053
British Columbia	2,632,364	2,499,240	115,417	17,707
Yukon Territory	28,994	25,816	1,796	1,383
Northwest Territories	23,615	21,452	831	1,332
Nunavut	3,467	3,097	223	147

**Table 2-1**  
**Number of vehicles on the registration lists by jurisdiction and vehicle model year — Vehicles up to 4.5 tonnes**

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
<b>Total, all vehicle model years</b>	<b>268,190</b>	<b>77,873</b>	<b>548,111</b>	<b>471,013</b>	<b>4,464,896</b>	<b>7,038,695</b>	<b>643,580</b>
Earlier than 1989	7,024	3,969	22,920	18,396	133,138	276,210	43,607
1989	2,454	1,171	5,886	5,748	44,601	71,141	10,184
1990	2,609	1,454	7,243	6,988	61,080	96,364	13,226
1991	3,110	1,597	8,511	8,585	82,294	117,865	16,306
1992	4,324	2,486	12,005	12,433	120,091	163,222	20,426
1993	5,922	2,946	14,239	13,826	130,231	185,661	20,485
1994	8,343	3,607	18,288	17,560	150,446	226,973	22,901
1995	10,251	4,233	21,983	20,714	178,346	280,727	26,738
1996	9,465	4,055	21,481	19,484	161,643	265,684	25,508
1997	13,908	5,338	29,267	25,659	215,137	371,869	35,758
1998	16,737	5,716	34,015	29,769	243,389	424,824	38,963
1999	17,051	5,389	33,243	28,436	244,075	425,794	35,190
2000	20,351	6,498	40,608	35,216	306,378	530,357	41,232
2001	18,175	5,059	35,285	29,753	293,368	484,384	39,896
2002	21,040	6,007	43,746	35,665	348,464	555,208	47,763
2003	23,138	5,360	42,954	35,974	371,028	572,152	48,525
2004	20,621	3,717	37,365	31,188	341,424	481,220	41,218
2005	24,087	3,689	43,387	35,618	391,096	547,732	45,571
2006	21,100	3,167	39,695	32,386	345,907	532,212	40,811
2007	17,284	2,230	33,037	25,662	283,515	393,899	27,145
2008	1,172	178	2,945	1,939	18,981	35,187	2,121
2009	0	0	0	0	0	1	0
Year of vehicle model, unknown	17	0	0	3	259	0	0

	Saskat- chewan	Alberta	British Columbia	Yukon Territory	Northwest Territories	Nunavut	Total
<b>Total, all vehicle model years</b>	<b>683,507</b>	<b>2,453,491</b>	<b>2,499,237</b>	<b>25,815</b>	<b>21,451</b>	<b>3,095</b>	<b>19,198,960</b>
Earlier than 1989	86,048	194,005	234,995	4,011	1,815	201	1,026,339
1989	15,086	44,171	63,881	831	420	59	265,632
1990	18,197	55,876	82,021	939	474	62	346,538
1991	21,002	64,939	88,712	934	541	82	414,482
1992	23,894	70,113	97,279	1,001	526	99	527,907
1993	23,186	69,934	95,451	986	550	108	563,531
1994	26,786	79,065	96,818	1,025	676	124	652,618
1995	29,603	88,265	104,078	1,145	683	142	766,913
1996	25,707	79,447	86,903	875	575	111	700,943
1997	35,306	111,697	116,315	1,238	875	183	962,554
1998	36,628	128,584	119,368	1,175	935	184	1,080,292
1999	31,051	112,621	109,721	1,052	953	191	1,044,772
2000	36,930	131,765	129,872	1,109	1,193	219	1,281,733
2001	37,793	140,202	131,634	1,227	1,298	236	1,218,316
2002	44,294	170,502	161,229	1,434	1,499	274	1,437,130
2003	45,470	181,376	164,936	1,641	1,919	219	1,494,696
2004	39,901	167,067	147,768	1,278	1,557	144	1,314,474
2005	41,150	191,497	170,668	1,488	1,774	174	1,497,936
2006	38,077	201,438	161,182	1,272	1,826	163	1,419,241
2007	25,385	156,243	126,252	1,069	1,198	105	1,093,030
2008	2,006	14,672	10,145	77	157	7	89,592
2009	0	0	0	0	0	0	2
Year of vehicle model, unknown	0	0	0	0	1	0	282

**Table 2-2**  
**Number of vehicles on the registration lists by jurisdiction and vehicle model year — Trucks 4.5 tonnes to 14.9 tonnes**

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
<b>Total, all vehicle model years</b>	<b>4,211</b>	<b>1,477</b>	<b>8,742</b>	<b>7,578</b>	<b>59,297</b>	<b>97,823</b>	<b>11,197</b>
Earlier than 1989	887	693	1,876	916	12,254	6,927	2,813
1989	110	80	238	130	2,057	1,666	253
1990	139	52	275	154	2,149	1,972	388
1991	135	41	203	150	1,461	1,492	316
1992	124	36	191	161	1,399	1,610	285
1993	118	45	223	180	1,660	2,029	331
1994	156	46	226	214	2,201	2,511	385
1995	202	63	417	264	2,819	3,521	513
1996	118	35	269	217	1,855	2,797	350
1997	176	44	374	295	1,976	4,129	467
1998	157	33	358	300	2,520	4,344	397
1999	243	65	534	470	3,548	6,857	535
2000	217	39	464	345	3,024	6,176	408
2001	180	34	382	363	2,305	6,157	493
2002	213	36	368	390	2,221	6,184	418
2003	188	36	477	657	2,907	7,630	494
2004	153	22	473	673	2,787	7,353	477
2005	251	20	498	675	3,519	8,386	620
2006	280	26	527	583	3,331	9,085	657
2007	125	19	314	330	2,731	5,801	440
2008	29	4	47	104	458	1,188	150
2009	0	0	0	0	0	0	0
Year of vehicle model, unknown	1	0	0	0	105	0	0

	Saskat- chewan	Alberta	British Columbia	Yukon Territory	Northwest Territories	Nunavut	Total
<b>Total, all vehicle model years</b>	<b>37,764</b>	<b>114,788</b>	<b>115,416</b>	<b>1,795</b>	<b>830</b>	<b>222</b>	<b>461,144</b>
Earlier than 1989	23,490	27,294	14,388	486	137	53	92,212
1989	376	1,420	2,550	54	18	4	8,958
1990	520	1,796	3,013	56	37	9	10,562
1991	446	1,641	2,446	36	17	2	8,391
1992	435	1,479	2,616	43	15	5	8,404
1993	496	1,536	3,021	35	15	8	9,703
1994	518	2,004	3,469	46	17	6	11,805
1995	702	2,611	4,007	32	33	23	15,213
1996	440	1,810	2,982	38	12	4	10,933
1997	656	2,949	3,904	68	31	8	15,081
1998	657	2,995	3,358	39	25	10	15,198
1999	690	3,944	4,499	67	37	13	21,507
2000	604	3,396	4,279	48	38	11	19,053
2001	873	5,404	5,072	65	30	5	21,368
2002	748	4,643	5,412	68	33	5	20,744
2003	872	5,575	8,981	104	40	7	27,974
2004	726	4,955	9,196	107	38	8	26,973
2005	1,387	10,251	10,399	115	62	6	36,195
2006	1,688	14,524	12,463	159	91	22	43,440
2007	1,108	11,391	7,625	88	58	3	30,039
2008	325	3,163	1,729	35	38	1	7,277
2009	0	0	0	0	0	0	0
Year of vehicle model, unknown	0	0	0	0	0	0	107



**Table 2-3**  
**Number of vehicles on the registration lists by jurisdiction and vehicle model year — Trucks 15 tonnes or more**

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
<b>Total, all vehicle model years</b>	<b>3,331</b>	<b>2,794</b>	<b>7,966</b>	<b>4,396</b>	<b>38,608</b>	<b>118,556</b>	<b>17,099</b>
Earlier than 1989	458	1,325	965	1,045	1,290	7,674	1,955
1989	109	151	225	194	330	2,067	265
1990	80	145	147	210	329	2,061	226
1991	68	111	97	114	209	1,337	181
1992	59	50	109	82	328	1,378	199
1993	64	78	149	160	448	1,796	343
1994	110	94	260	207	875	2,617	518
1995	176	170	382	262	1,437	4,665	651
1996	156	105	294	166	1,092	3,434	575
1997	118	53	272	134	1,189	3,868	598
1998	207	87	450	233	2,164	6,956	916
1999	195	94	525	258	2,541	8,680	977
2000	244	76	611	197	3,443	10,378	1,218
2001	136	40	323	120	2,165	6,766	791
2002	102	15	268	88	1,247	5,114	509
2003	149	28	409	120	2,803	7,258	842
2004	147	35	529	151	2,843	7,844	1,090
2005	237	39	641	198	5,160	11,723	1,737
2006	242	37	575	244	4,218	10,790	1,403
2007	243	46	665	180	4,190	11,329	1,874
2008	21	6	63	24	294	814	224
2009	0	0	0	0	0	0	0
Year of vehicle model, unknown	1	0	0	0	5	0	0

	Saskat- chewan	Alberta	British Columbia	Yukon Territory	Northwest Territories	Nunavut	Total
<b>Total, all vehicle model years</b>	<b>27,757</b>	<b>87,052</b>	<b>17,706</b>	<b>1,382</b>	<b>1,331</b>	<b>146</b>	<b>328,128</b>
Earlier than 1989	9,268	18,070	2,959	235	162	20	45,426
1989	775	1,595	467	21	23	6	6,229
1990	784	1,820	750	33	32	4	6,627
1991	546	1,373	421	14	24	6	4,508
1992	541	1,093	553	32	18	2	4,448
1993	840	1,586	534	27	27	4	6,062
1994	1,125	2,511	674	33	42	5	9,076
1995	1,564	3,120	751	47	53	10	13,291
1996	1,135	2,582	697	50	56	5	10,351
1997	1,148	3,125	757	49	52	2	11,372
1998	1,554	4,562	789	54	70	6	18,053
1999	1,321	3,845	691	50	67	13	19,263
2000	1,311	4,081	609	73	85	6	22,336
2001	881	3,723	648	69	70	7	15,744
2002	485	2,866	594	45	38	4	11,380
2003	634	3,250	660	60	59	10	16,287
2004	745	4,246	902	62	67	7	18,673
2005	899	6,490	1,263	110	83	6	28,591
2006	932	7,836	1,528	137	120	5	28,073
2007	1,134	8,597	1,331	160	166	10	29,931
2008	126	673	119	14	9	1	2,392
2009	0	0	0	0	0	0	0
Year of vehicle model, unknown	0	0	0	0	0	0	6

**Table 3-1**  
**Estimates of number of vehicles in scope for Canada by type of vehicle and jurisdiction**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
<b>Total - Canada</b>	<b>19,710,912<sup>A</sup></b>	<b>19,003,427<sup>A</sup></b>	<b>392,608<sup>A</sup></b>	<b>314,877<sup>A</sup></b>
Newfoundland and Labrador	273,305 <sup>A</sup>	266,849 <sup>A</sup>	3,575 <sup>B</sup>	2,881 <sup>B</sup>
Prince Edward Island	80,926 <sup>A</sup>	76,985 <sup>A</sup>	1,328 <sup>B</sup>	2,613 <sup>B</sup>
Nova Scotia	552,973 <sup>A</sup>	537,784 <sup>A</sup>	7,517 <sup>B</sup>	7,671 <sup>B</sup>
New Brunswick	472,658 <sup>A</sup>	462,710 <sup>A</sup>	5,913 <sup>B</sup>	4,036 <sup>A</sup>
Quebec	4,502,689 <sup>A</sup>	4,417,295 <sup>A</sup>	46,237 <sup>A</sup>	39,156 <sup>A</sup>
Ontario	7,154,332 <sup>A</sup>	6,957,086 <sup>A</sup>	84,345 <sup>A</sup>	112,902 <sup>A</sup>
Manitoba	668,527 <sup>A</sup>	641,456 <sup>A</sup>	10,625 <sup>B</sup>	16,446 <sup>B</sup>
Saskatchewan	736,963 <sup>A</sup>	676,470 <sup>A</sup>	33,960 <sup>B</sup>	26,533 <sup>B</sup>
Alberta	2,611,173 <sup>A</sup>	2,421,733 <sup>A</sup>	106,735 <sup>A</sup>	82,704 <sup>A</sup>
British Columbia	2,601,883 <sup>A</sup>	2,495,210 <sup>A</sup>	89,701 <sup>A</sup>	16,972 <sup>B</sup>
Yukon Territory	28,417 <sup>A</sup>	25,424 <sup>A</sup>	1,662 <sup>A</sup>	1,332 <sup>A</sup>
Northwest Territories	23,573 <sup>A</sup>	21,302 <sup>A</sup>	808 <sup>A</sup>	1,463 <sup>A</sup>
Nunavut	3,493 <sup>A</sup>	3,123 <sup>A</sup>	202 <sup>A</sup>	168 <sup>A</sup>

**Table 3-2**  
**Estimates of number of vehicles in scope for Canada by type of vehicle and vehicle model year**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
<b>Total, all ages of vehicle model</b>	<b>19,710,912<sup>A</sup></b>	<b>19,003,427<sup>A</sup></b>	<b>392,608<sup>A</sup></b>	<b>314,877<sup>A</sup></b>
Later than 2004	3,488,243 <sup>A</sup>	3,311,207 <sup>A</sup>	89,818 <sup>B</sup>	87,218 <sup>A</sup>
2002 to 2004	4,420,354 <sup>A</sup>	4,296,740 <sup>A</sup>	79,212 <sup>B</sup>	44,401 <sup>B</sup>
1998 to 2001	5,410,744 <sup>A</sup>	5,264,836 <sup>A</sup>	73,186 <sup>B</sup>	72,723 <sup>A</sup>
1994 to 1997	3,656,277 <sup>A</sup>	3,543,175 <sup>A</sup>	56,654 <sup>B</sup>	56,447 <sup>B</sup>
Earlier than 1994	2,735,294 <sup>A</sup>	2,587,470 <sup>A</sup>	93,737 <sup>B</sup>	54,088 <sup>B</sup>

**Table 3-3**  
**Estimates of number of vehicles in scope for Canada by type of vehicle and vehicle body type**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
<b>Total, all vehicles body types</b>	<b>19,710,912<sup>A</sup></b>	<b>19,003,427<sup>A</sup></b>	<b>392,608<sup>A</sup></b>	<b>314,877<sup>A</sup></b>
Car	10,153,484 <sup>A</sup>	10,152,717 <sup>A</sup>	...	...
Station wagon	302,047 <sup>B</sup>	302,047 <sup>B</sup>	...	...
Van	3,064,572 <sup>A</sup>	3,047,995 <sup>A</sup>	16,577 <sup>C</sup>	...
Sport utility vehicle	1,810,801 <sup>A</sup>	1,810,801 <sup>A</sup>	...	...
Pickup	3,718,848 <sup>A</sup>	3,631,305 <sup>A</sup>	87,529 <sup>B</sup>	F
Straight truck	409,856 <sup>A</sup>	44,939 <sup>E</sup>	264,203 <sup>A</sup>	100,714 <sup>B</sup>
Tractor trailer	232,489 <sup>A</sup>	...	15,563 <sup>D</sup>	213,730 <sup>A</sup>
Bus	F	...	F	...
Other vehicle type	17,291 <sup>E</sup>	F	6,480 <sup>E</sup>	F

**Table 3-4**  
**Estimates of number of vehicles in scope for Canada by type of vehicle and type of fuel**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
<b>Total, all fuel types</b>	<b>19,710,912<sup>A</sup></b>	<b>19,003,427<sup>A</sup></b>	<b>392,608<sup>A</sup></b>	<b>314,877<sup>A</sup></b>
Gasoline	18,469,344 <sup>A</sup>	18,362,635 <sup>A</sup>	104,332 <sup>B</sup>	F
Diesel	1,172,118 <sup>A</sup>	576,204 <sup>B</sup>	283,974 <sup>A</sup>	311,939 <sup>A</sup>
Other fuel type	69,450 <sup>D</sup>	64,587 <sup>E</sup>	F	F

**Table 4-1**  
**Estimates of vehicle-kilometres for Canada by type of vehicle and jurisdiction**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions				
<b>Total - Canada</b>	<b>332,274.6<sup>A</sup></b>	<b>300,203.3<sup>A</sup></b>	<b>8,149.7<sup>B</sup></b>	<b>23,921.6<sup>A</sup></b>
Newfoundland and Labrador	4,362.2 <sup>B</sup>	4,146.4 <sup>B</sup>	57.7 <sup>E</sup>	158.1 <sup>D</sup>
Prince Edward Island	1,433.9 <sup>B</sup>	1,350.4 <sup>C</sup>	15.4 <sup>E</sup>	68.2 <sup>E</sup>
Nova Scotia	10,612.9 <sup>B</sup>	10,014.0 <sup>B</sup>	151.4 <sup>D</sup>	447.6 <sup>C</sup>
New Brunswick	8,113.5 <sup>B</sup>	7,909.2 <sup>B</sup>	118.2 <sup>D</sup>	86.1 <sup>D</sup>
Quebec	70,702.1 <sup>A</sup>	65,337.3 <sup>B</sup>	1,121.2 <sup>C</sup>	4,243.7 <sup>B</sup>
Ontario	125,286.7 <sup>A</sup>	113,820.4 <sup>A</sup>	1,960.2 <sup>C</sup>	9,506.1 <sup>B</sup>
Manitoba	13,840.1 <sup>B</sup>	11,845.4 <sup>B</sup>	205.1 <sup>E</sup>	1,789.6 <sup>C</sup>
Saskatchewan	13,448.0 <sup>B</sup>	11,719.6 <sup>B</sup>	516.1 <sup>D</sup>	1,212.3 <sup>C</sup>
Alberta	47,798.3 <sup>B</sup>	39,841.9 <sup>B</sup>	2,378.2 <sup>C</sup>	5,578.1 <sup>B</sup>
British Columbia	35,798.7 <sup>B</sup>	33,570.8 <sup>B</sup>	1,587.2 <sup>C</sup>	640.7 <sup>C</sup>
Yukon Territory	487.1 <sup>B</sup>	326.9 <sup>B</sup>	25.2 <sup>C</sup>	135.0 <sup>D</sup>
Northwest Territories	358.6 <sup>B</sup>	292.1 <sup>B</sup>	12.4 <sup>C</sup>	54.1 <sup>C</sup>
Nunavut	32.5 <sup>C</sup>	29.0 <sup>D</sup>	F	F

**Table 4-2**  
**Estimates of vehicle-kilometres for Canada by type of vehicle and vehicle model year**

	Total, all vehicle	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions				
<b>Total, all ages of vehicle model</b>	<b>332,274.6<sup>A</sup></b>	<b>300,203.3<sup>A</sup></b>	<b>8,149.7<sup>B</sup></b>	<b>23,921.6<sup>A</sup></b>
Later than 2004	85,192.6 <sup>A</sup>	71,038.6 <sup>B</sup>	3,012.4 <sup>B</sup>	11,141.6 <sup>B</sup>
2002 to 2004	82,027.6 <sup>A</sup>	75,771.6 <sup>A</sup>	1,913.3 <sup>B</sup>	4,342.8 <sup>B</sup>
1998 to 2001	89,681.5 <sup>A</sup>	82,673.6 <sup>A</sup>	1,745.1 <sup>C</sup>	5,262.8 <sup>B</sup>
1994 to 1997	49,104.1 <sup>B</sup>	45,836.9 <sup>B</sup>	755.5 <sup>D</sup>	2,511.6 <sup>D</sup>
Earlier than 1994	26,268.8 <sup>B</sup>	24,882.5 <sup>B</sup>	723.4 <sup>E</sup>	662.9 <sup>E</sup>

**Table 4-3**  
**Estimates of vehicle-kilometres for Canada by type of vehicle and vehicle body type**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions				
<b>Total, all vehicles body types</b>	<b>332,274.6<sup>A</sup></b>	<b>300,203.3<sup>A</sup></b>	<b>8,149.7<sup>B</sup></b>	<b>23,921.6<sup>A</sup></b>
Car	143,876.8 <sup>A</sup>	143,869.0 <sup>A</sup>	...	...
Station wagon	4,520.4 <sup>D</sup>	4,520.4 <sup>D</sup>	...	...
Van	54,319.9 <sup>B</sup>	53,864.3 <sup>B</sup>	455.6 <sup>E</sup>	...
Sport utility vehicle	37,509.4 <sup>B</sup>	37,509.4 <sup>B</sup>	...	...
Pickup	60,942.3 <sup>B</sup>	59,099.4 <sup>B</sup>	1,842.3 <sup>C</sup>	F
Straight truck	9,372.1 <sup>B</sup>	F	5,343.8 <sup>B</sup>	3,210.8 <sup>B</sup>
Tractor trailer	21,218.9 <sup>A</sup>	...	411.9 <sup>E</sup>	20,709.4 <sup>A</sup>
Bus	F	...	F	...
Other vehicle type	F	F	F	F

**Table 4-4**  
**Estimates of vehicle-kilometres for Canada by type of vehicle and type of fuel**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions				
<b>Total, all fuel types</b>	<b>332,274.6<sup>A</sup></b>	<b>300,203.3<sup>A</sup></b>	<b>8,149.7<sup>B</sup></b>	<b>23,921.6<sup>A</sup></b>
Gasoline	290,210.4 <sup>A</sup>	288,668.5 <sup>A</sup>	1,468.5 <sup>C</sup>	F
Diesel	40,954.3 <sup>A</sup>	10,505.1 <sup>C</sup>	6,621.2 <sup>B</sup>	23,828.0 <sup>A</sup>
Other fuel type	1,109.9 <sup>E</sup>	F	F	F

**Table 5-1**  
**Estimates of passenger-kilometres for provinces only by type of vehicle and jurisdiction**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions				
<b>Total</b>	<b>524,449.9<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>	<b>11,151.2<sup>B</sup></b>	<b>26,367.0<sup>A</sup></b>
Newfoundland and Labrador	7,370.2 <sup>B</sup>	7,129.4 <sup>B</sup>	72.4 <sup>E</sup>	168.4 <sup>D</sup>
Prince Edward Island	2,318.7 <sup>C</sup>	2,219.8 <sup>C</sup>	17.9 <sup>E</sup>	81.0 <sup>E</sup>
Nova Scotia	17,907.5 <sup>B</sup>	17,241.1 <sup>B</sup>	183.8 <sup>D</sup>	482.6 <sup>D</sup>
New Brunswick	13,182.3 <sup>B</sup>	12,939.2 <sup>B</sup>	151.2 <sup>E</sup>	91.8 <sup>E</sup>
Quebec	114,622.4 <sup>A</sup>	108,617.8 <sup>B</sup>	1,407.5 <sup>C</sup>	4,597.1 <sup>B</sup>
Ontario	196,184.1 <sup>A</sup>	183,601.8 <sup>A</sup>	2,448.1 <sup>C</sup>	10,134.2 <sup>B</sup>
Manitoba	22,671.8 <sup>B</sup>	20,358.3 <sup>B</sup>	287.1 <sup>D</sup>	2,026.4 <sup>C</sup>
Saskatchewan	21,365.1 <sup>B</sup>	19,152.3 <sup>B</sup>	734.3 <sup>D</sup>	1,478.6 <sup>C</sup>
Alberta	71,629.8 <sup>B</sup>	61,476.7 <sup>B</sup>	3,513.6 <sup>C</sup>	6,639.5 <sup>E</sup>
British Columbia	57,197.9 <sup>B</sup>	54,195.2 <sup>B</sup>	2,335.2 <sup>C</sup>	667.5 <sup>E</sup>

**Table 5-2**  
**Estimates of passenger-kilometres for provinces only by type of vehicle and vehicle model year**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions				
<b>Total, all ages of vehicle model</b>	<b>524,449.9<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>	<b>11,151.2<sup>B</sup></b>	<b>26,367.0<sup>A</sup></b>
Later than 2004	133,919.3 <sup>A</sup>	117,711.5 <sup>B</sup>	4,058.5 <sup>B</sup>	12,149.2 <sup>B</sup>
2002 to 2004	129,316.7 <sup>A</sup>	121,909.6 <sup>A</sup>	2,748.5 <sup>C</sup>	4,658.6 <sup>B</sup>
1998 to 2001	144,245.7 <sup>A</sup>	136,083.8 <sup>A</sup>	2,338.6 <sup>C</sup>	5,823.3 <sup>B</sup>
1994 to 1997	76,312.0 <sup>B</sup>	72,273.1 <sup>B</sup>	1,025.2 <sup>D</sup>	3,013.7 <sup>D</sup>
Earlier than 1994	40,656.3 <sup>B</sup>	38,953.7 <sup>B</sup>	980.3 <sup>E</sup>	722.3 <sup>E</sup>

**Table 5-3**  
**Estimates of passenger-kilometres for provinces only by type of vehicle and vehicle body type**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions				
<b>Total, all vehicles body types</b>	<b>524,449.9<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>	<b>11,151.2<sup>B</sup></b>	<b>26,367.0<sup>A</sup></b>
Car	224,266.0 <sup>A</sup>	224,258.2 <sup>A</sup>	...	...
Station wagon	7,054.9 <sup>D</sup>	7,054.9 <sup>D</sup>	...	...
Van	104,524.3 <sup>B</sup>	103,975.0 <sup>B</sup>	549.3 <sup>E</sup>	...
Sport utility vehicle	62,131.4 <sup>B</sup>	62,131.4 <sup>B</sup>	...	...
Pickup	89,917.7 <sup>B</sup>	87,049.6 <sup>B</sup>	2,868.1 <sup>C</sup>	F
Straight truck	11,847.9 <sup>B</sup>	F	7,027.3 <sup>B</sup>	3,467.9 <sup>B</sup>
Tractor trailer	23,545.0 <sup>A</sup>	...	549.9 <sup>E</sup>	22,898.4 <sup>A</sup>
Bus	F	...	F	...
Other vehicle type	F	F	F	F

**Table 5-4**  
**Estimates of passenger-kilometres for provinces only by type of vehicle and type of fuel**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions				
<b>Total, all fuel types</b>	<b>524,449.9<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>	<b>11,151.2<sup>B</sup></b>	<b>26,367.0<sup>A</sup></b>
Gasoline	472,159.7 <sup>A</sup>	470,105.3 <sup>A</sup>	1,976.3 <sup>C</sup>	F
Diesel	50,687.6 <sup>A</sup>	15,311.9 <sup>C</sup>	9,107.0 <sup>B</sup>	26,268.7 <sup>A</sup>
Other fuel type	1,602.6 <sup>E</sup>	1,514.5 <sup>E</sup>	F	F

**Table 5-5**  
**Estimates of passenger-kilometres for provinces only by passenger age group for vehicles up to 4.5 tonnes**

	Vehicles up to 4.5 tonnes
	millions
<b>Total, all ages</b>	<b>486,931.7</b> A
Under 5 years	10,891.1
5 to 14 years	31,976.6
15 to 19 years	20,975.7
20 to 24 years	15,389.2
25 to 34 years	38,709.9
35 to 54 years	187,853.4
55 to 64 years	97,483.9
65 to 74 years	57,809.4
75 to 84 years	24,041.5
85 years and over	1,801.0

**Table 6-1**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by type of vehicle and driver age group**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
	millions of vehicle-kilometres			
<b>Total, all age groups</b>	<b>331,396.3</b> A	<b>299,555.2</b> A	<b>8,110.5</b> B	<b>23,730.5</b> A
Under 20 years	3,896.7	3,862.5	F	F
20 to 24 years	8,344.5	7,463.0	117.6	764.0
25 to 34 years	30,035.1	25,250.1	898.7	3,886.2
35 to 44 years	70,447.4	60,090.5	2,557.0	7,799.9
45 to 54 years	91,345.8	81,128.2	3,235.9	6,981.7
55 to 64 years	75,191.5	70,100.6	936.4	4,154.5
65 years and over	52,135.3	51,660.4	330.8	144.2
	millions of passenger-kilometres			
<b>Total, all age groups</b>	<b>524,449.9</b> A	<b>486,931.7</b> A	<b>11,151.2</b> B	<b>26,367.0</b> A
Under 20 years	6,417.5	6,357.4	F	F
20 to 24 years	12,718.4	11,707.8	174.1	836.6
25 to 34 years	48,727.7	43,016.2	1,245.9	4,465.6
35 to 44 years	114,763.3	102,718.5	3,619.6	8,425.2
45 to 54 years	138,311.3	126,420.9	4,192.0	7,698.3
55 to 64 years	113,602.4	107,394.3	1,421.5	4,786.6
65 years and over	89,909.3	89,316.6	437.9	F

**Table 6-2**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by type of vehicle and sex of driver**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
	millions of vehicle-kilometres			
<b>Both sexes</b>	<b>331,396.3</b> A	<b>299,555.2</b> A	<b>8,110.5</b> B	<b>23,730.5</b> A
Males	232,860.2	202,034.0	7,823.9	23,002.2
Females	98,536.2	97,521.2	286.6	728.3
	millions of passenger-kilometres			
<b>Both sexes</b>	<b>524,449.9</b> A	<b>486,931.7</b> A	<b>11,151.2</b> B	<b>26,367.0</b> A
Males	368,218.3	331,967.7	10,843.5	25,407.1
Females	156,231.6	154,964.0	307.6	960.0

**Table 6-3**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by driver age group and sex of driver**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions of vehicle-kilometres				
<b>Total, all age groups</b>				
Both sexes	331,396.3 A	299,555.2 A	8,110.5 B	23,730.5 A
Males	232,860.2 A	202,034.0 A	7,823.9 A	23,002.2 A
Females	98,536.2 B	97,521.2 B	286.6 E	728.3 E
<b>Under 25 years</b>				
Both sexes	12,241.2 C	11,325.5 C	151.8 E	764.0 D
Males	6,977.1 C	6,062.7 D	150.4 E	764.0 D
Females	5,264.2 D	5,262.8 D	F	F
<b>25 to 54 years</b>				
Both sexes	191,828.3 A	166,468.8 A	6,691.6 B	18,667.9 A
Males	129,348.5 A	104,892.2 B	6,436.1 B	18,020.1 A
Females	62,479.8 B	61,576.5 B	255.5 E	647.8 E
<b>55 years and over</b>				
Both sexes	127,326.8 A	121,761.0 A	1,267.2 C	4,298.7 B
Males	96,534.6 A	91,079.1 B	1,237.4 C	4,218.1 B
Females	30,792.2 B	30,681.8 B	F	F
millions of passenger-kilometres				
<b>Total, all age groups</b>				
Both sexes	524,449.9 A	486,931.7 A	11,151.2 B	26,367.0 A
Males	368,218.3 A	331,967.7 A	10,843.5 B	25,407.1 A
Females	156,231.6 B	154,964.0 B	307.6 E	960.0 E
<b>Under 25 years</b>				
Both sexes	19,135.9 C	18,065.2 C	234.2 E	836.6 D
Males	10,547.5 C	9,478.1 C	232.9 E	836.6 D
Females	8,588.4 D	8,587.1 D	F	F
<b>25 to 54 years</b>				
Both sexes	301,802.3 A	272,155.6 A	9,057.5 B	20,589.2 A
Males	201,881.1 A	173,309.7 A	8,781.0 B	19,790.3 A
Females	99,921.2 B	98,845.8 B	F	798.9 E
<b>55 years and over</b>				
Both sexes	203,511.7 A	196,711.0 A	1,859.4 C	4,941.3 B
Males	155,789.7 A	149,179.9 A	1,829.6 C	4,780.2 B
Females	47,722.0 B	47,531.1 B	F	F

**Table 6-4**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by type of vehicle and day of week**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions of vehicle-kilometres				
<b>Total, all days of the week</b>	<b>331,396.3<sup>A</sup></b>	<b>299,555.2<sup>A</sup></b>	<b>8,110.5<sup>B</sup></b>	<b>23,730.5<sup>A</sup></b>
Sunday	36,469.6 <sup>B</sup>	34,442.7 <sup>B</sup>	558.8 <sup>E</sup>	1,468.2 <sup>C</sup>
Monday	51,823.3 <sup>B</sup>	46,557.4 <sup>B</sup>	1,318.1 <sup>B</sup>	3,947.8 <sup>A</sup>
Tuesday	50,586.8 <sup>A</sup>	44,645.9 <sup>A</sup>	1,454.4 <sup>B</sup>	4,486.4 <sup>A</sup>
Wednesday	48,928.0 <sup>A</sup>	43,049.2 <sup>A</sup>	1,301.9 <sup>B</sup>	4,576.9 <sup>A</sup>
Thursday	50,421.5 <sup>A</sup>	44,665.9 <sup>A</sup>	1,474.1 <sup>B</sup>	4,281.6 <sup>A</sup>
Friday	51,475.2 <sup>A</sup>	46,522.3 <sup>A</sup>	1,519.8 <sup>B</sup>	3,433.2 <sup>A</sup>
Saturday	41,600.7 <sup>B</sup>	39,594.8 <sup>B</sup>	480.2 <sup>D</sup>	1,525.7 <sup>B</sup>
millions of passenger-kilometres				
<b>Total, all days of the week</b>	<b>524,449.9<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>	<b>11,151.2<sup>B</sup></b>	<b>26,367.0<sup>A</sup></b>
Sunday	70,995.2 <sup>B</sup>	68,412.6 <sup>B</sup>	902.7 <sup>E</sup>	1,679.8 <sup>C</sup>
Monday	79,603.7 <sup>B</sup>	73,340.4 <sup>B</sup>	1,843.3 <sup>B</sup>	4,420.1 <sup>B</sup>
Tuesday	75,165.3 <sup>B</sup>	68,301.3 <sup>B</sup>	1,904.5 <sup>B</sup>	4,959.6 <sup>B</sup>
Wednesday	69,541.0 <sup>A</sup>	62,810.3 <sup>A</sup>	1,736.4 <sup>B</sup>	4,994.4 <sup>A</sup>
Thursday	73,313.3 <sup>A</sup>	66,653.1 <sup>B</sup>	1,943.3 <sup>B</sup>	4,716.9 <sup>A</sup>
Friday	79,473.4 <sup>A</sup>	73,435.8 <sup>A</sup>	2,155.0 <sup>B</sup>	3,882.6 <sup>B</sup>
Saturday	76,357.9 <sup>B</sup>	73,978.2 <sup>B</sup>	666.1 <sup>E</sup>	1,713.7 <sup>B</sup>

**Table 6-5**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by type of vehicle and type of day**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions of vehicle-kilometres				
<b>Total, all days</b>	<b>331,396.3<sup>A</sup></b>	<b>299,555.2<sup>A</sup></b>	<b>8,110.5<sup>B</sup></b>	<b>23,730.5<sup>A</sup></b>
Weekends and holidays	88,451.6 <sup>A</sup>	83,249.1 <sup>A</sup>	1,258.1 <sup>D</sup>	3,944.4 <sup>B</sup>
Weekdays	242,944.7 <sup>A</sup>	216,306.1 <sup>A</sup>	6,852.4 <sup>A</sup>	19,786.2 <sup>A</sup>
millions of passenger-kilometres				
<b>Total, all days</b>	<b>524,449.9<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>	<b>11,151.2<sup>B</sup></b>	<b>26,367.0<sup>A</sup></b>
Weekends and holidays	162,927.5 <sup>A</sup>	156,641.7 <sup>A</sup>	1,828.6 <sup>D</sup>	4,457.2 <sup>B</sup>
Weekdays	361,522.4 <sup>A</sup>	330,290.0 <sup>A</sup>	9,322.5 <sup>B</sup>	21,909.8 <sup>A</sup>

**Table 6-6**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by type of vehicle and time of day**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions of vehicle-kilometres				
<b>Total, all hours</b>	<b>331,396.3<sup>A</sup></b>	<b>299,555.2<sup>A</sup></b>	<b>8,110.5<sup>B</sup></b>	<b>23,730.5<sup>A</sup></b>
00:00 to 05:59	10,173.8 <sup>B</sup>	7,726.4 <sup>B</sup>	269.9 <sup>D</sup>	2,177.4 <sup>B</sup>
06:00 to 11:59	110,286.6 <sup>A</sup>	97,990.8 <sup>A</sup>	3,736.3 <sup>A</sup>	8,559.6 <sup>A</sup>
12:00 to 17:59	149,673.1 <sup>A</sup>	137,309.1 <sup>A</sup>	3,480.3 <sup>B</sup>	8,883.7 <sup>A</sup>
18:00 to 23:59	61,262.8 <sup>A</sup>	56,528.9 <sup>A</sup>	624.1 <sup>C</sup>	4,109.8 <sup>B</sup>
millions of passenger-kilometres				
<b>Total, all hours</b>	<b>524,449.9<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>	<b>11,151.2<sup>B</sup></b>	<b>26,367.0<sup>A</sup></b>
00:00 to 05:59	14,592.2 <sup>B</sup>	11,815.7 <sup>C</sup>	339.7 <sup>D</sup>	2,436.8 <sup>B</sup>
06:00 to 11:59	161,055.8 <sup>A</sup>	146,537.9 <sup>A</sup>	5,049.0 <sup>B</sup>	9,468.9 <sup>A</sup>
12:00 to 17:59	242,910.5 <sup>A</sup>	228,161.9 <sup>A</sup>	4,834.4 <sup>B</sup>	9,914.2 <sup>A</sup>
18:00 to 23:59	105,891.4 <sup>A</sup>	100,416.2 <sup>A</sup>	928.1 <sup>C</sup>	4,547.1 <sup>B</sup>



Table 6-7

## Estimates of vehicle-kilometres and passenger-kilometres for provinces only by type of vehicle, type of day and time of day

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions of vehicle-kilometres				
<b>Total, all days</b>				
<b>Total, all hours</b>	<b>331,396.3<sup>A</sup></b>	<b>299,555.2<sup>A</sup></b>	<b>8,110.5<sup>B</sup></b>	<b>23,730.5<sup>A</sup></b>
00:00 to 05:59	10,173.8 <sup>B</sup>	7,726.4 <sup>B</sup>	269.9 <sup>D</sup>	2,177.4 <sup>B</sup>
06:00 to 11:59	110,286.6 <sup>A</sup>	97,990.8 <sup>A</sup>	3,736.3 <sup>A</sup>	8,559.6 <sup>A</sup>
12:00 to 17:59	149,673.1 <sup>A</sup>	137,309.1 <sup>A</sup>	3,480.3 <sup>B</sup>	8,883.7 <sup>A</sup>
18:00 to 23:59	61,262.8 <sup>A</sup>	56,528.9 <sup>A</sup>	624.1 <sup>C</sup>	4,109.8 <sup>B</sup>
<b>Weekends and holidays</b>				
<b>Total, all hours</b>	<b>88,451.6<sup>A</sup></b>	<b>83,249.1<sup>A</sup></b>	<b>1,258.1<sup>D</sup></b>	<b>3,944.4<sup>B</sup></b>
00:00 to 05:59	2,492.7 <sup>C</sup>	2,124.6 <sup>D</sup>	42.8 <sup>E</sup>	325.4 <sup>C</sup>
06:00 to 11:59	25,456.6 <sup>B</sup>	23,555.6 <sup>B</sup>	509.9 <sup>C</sup>	1,391.0 <sup>B</sup>
12:00 to 17:59	42,782.2 <sup>A</sup>	40,673.9 <sup>B</sup>	587.7 <sup>D</sup>	1,520.6 <sup>B</sup>
18:00 to 23:59	17,720.2 <sup>B</sup>	16,895.1 <sup>B</sup>	117.7 <sup>E</sup>	707.4 <sup>C</sup>
<b>Weekdays</b>				
<b>Total, all hours</b>	<b>242,944.7<sup>A</sup></b>	<b>216,306.1<sup>A</sup></b>	<b>6,852.4<sup>A</sup></b>	<b>19,786.2<sup>A</sup></b>
00:00 to 05:59	7,681.1 <sup>B</sup>	5,601.9 <sup>C</sup>	227.1 <sup>D</sup>	1,852.1 <sup>B</sup>
06:00 to 11:59	84,830.1 <sup>A</sup>	74,435.2 <sup>A</sup>	3,226.3 <sup>A</sup>	7,168.5 <sup>A</sup>
12:00 to 17:59	106,890.9 <sup>A</sup>	96,635.2 <sup>A</sup>	2,892.6 <sup>B</sup>	7,363.2 <sup>A</sup>
18:00 to 23:59	43,542.6 <sup>A</sup>	39,633.9 <sup>B</sup>	506.4 <sup>C</sup>	3,402.4 <sup>B</sup>
millions of passenger-kilometres				
<b>Total, all days</b>				
<b>Total, all hours</b>	<b>524,449.9<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>	<b>11,151.2<sup>B</sup></b>	<b>26,367.0<sup>A</sup></b>
00:00 to 05:59	14,592.2 <sup>B</sup>	11,815.7 <sup>C</sup>	339.7 <sup>D</sup>	2,436.8 <sup>B</sup>
06:00 to 11:59	161,055.8 <sup>A</sup>	146,537.9 <sup>A</sup>	5,049.0 <sup>B</sup>	9,468.9 <sup>A</sup>
12:00 to 17:59	242,910.5 <sup>A</sup>	228,161.9 <sup>A</sup>	4,834.4 <sup>B</sup>	9,914.2 <sup>A</sup>
18:00 to 23:59	105,891.4 <sup>A</sup>	100,416.2 <sup>A</sup>	928.1 <sup>C</sup>	4,547.1 <sup>B</sup>
<b>Weekends and holidays</b>				
<b>Total, all hours</b>	<b>162,927.5<sup>A</sup></b>	<b>156,641.7<sup>A</sup></b>	<b>1,828.6<sup>D</sup></b>	<b>4,457.2<sup>B</sup></b>
00:00 to 05:59	4,333.4 <sup>D</sup>	3,907.6 <sup>D</sup>	F	372.4 <sup>D</sup>
06:00 to 11:59	43,063.7 <sup>B</sup>	40,751.3 <sup>B</sup>	735.1 <sup>C</sup>	1,577.3 <sup>B</sup>
12:00 to 17:59	81,588.5 <sup>A</sup>	78,979.2 <sup>A</sup>	877.2 <sup>E</sup>	1,732.1 <sup>B</sup>
18:00 to 23:59	33,941.9 <sup>B</sup>	33,003.6 <sup>B</sup>	163.0 <sup>E</sup>	775.4 <sup>C</sup>
<b>Weekdays</b>				
<b>Total, all hours</b>	<b>361,522.4<sup>A</sup></b>	<b>330,290.0<sup>A</sup></b>	<b>9,322.5<sup>B</sup></b>	<b>21,909.8<sup>A</sup></b>
00:00 to 05:59	10,258.7 <sup>B</sup>	7,908.0 <sup>C</sup>	286.4 <sup>D</sup>	2,064.4 <sup>B</sup>
06:00 to 11:59	117,992.1 <sup>A</sup>	105,786.6 <sup>A</sup>	4,313.9 <sup>B</sup>	7,891.6 <sup>A</sup>
12:00 to 17:59	161,322.0 <sup>A</sup>	149,182.7 <sup>A</sup>	3,957.2 <sup>B</sup>	8,182.1 <sup>A</sup>
18:00 to 23:59	71,949.5 <sup>A</sup>	67,412.7 <sup>B</sup>	765.1 <sup>C</sup>	3,771.7 <sup>B</sup>

**Table 6-8**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by type of vehicle and road type**

	Total, all vehicles	Vehicles up to 4.5 tonnes	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions of vehicle-kilometres				
<b>Total, all roads</b>	<b>331,396.3<sup>A</sup></b>	<b>299,555.2<sup>A</sup></b>	<b>8,110.5<sup>B</sup></b>	<b>23,730.5<sup>A</sup></b>
Roads with posted maximum speed of 80 kilometres per hour or more	176,465.0 <sup>A</sup>	155,383.2 <sup>A</sup>	4,446.5 <sup>B</sup>	16,635.4 <sup>A</sup>
All other roads	154,931.3 <sup>A</sup>	144,172.1 <sup>A</sup>	3,664.1 <sup>B</sup>	7,095.2 <sup>B</sup>
millions of passenger-kilometres				
<b>Total, all roads</b>	<b>524,449.9<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>	<b>11,151.2<sup>B</sup></b>	<b>26,367.0<sup>A</sup></b>
Roads with posted maximum speed of 80 kilometres per hour or more	286,780.0 <sup>A</sup>	262,274.7 <sup>A</sup>	6,264.8 <sup>B</sup>	18,240.5 <sup>A</sup>
All other roads	237,669.9 <sup>A</sup>	224,657.0 <sup>A</sup>	4,886.4 <sup>B</sup>	8,126.5 <sup>B</sup>

**Table 6-9**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by origin and destination of trips for vehicles up to 4.5 tonnes**

	Destination				
	Driver's home	Driver's regular workplace	Shopping centre, bank, other place of personal business	Leisure, entertainment, recreational facility, restaurant	Other
millions of vehicle-kilometres					
Origin					
Driver's home	52,961.4 <sup>A</sup>	25,437.3 <sup>B</sup>	10,005.4 <sup>D</sup>	10,238.7 <sup>C</sup>	39,747.9 <sup>B</sup>
Driver's regular workplace	22,641.5 <sup>B</sup>	7,466.7 <sup>C</sup>	F	F	6,242.9 <sup>D</sup>
Shopping centre, bank, other place of personal business	11,457.3 <sup>D</sup>	F	F	F	3,554.7 <sup>E</sup>
Leisure, entertainment, recreational facility, restaurant	10,815.3 <sup>C</sup>	F	F	5,840.5 <sup>E</sup>	5,260.5 <sup>D</sup>
Other	35,952.5 <sup>B</sup>	5,456.8 <sup>D</sup>	4,518.0 <sup>E</sup>	5,407.6 <sup>D</sup>	25,061.7 <sup>B</sup>
millions of passenger-kilometres					
Origin					
Driver's home	84,010.1 <sup>A</sup>	30,649.5 <sup>B</sup>	16,033.1 <sup>D</sup>	20,927.1 <sup>C</sup>	68,151.7 <sup>B</sup>
Driver's regular workplace	26,695.3 <sup>C</sup>	8,801.1 <sup>C</sup>	F	F	7,687.2 <sup>E</sup>
Shopping centre, bank, other place of personal business	18,664.3 <sup>D</sup>	F	6,578.8 <sup>E</sup>	3,869.1 <sup>E</sup>	6,738.4 <sup>E</sup>
Leisure, entertainment, recreational facility, restaurant	21,954.7 <sup>C</sup>	F	F	12,529.1 <sup>D</sup>	11,869.2 <sup>D</sup>
Other	60,932.2 <sup>B</sup>	6,827.4 <sup>E</sup>	8,712.8 <sup>E</sup>	12,146.5 <sup>D</sup>	45,152.6 <sup>B</sup>

**Table 6-10**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by part of the driver's job for vehicles up to 4.5 tonnes**

	Vehicle-kilometres	Passenger-kilometres
	millions	
<b>Total</b>	<b>299,555.2<sup>A</sup></b>	<b>486,931.7<sup>A</sup></b>
Yes	54,236.5 <sup>A</sup>	68,349.0 <sup>B</sup>
No	245,318.8 <sup>A</sup>	418,582.7 <sup>A</sup>

Table 6-11

**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by vehicle group and trip purpose for trucks weighing 4.5 tonnes or more**

	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions of vehicle-kilometres		
<b>Total, all groups</b>		
Driving to or from service call	1,676.4 C	1,460.9 C
Carrying goods or equipment	3,671.2 C	17,627.2 A
Empty	506.2 E	3,155.4 B
Other work purpose	554.0 E	508.8 E
Non-work purpose	1,702.8 C	978.2 C
<b>Total</b>	<b>8,110.5 B</b>	<b>23,730.5 A</b>
<b>Straight trucks</b>		
Driving to or from service call	1,545.2 C	240.2 E
Carrying goods or equipment	3,485.3 B	2,317.4 C
Empty	503.1 E	322.2 E
Other work purpose	536.8 E	F
Non-work purpose	1,629.6 C	199.7 E
<b>Total</b>	<b>7,700.0 B</b>	<b>3,200.1 B</b>
<b>Other trucks over 4.5 tonnes</b>		
Driving to or from service call	F	1,220.7 E
Carrying goods or equipment	F	15,309.8 A
Empty	F	2,833.2 B
Other work purpose	F	388.2 E
Non-work purpose	F	778.5 D
<b>Total</b>	<b>410.5 E</b>	<b>20,530.4 A</b>
millions of passenger-kilometres		
<b>Total, all groups</b>		
Driving to or from service call	2,108.1 C	1,956.8 E
Carrying goods or equipment	4,743.0 C	19,098.0 A
Empty	656.7 E	3,378.5 B
Other work purpose	850.1 E	820.8 E
Non-work purpose	2,793.4 C	1,112.9 C
<b>Total</b>	<b>11,151.2 B</b>	<b>26,367.0 A</b>
<b>Straight trucks</b>		
Driving to or from service call	1,909.9 C	288.1 E
Carrying goods or equipment	4,521.5 C	2,470.3 C
Empty	652.5 E	354.6 E
Other work purpose	821.1 E	F
Non-work purpose	2,696.3 C	232.0 E
<b>Total</b>	<b>10,601.3 B</b>	<b>3,467.9 B</b>
<b>Other trucks over 4.5 tonnes</b>		
Driving to or from service call	F	1,668.7 E
Carrying goods or equipment	F	16,627.7 A
Empty	F	3,024.0 B
Other work purpose	F	697.8 E
Non-work purpose	F	880.8 E
<b>Total</b>	<b>549.9 E</b>	<b>22,899.1 A</b>

**Table 6-12**  
**Estimates of vehicle-kilometres and passenger-kilometres for provinces only by carrying dangerous goods for trucks weighing 4.5 tonnes or more**

	Total, all vehicles	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
millions of vehicle-kilometres			
<b>Total with or without dangerous goods</b>	<b>31,841.1<sup>A</sup></b>	<b>8,110.5<sup>A</sup></b>	<b>23,730.5<sup>A</sup></b>
With dangerous goods	2,813.3 <sup>C</sup>	342.9 <sup>E</sup>	2,470.4 <sup>E</sup>
Without dangerous goods	29,027.8 <sup>A</sup>	7,767.6 <sup>B</sup>	21,260.1 <sup>A</sup>
millions of passenger-kilometres			
<b>Total with or without dangerous goods</b>	<b>37,518.2<sup>A</sup></b>	<b>11,151.2<sup>A</sup></b>	<b>26,367.0<sup>A</sup></b>
With dangerous goods	2,861.9 <sup>C</sup>	371.4 <sup>E</sup>	2,490.4 <sup>E</sup>
Without dangerous goods	34,656.4 <sup>A</sup>	10,779.8 <sup>B</sup>	23,876.6 <sup>A</sup>

**Table 7-1**  
**Estimates by type of vehicle, type of fuel and vehicle body type for provinces only — Vehicle-kilometres**

	Total, all vehicles		Vehicles up to 4.5 tonnes		Trucks 4.5 tonnes to 14.9 tonnes		Trucks 15 tonnes and over	
	Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel
millions of vehicle-kilometres								
<b>Vehicle body type</b>								
Car	140,963.8 <sup>A</sup>	2,341.8 <sup>E</sup>	140,956.0 <sup>A</sup>	2,341.8 <sup>E</sup>	...	...	...	...
Station wagon	4,424.5 <sup>D</sup>	F	4,424.5 <sup>D</sup>	F	...	...	...	...
Van	53,441.6 <sup>B</sup>	F	53,243.3 <sup>B</sup>	F	198.3 <sup>E</sup>	252.5 <sup>E</sup>	...	...
SUV	37,154.8 <sup>B</sup>	F	37,154.8 <sup>B</sup>	F	...	...	...	...
Pickup	51,941.6 <sup>B</sup>	8,319.4 <sup>C</sup>	51,389.8 <sup>B</sup>	7,101.6 <sup>D</sup>	551.8 <sup>E</sup>	1,217.8 <sup>C</sup>	...	...
Straight truck	1,142.3 <sup>C</sup>	8,188.6 <sup>A</sup>	F	F	664.9 <sup>E</sup>	4,659.7 <sup>B</sup>	F	3,184.8 <sup>B</sup>
Tractor trailer	...	20,957.4 <sup>A</sup>	...	...	...	409.2 <sup>E</sup>	...	20,451.4 <sup>A</sup>
Bus	F	F	F	F	F	F	...	...
Other	F	F	F	F	F	F	...	F
<b>Total</b>	<b>289,516.4<sup>A</sup></b>	<b>40,709.0<sup>A</sup></b>	<b>288,059.2<sup>A</sup></b>	<b>10,467.2<sup>B</sup></b>	<b>1,445.8<sup>B</sup></b>	<b>6,604.8<sup>A</sup></b>	<b>F</b>	<b>23,637.0<sup>A</sup></b>

**Table 7-2**  
**Estimates by type of vehicle, type of fuel and vehicle body type for provinces only — Fuel consumed**

	Total		Vehicles up to 4.5 tonnes		Trucks 4.5 tonnes to 14.9 tonnes		Trucks 15 tonnes and over	
	Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel
millions of litres								
<b>Vehicle body type</b>								
Car	12,658.9 <sup>D</sup>	F	12,656.1 <sup>D</sup>	F	...	...	...	...
Station wagon	F	F	F	F	...	...	...	...
Van	6,379.4 <sup>E</sup>	F	6,339.6 <sup>E</sup>	F	F	45.8 <sup>E</sup>	...	...
SUV	4,409.8 <sup>E</sup>	F	4,409.8 <sup>E</sup>	F	...	...	...	...
Pickup	7,467.7 <sup>C</sup>	1,236.1 <sup>E</sup>	7,348.0 <sup>C</sup>	978.7 <sup>E</sup>	119.7 <sup>E</sup>	257.4 <sup>C</sup>	...	...
Straight truck	208.3 <sup>E</sup>	2,289.7 <sup>B</sup>	F	F	147.6 <sup>E</sup>	1,112.7 <sup>B</sup>	F	1,139.8 <sup>B</sup>
Tractor trailer	...	7,222.0 <sup>A</sup>	...	...	...	127.4 <sup>E</sup>	...	7,078.6 <sup>A</sup>
Bus	F	F	F	F	F	F	...	...
Other	F	F	F	F	F	F	...	F
<b>Total</b>	<b>31,624.8<sup>C</sup></b>	<b>11,068.9<sup>A</sup></b>	<b>31,305.0<sup>C</sup></b>	<b>1,292.1<sup>E</sup></b>	<b>315.8<sup>C</sup></b>	<b>1,557.9<sup>B</sup></b>	<b>F</b>	<b>8,218.8<sup>A</sup></b>

Table 8-1

**Activity type for trucks weighing 4.5 tonnes or more for provinces only — Number of vehicles in scope by type of vehicle**

	Trucks 4.5 tonnes to 14.9 tonnes	Trucks 15 tonnes and over
<b>Total, all activity types</b>	<b>389,936</b> A	<b>311,915</b> A
For-hire trucking	53,941 B	142,575 A
Owner-operator trucking	64,361 B	76,328 B
Private trucking	197,218 A	64,796 B
Other activity type	74,417 B	28,216 C

Table 8-2

**Activity type for trucks weighing 4.5 tonnes or more for provinces only — Vehicle-kilometres and passenger-kilometres for trucks 4.5 tonnes to 14.9 tonnes**

	Vehicle-kilometres	Passenger-kilometres
	millions	
<b>Total, all activity types</b>	<b>8,110.5</b> A	<b>11,151.2</b> A
For-hire trucking	1,549.2 E	2,171.4 E
Owner-operator trucking	1,357.5 E	1,963.4 E
Private trucking	3,792.8 B	5,198.3 B
Other activity type	1,411.0 D	1,818.1 C

Table 8-3

**Activity type for trucks weighing 4.5 tonnes or more for provinces only — Vehicle-kilometres and passenger-kilometres for trucks 15 tonnes or more**

	Vehicle-kilometres	Passenger-kilometres
	millions	
<b>Total, all activity types</b>	<b>23,730.5</b> A	<b>26,367.0</b> A
For-hire trucking	13,555.8 B	15,053.0 B
Owner-operator trucking	5,616.3 B	6,303.5 B
Private trucking	3,219.7 C	3,534.5 C
Other activity type	1,338.7 D	1,476.1 D

Table 9-1

**Trip type for trucks weighing 4.5 tonnes or more for provinces only — Vehicle-kilometres and passenger-kilometres for trucks 4.5 tonnes to 14.9 tonnes**

	Vehicle-kilometres	Passenger-kilometres
	millions	
<b>Total, all trip types</b>	<b>8,110.5</b> A	<b>11,151.2</b> A
Trips within provinces	7,480.2 B	9,962.4 B
Trips between provinces	583.1 E	1,052.5 E
Trips across Canada and United States border	F	F
Trips outside Canada	F	F

**Table 9-2**  
**Trip type for trucks weighing 4.5 tonnes or more for provinces only — Vehicle-kilometres and passenger-kilometres for trucks 15 tonnes or more**

	Vehicle-kilometres	Passenger-kilometres
	millions	
<b>Total, all trip types</b>	<b>23,730.5</b> <sup>A</sup>	<b>26,367.0</b> <sup>A</sup>
Trips within provinces	13,431.4 <sup>A</sup>	15,006.0 <sup>A</sup>
Trips between provinces	3,323.2 <sup>B</sup>	3,600.7 <sup>B</sup>
Trips across Canada and United States border	4,458.4 <sup>B</sup>	4,628.1 <sup>B</sup>
Trips outside Canada	2,517.5 <sup>C</sup>	3,132.3 <sup>C</sup>

# Concepts and definitions

---

## The population of interest

The **in-scope vehicles** for the CVS include all motor vehicles, except buses (buses were included in the survey prior to 2004), motorcycles, off road vehicles (for example, snowmobiles, dune buggies, amphibious vehicles) and special equipment (for example, 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.

## 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 (the driver being considered as one of the passengers). For example, for a vehicle with three passengers (the driver being one of them) that is driven on a distance of 10 kilometres, the number of passenger-kilometres will be 30. Light vehicles (see the Vehicle type definition below) report the number of passengers for each trip (see the Trip definition below). The number of passengers in heavy vehicles with gross vehicle weight of 4.5 tonnes or more (see the Vehicle type definition below) 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 below).

**Fuel consumed** is the amount of fuel used to operate vehicles. This variable is derived for each vehicle using the reported fuel purchases and distance driven.

**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.

## Definitions of vehicle characteristics

**Vehicle type** is the weight classification created for the CVS, based on the information available on the vehicle registration lists. The vehicles are divided into three weight types: **light vehicles** with gross vehicle weights below 4.5 tonnes, **heavy vehicles** with gross vehicle weights of 4.5 tonnes or more and less than 15 tonnes, and **heavy vehicles** 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, and other. Missing or unusual responses are verified against registration lists, if possible.

**Fuel type** is based on the information provided by the respondent or from 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 sources.

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

## 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**:

A new trip is reported for **light vehicles** if any of the following events happen:

- the driver gets in the car
- a passenger gets in or out of the car

A new trip is reported for **heavy vehicles weighing 4.5 tonnes or more** if any of the following events happen:

- 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**.
- **Trip origin and destination** for light vehicles.
- **Trip purpose** for heavy vehicles, as 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.
- If **dangerous goods** (as defined by the Transportation of Dangerous Goods Act) are carried by heavy vehicles.
- **Number of kilometres** traveled on roads with posted speed limit of 80 km/h or more.
- **Age group** (Under 5 years, 5 to 14, 15 to 19, 20 to 34, 35 to 54, 55 to 64, 65 to 74, 75 to 84, 85 years and over) of passengers and the number of passengers within each group, to calculate passenger-kms. Passenger age information is collected only for light vehicles (see "Data quality, concepts and methodology — Data quality"). We collect the total number of passengers only for heavy vehicles.
- **Truck configuration** for heavy vehicles.
- Total cost, unit cost and quantity of **fuel purchased**.



# Methodology

---

The 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.

## Survey design

### Survey population

The survey population of vehicles was derived from the 13 jurisdiction vehicle registration lists (ten Provincial and three Territorial Governments) created three months before the reference period. The sample of vehicles for each quarter of 2007 was drawn from lists of motor vehicles with valid registrations in any province or territory available three months before the beginning of each quarter. Buses, motorcycles, off-road vehicles (e.g., snowmobiles, dune buggies, amphibious vehicles) and special equipment (e.g., cranes, street cleaners, snowplows and backhoes) were excluded from the survey. This population differs from the population of interest of vehicles; e.g., vehicles that were registered less than three months before the quarter began (or during the quarter) were not included in that quarter's sample.

The thirteen incoming lists underwent a thorough preparation procedure:

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

The most recent set of prepared lists was used to select the sample for each quarter of 2007. These sets of vehicle lists and the days within the respective quarter constitute the survey population.

### Sample design

The CVS uses a two-stage sample design. At the first-stage, a sample of vehicles is selected, while at the secondstage, a sample of consecutive days within the quarter is selected.

To select the first-stage sample, all vehicles from the survey population were first stratified (grouped) into 78 strata. The vehicles were stratified into three vehicle types (see appendix I) and 13 jurisdictions (ten provinces and three territories). Then, in order to improve the precision of the estimates, the vehicles were further divided into two vehicle-age strata of newer and older vehicles.

Next, the vehicles were sorted within each stratum, using the first three characters of the postal code of the owner's address. Then, a systematic sample of vehicles (first stage sample) was selected from the survey population. Systematic sampling was used to spread the sample over all regions and to avoid heavy burden on owners of multiple vehicles. To minimize respondent burden, no vehicle is selected more than once during any consecutive four quarters for provinces and two consecutive quarters for territories.

In the second stage, a first reporting day within the quarter was randomly assigned to each vehicle selected in 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 "Survey overview").

### Estimation

Since the sample was selected in two stages, the sampling weight (see appendix I) 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.

### Sample size

A total sample of 26,987 vehicles was drawn for the ten provinces. Another 11,693 vehicles were included in the sample for the three territories.

## Data collection and processing

### 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, the following information is collected about each sampled vehicle: vehicle type, fuel type used, distance driven the previous week, some information about anticipated vehicle usage during the following six weeks, current odometer reading, some vehicle maintenance questions and some questions on the household characteristics. Then the respondent was asked to complete a trip log. If the respondent agreed, personal information, such as name and address, were obtained in order to mail out the trip log for the vehicle.

The log type depended on the type of vehicle. There were two types of logs: a light vehicle log and a heavy vehicle log.

Respondents receiving a light vehicle log were requested to record information for 20 consecutive trips made in the selected vehicle, beginning on the assigned first reporting day. Respondents receiving a heavy vehicle log were requested to record information for all the trips made in the selected vehicle over the assigned seven-day period.

The collected data included information about each trip:

- Start and stop dates and times
- Start and stop odometer readings
- origin and destination (light vehicle log) or trip purpose (heavy vehicle log)
- number and age group of passengers (light vehicle log) or number of passengers at the start and end of the trip (heavy vehicle log)
- sex and age group of the driver
- fuel purchases

- distance traveled on roads with posted speed limit of 80km/h or more
- truck configuration (heavy vehicle log only)
- dangerous goods (heavy vehicle log only)

Starting in 2004, the respondents were also asked to continue to record their fuel purchases until they reported two fill-ups or five fuel purchases or until the 28-day reporting period is over.

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 companies with large vehicle fleets have special arrangements to lower their response burden. There is no follow-up done with these companies.)

### **Territorial collection**

The registered owners of the selected vehicles were mailed questionnaires and asked to provide two odometer readings, one at the beginning of the quarter and another at the beginning of the next quarter. Information was also collected on the vehicle status (owned, sold, scrapped), body style (car, SUV, pick-up, etc.) and type of fuel used.

### **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.

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

### **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, new sets of prepared vehicle lists were 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 jurisdiction and vehicle type;
- vehicle-kilometres by jurisdiction and vehicle type;

- passenger-kilometres by province and vehicle type;
- fuel consumed, by vehicle type and fuel type;
- cross tabulations of vehicle-kilometers and passenger-kilometers by a number of variables (described in "Data quality, concepts and methodology — Data quality"), such as body type, driver characteristics, time of day, day of week, etc.

# Data quality

---

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

## Sources of errors

While considerable effort is put forth to ensure that a high standard is maintained 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 value for the population, at which the survey estimate aims. The total survey error consists of two types of errors: sampling and non-sampling errors.

## 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.

## 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 nonsampling 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 the 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 can be conducted to obtain information from the total nonrespondents or to complete partially unanswered questionnaires for questions that are deemed essential. Various quality assurance procedures can be exercised at the data capture step. The data editing procedures can identify some inconsistencies in the data structure and the imputation procedures can then 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.

### **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 the 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 "Data quality, concepts and methodology — Methodology") can contain vehicles with the same Vehicle Identification Number (VIN), for example, when a vehicle is on the registration file of more than one jurisdiction. 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 the 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.

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.

### **Response errors**

Response errors occur when a respondent provides incorrect information due to a misinterpretation of the survey questions or due to a lack of correct information, or when a respondent 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.

## 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 tables in "Data quality, concepts and methodology — Data quality".

## 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. A data capture error occurs when the data are misinterpreted or keyed incorrectly. For example, an odometer reading of 53467 could be keyed as 54367.

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 the CVS, it is impossible to detect, for vehicles that travel only a small distance during the reported period, fuel purchases that are missing or entered in error.

## Measuring quality

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

### Response rates

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

**Table A**  
**Vehicle response rates by province and vehicle type**

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia
	percent									
Light vehicles	59	69	58	59	67	60	68	61	53	58
Heavy vehicles 4.5 to 14.9 tonnes	60	68	63	63	61	59	65	58	54	54
Heavy vehicles 15 tonnes or more	61	61	69	60	72	65	54	59	48	56

**Table B**  
**Vehicle response rates by territory**

	Yukon	Northwest Territories	Nunavut
	percent		
All vehicles	15	13	8

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.

### Relative imputation rates

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 nonimputed 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.

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.

### 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 take into account the variability due to sampling and the variability due to non-response and imputation.

### Quality indicator

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 is a function of the CV, which takes into account the variability due to sampling and the variability due to non-response and imputation.

<b>Letter and significance</b>	<b>Coefficient of variation</b>
A Excellent	Less than 5%
B Very good	5% to 9.9%
C Good	10% to 14.9%
D Acceptable	15% to 19.9%
E Use with caution	20% to 34.9%
F too unreliable to be published	35% or more

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

### Notes for historical comparison

Recent updates to the vehicle registration files have now been incorporated into the Canadian Vehicle Survey counts and estimates for British Columbia. The revisions affect the 2003 to 2005 survey years. On average, estimated vehicle kilometres in British Columbia have been revised upward by 0.6% for 2003, 2.3% for 2004, and 6.7% for 2005.



Note that these revisions, in turn, affect the national estimates for the same periods, although the magnitude is much smaller – 0.1% in 2003, 0.4% in 2004, and 0.7% in 2005.

Revisions were also made in order to treat holidays consistently across the reference periods. This affected most variables for the four quarters of 2004. Impacts of the revisions vary depending on the variable, but are generally greatest for tables dealing with the day of week or time of day.

Beginning with Quarter 1, 2004, the following changes were made and may affect comparability with previous quarters:

- Buses are excluded from the survey
- Rather than estimates of the quantity of fuel purchased, the survey now produces estimates of the quantity of fuel consumed.
- The light vehicle log is based on 20 trips rather than reporting all trips for 7 days. Depending on vehicle usage, some respondents will report more than 7 days worth of trips while others will report less than 7 days.
- The definition of a trip for light vehicles has changed so that a new trip is now reported every time a driver gets in the vehicle or a passenger gets in or out of the vehicle. This change will mean that what was previously reported as one trip could now be reported as two, three or even more trips if there is a change in driver and/or multiple passengers are picked up or dropped off at different locations. This new definition will produce more accurate estimates of passenger-kilometres for light vehicles.

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 (3-3, 3-4, 4-3 and 4-4) now include the territories.
- The heavy vehicle logs were changed in 2001 in order to collect passenger information for heavy vehicles. 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 heavy vehicle logs were also changed in 2001 in order to collect distance traveled 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 heavy vehicles registered in the territories are now sent two short questionnaires 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 questionnaire at the end of the quarter and requesting that bus and heavy vehicle 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 heavy vehicles in 2000.

The changes that may affect comparability with the 1999 results:

- A new log was developed for survey year 2000 for all heavy vehicles. In 1999 heavy vehicles with gross vehicle weights of 4.5 tonnes or more and less than 15 tonnes had a different log than heavy vehicles with gross vehicle weights of 15 tonnes or more.
- The fuel purchased question was attached to each trip for the 2000 survey year for heavy vehicles. Previously it was recorded separately from the trips.

# Appendix I

---

## Glossary

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

**Survey population:** the collection of all units (for example, 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 (for example, 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.