



Transport
Canada

Transports
Canada

Canada

Heavy Truck Collisions 1994 - 1998

DECEMBER 2001

TP 2436 E
FACT SHEET # RS 2001-05
Aussi disponible en français

Prepared by:
Road Safety and Motor Vehicle Regulation Directorate

Heavy Truck Collisions 1994 - 1998

This document reviews the number of collisions, vehicles involved, and casualties (fatalities and injuries) resulting from heavy truck collisions for each of straight trucks (greater than 4,536 kg) and tractor-trailers. The report also presents tables and charts showing the distribution of fatalities and injuries by type of heavy truck, and road user class, collisions by accident configuration, and discusses external factors relating to the collisions. While the causes of collisions cannot be determined from the Transport Canada database, Traffic Accident Information Database (TRAID), this report discusses some of the contributing factors.

Summary Findings

Over the five-year period:

- An average of 43,843 collisions¹ involving heavy trucks occurred each year – averages of 24,450 and 20,006 for straight trucks and tractor-trailers, respectively. Straight trucks averaged 168 fatal, 4,467 personal injury, and 19,815 property damage only collisions, while collisions involving tractor-trailers averaged 296 fatal, 3,827 personal injury, and 15,883 property damage crashes per year.
- The number of heavy trucks averaged 46,239 or 4 percent of all vehicles involved in all collisions. Straight trucks accounted for 55 percent of the heavy trucks involved, while tractor-trailers accounted for the remainder, 45 percent.
- Heavy trucks in fatal collisions represented an average of 11 percent of all vehicles in fatal collisions per year. Straight trucks accounted for an average of 174 per year or 4 percent, and tractor-trailers accounted for an average of 318 per year or 7 percent of all vehicles involved in fatal collisions.
- Of all vehicles in personal injury collisions, heavy trucks accounted for an average of 8,651 vehicles or 3 percent per year. Straight trucks amounted to an average of 4,617 per year or 1.6 percent, while tractor-trailers represented an average of 4,034 per year or 1.4 percent of all vehicles involved in personal injury collisions.
- Approximately 75 percent of all collisions are property damage only collisions each year. In these collisions, heavy trucks represented an average of 37,096 vehicles or 4.3 percent per year of all vehicles in property damage only crashes. Straight trucks accounted for an average of 20,491 vehicles per year or 2.4 percent, while tractor-trailers amounted to an average of 16,605 per year or 1.9 percent of all vehicles involved in property damage only collisions.
- All vehicles involved in collisions with heavy trucks represented averages of 21.7 percent of all vehicles in fatal collisions, 5.8 percent and 7.6 percent of all vehicles in personal injury and property damage collisions, respectively.

- The number of fatalities in collisions involving heavy trucks averaged 554, comprised of 65 (11.8 percent) heavy truck occupants, 444 (80.1 percent) occupants of other vehicles, and 45 (8.2 percent) pedestrians. Fatalities in heavy truck collisions averaged 17.6 percent of all road user fatalities and averaged 1.215 fatalities per collision involving a heavy truck, compared to 1.135 fatalities per collision not involving heavy trucks.
- An average of 11,848 persons suffered non-fatal injuries in collisions involving heavy trucks, representing 5.1 percent of all road users injured. On average, these victims of heavy truck collisions consisted of 2,960 (25 percent) heavy truck occupants, 8,573 (72.4 percent) occupants of other vehicles, and 315 pedestrians (2.7 percent).
- Drivers of automobiles, light trucks and vans were recorded as having a driver condition “*other than apparently normal*” 4.25 times more frequently than the drivers of heavy trucks in fatal collisions.
- In fatal crashes, drivers of automobiles, light trucks and vans were recorded as having a driver action “*other than driving properly*” 2.74 times more frequently than the drivers of heavy trucks.

Collisions

From 1994-1998, an average of 43,843 collisions¹ involved heavy trucks each year as shown in Table 1—averages of 24,450 and 20,006 for straight trucks and tractor-trailers, respectively.

Straight trucks were involved in an average of 168 fatal collisions or 6 percent of all fatal crashes. Tractor-trailers were involved in 296 fatal collisions on average per year, which represented a further 11 percent of all fatal crashes. Heavy trucks in total were involved in 456 collisions, on average, or 16.7 percent of all fatal collisions. Collisions involving all other vehicles, where heavy trucks were not involved, represented the majority at 83.3 percent or 2,279 fatal crashes.

Heavy trucks were involved in an average of 8,169 collisions resulting in personal injury or 5.2 percent per year of all injury-producing collisions, with the remaining 94.8 percent of these collisions involving vehicles other than heavy trucks. The number of collisions shown in Table 1 represent averages of the annual data included in the Appendix, Table A1.

Most of these collisions, 66 percent and 75 percent of fatal and personal injury collisions, respectively, happened between 6:00 a.m. and 6:00 p.m. The majority of collisions involving heavy trucks occurred on dry road surfaces accounting for an average of 63 percent of fatal and 59 percent of injury collisions, followed by wet conditions at 14 percent and 19 percent of fatal and personal injury collisions, respectively. Ice, packed or loose snow, slush and slippery conditions averaged 21 percent of fatal and 20 percent of injury collisions. The weather at the collision site was recorded as clear in 76 percent of fatal collisions involving heavy trucks, followed by snow/sleet/hail at 11 percent, rain at 7 percent and fog at 3 percent. Even though the weather condition was recorded as clear in 76 percent of these fatal crashes, this should not be interpreted as dry road surface. The road surface may have been dry, snow covered, wet or slippery.

The greatest number of fatal collisions involving heavy trucks occurred during the month of August at an average of 47 collisions, followed by January at 45 and November at 44, while the least number of these collisions occurred during April with 23. In personal injury collisions involving heavy trucks, the greatest frequency occurred in January with an average 892 collisions, and the fewest of these collisions (averaging 501) happened in April, the same as for fatal collisions.

Table 1. Number of Collisions Involving Heavy Trucks and Other Vehicles by Collision Severity 1994-1998 Average

Collisions Involving:	Collision Severity			Total Collisions
	Fatal	Personal Injury	Property Damage	
Straight Trucks > 4 536 Kg	168	4,467	19,815	24,450
Tractor-Trailers	296	3,827	15,883	20,006
Heavy Trucks	456	8,169	35,217	43,843
Vehicles other than Heavy Trucks	2,279	148,980	443,375	594,633
Total Collisions	2,735	157,149	478,592	638,476

Table 2 shows the percentage distribution of collisions involving heavy trucks by collision configuration and collision severity. Head-on collisions include sideswipe collisions where the vehicles were travelling in the opposite direction, since these collisions are similar in nature and damage to victims and vehicles involved. Other configurations include among other items, collisions involving three or more vehicles. As a result, the percentages for specific configurations are likely understated, since only one and two vehicle collisions are coded separately in the database.

Of the fatal collisions involving heavy trucks, 35 percent were reported as 2 motor vehicles: head-on collisions. The next greatest frequencies in fatal collision configurations were 2 motor vehicles: right turn, followed by 1 motor vehicle: hit object or person, and 2 motor vehicles: rear-end collisions. These four categories accounted for almost 71 percent of fatal collisions.

Table 2. Percentage Distribution of Collisions Involving Heavy Trucks by Collision Configuration, 1994-1998 Average

Collision Configuration	Fatal	Personal Injury	Property Damage
2 M.V.: Head-On (& Sideswipes)	35.2	7.3	3.7
2 M.V.: Right Turn	14.0	12.3	6.9
1 M.V.: Hit Object or Person	11.2	12.0	18.3
2 M.V.: Rear-End	10.2	27.1	16.3
Other Configuration/Unknown	9.5	11.0	22.6
2 M.V.: Left Turn Across Traffic	8.3	10.1	8.7
2 M.V.: Sideswipe (Same Direction)	4.7	9.1	14.2
1 M.V.: Ran Off Right Shoulder	2.6	4.5	2.5
1 M.V.: Ran Off Left Shoulder	2.1	3.3	1.6
2 M.V.: Pass on Left of Traffic	1.2	1.6	2.0
2 M.V.: Pass on Right of Traffic	0.9	1.8	3.3
Total	100.0	100.0	100.0

Note: 1 M.V.: One motor vehicle, 2 M.V.: two motor vehicles.

For a complete comparison, the percentage distribution of collision configuration by collision severity and heavy truck type are included in the Appendix, Table A2.

The greatest number of fatal and personal injury collisions involving heavy trucks took place on undivided highways/roads/streets. In fatal collisions involving straight trucks, 79 percent occurred on undivided roadways and 15 percent happened on divided highways. In comparison, an average of 74 percent of fatal collisions involving tractor-trailers took place on undivided highways, while 23 percent occurred on divided highways.

On average, 69 percent of fatal collisions involving heavy trucks were two vehicle crashes, while 66 percent and 74 percent of personal injury and property damage collisions, respectively, involved two vehicles. Of collisions involving heavy trucks, 15 percent of fatal crashes involved only one vehicle, compared to 18 percent of personal injury and 20 percent of property damage collisions. The remainder of the collisions in each severity involved more than two vehicles. The greatest number of vehicles involved in a given fatal collision during the five-year period was 28 in each of 1994 and 1995.

As reported in the data element “road classification”, the majority of fatal collisions involving heavy trucks, an average of 73 percent, occurred in rural areas, while 27 percent of these collisions took place in urban areas. The personal injury collisions involving these vehicles averaged 48 percent and 52 percent in rural and urban areas, respectively. Property damage collisions occurred most frequently in urban areas, which accounted for 59 percent, on average.

In TRAIID, this variable “Road classifications” (i.e., Urban/Rural) is an indicator of population density, hence traffic density, adjacent to the collision site. **Urban** is defined as metropolitan roads, streets and other urban areas, or a speed limit at the collision site of 60 km/h or less. **Rural** includes primary or secondary highways, as well as local roads, or a speed limit at the collision site exceeding 60 km/h. For example, on a multilane highway such as the 401, which passes through the city of Toronto, the classification would be rural, even though a collision might occur within the city’s geographic boundaries.

Ranked by posted speed limit at the collision site, 30 percent of fatal collisions involving heavy trucks occurred where the posted speed limit was 90 kilometres per hour (km/h), followed by 23 percent and 22 percent at 100km/h or greater and 80 km/h, respectively. Thirty-two percent of personal injury collisions involving these vehicles happened where the posted speed limit was 50 km/h, then at posted speed limits of 100 km/h or greater (19 percent), 80 km/h (15 percent) and 90 km/h (13 percent). The percentage distribution of this data element ‘posted speed limit’ differs slightly from the distribution in the variable “road classification”.

Vehicles

As presented in Table 3, 1,156,619 vehicles were involved in all collisions on average each year—4,453 vehicles in fatal crashes, 287,243 vehicles in personal injury and 864,923 in property damage collisions. The number of heavy trucks averaged 46,239 or 4 percent of all vehicles involved in all collisions. Straight trucks accounted for 55 percent of the heavy trucks involved, while tractor-trailers accounted for 45 percent.

**Table 3. Number of Heavy Trucks and Other Vehicles in Reportable Traffic Collisions
1994-1998 Averages**

Collisions Involving:	Fatal		Personal Injury		Property Damage		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Straight Trucks > 4 536 kg	174	3.9	4,617	1.6	20,491	2.4	25,282	2.2
Other Vehicles Involved with Straight Trucks	181	4.1	4,743	1.7	17,470	2.0	22,395	1.9
Total Vehicles Involved with Straight Trucks	356	8.0	9,360	3.3	37,961	4.4	47,677	4.1
Tractor-Trailers	318	7.1	4,034	1.4	16,605	1.9	20,956	1.8
Other Vehicles Involved with Tractor-Trailers	326	7.3	3,777	1.3	12,352	1.4	16,455	1.4
Total Vehicles Involved with Tractor-Trailers	643	14.4	7,811	2.7	28,957	3.3	37,411	3.2
Heavy Trucks	492	11.1	8,651	3.0	37,096	4.3	46,239	4.0
Other Vehicles Involved with Heavy Trucks	475	10.7	8,124	2.8	28,747	3.3	37,347	3.2
Total Vehicles Involved with Heavy Trucks	968	21.7	16,775	5.8	65,843	7.6	83,585	7.2
All Other Vehicles in Collisions	3,486	78.3	270,468	94.2	799,080	92.4	1,073,034	92.8
Total - All Vehicles Involved	4,453	100.0	287,243	100.0	864,923	100.0	1,156,619	100.0

Of the vehicles involved in fatal collisions, heavy trucks represented an average of 492 per year or 11 percent. Straight trucks accounted for an average of 174 per year or 4 percent, while tractor-trailers accounted for an average of 318 per year or 7 percent of all vehicles involved in fatal collisions. Overall, heavy trucks and other vehicles involved in fatal collisions with heavy trucks represented an average of 21.7 percent of all vehicles in fatal collisions.

Heavy trucks represented an average of 8,651 per year or 3 percent of all vehicles in personal injury collisions. Straight trucks accounted for an average of 4,617 per year or 1.6 percent, and tractor-trailers accounted for an average of 4,034 per year or 1.4 percent of vehicles involved in personal injury collisions.

Property damage collisions involved approximately 75 percent of all vehicles in collisions. Heavy trucks represented an average of 37,096 per year or 4.3 percent of all vehicles in property damage collisions: straight trucks averaged 20,491 per year or 2.4 percent, and tractor-trailers averaged 16,605 per year or 1.9 percent of all vehicles involved in property damage collisions.

The number of heavy trucks and other vehicles involved in these collisions are displayed for 1994-1998 and five-year average by truck type and collision severity in the Appendix, Table A3.

In reportable traffic collisions involving straight trucks and tractor-trailers, the types of vehicles involved are displayed in the Appendix, Table A4. The percentages are based on the number of vehicles involved by vehicle type over the five-year period. In fatal collisions involving straight trucks, automobiles accounted for 61 percent of other vehicles involved while light trucks and vans accounted for 21 percent. In these collisions involving tractor-trailers, 64 percent of the other vehicles involved were automobiles, while light trucks and vans accounted for 26 percent.

The involvement of heavy trucks in collisions is a major concern. In order to present their involvement properly, there must be a measure of exposure. Ideally, exposure would be based on kilometres travelled. Since distance travelled is not available at this time, the exposure rates calculated were based on the number of heavy trucks registered in Canada according to the Trucking Industry Profile from 1994 to 1998. With the commencement of the new Statistics Canada survey and initial publication "Canadian Vehicle Survey" containing fourth quarter 1999 data, exposure data, in the form of vehicles registered, as well as kilometres travelled by vehicle type, will be available beginning with the data year 2000.

Figure 1 shows the involvement rates individually and combined for straight trucks greater than 4 536 kg and tractor-trailers involved in fatal collisions. The involvement rate for straight trucks decreased 13.6 percent from 6.6 per 10,000 trucks registered to 5.7 over the period, while the involvement rate for tractor-trailers involved in fatal collisions decreased almost 26 percent from 21.3 per 10,000 tractor-trailers registered in 1994 to 15.8 in 1998.

Figure 1. Involvement Rates for Heavy Trucks in Fatal Collisions 1994-1998

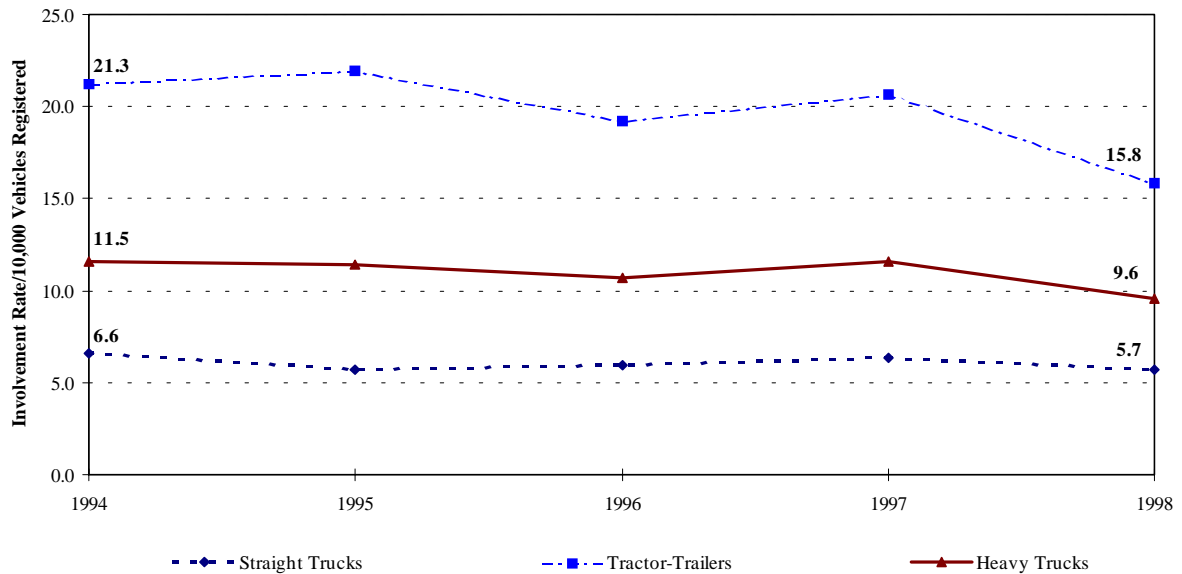
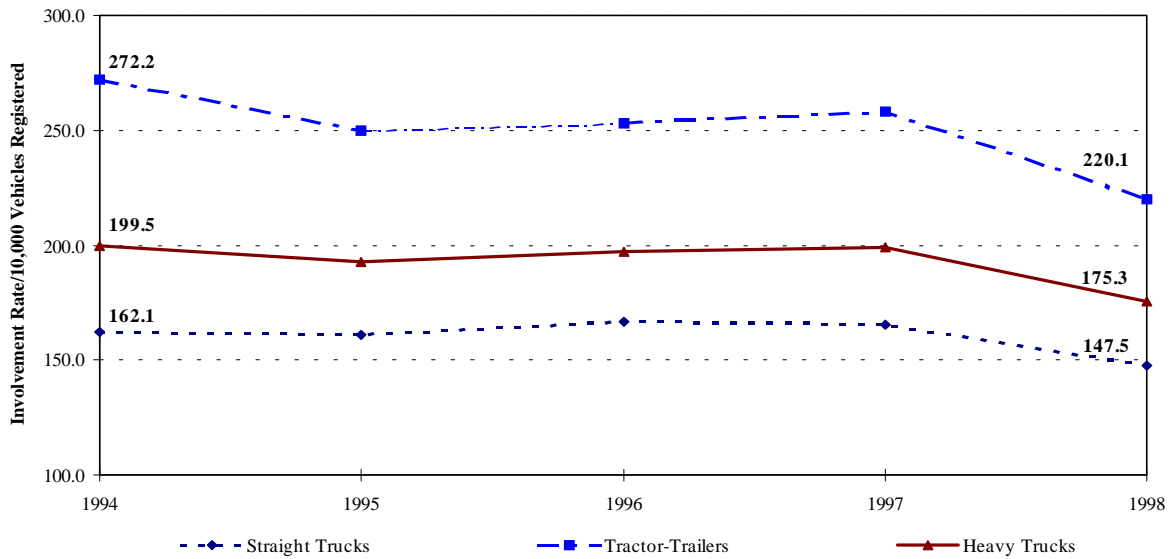


Figure 2 shows the involvement rates individually and combined for tractor-trailers and straight trucks greater than 4 536 kg involved in personal injury collisions. The involvement rate for tractor-trailers involved in personal injury collisions decreased 19 percent from 272.2 per 10,000 tractor-trailers registered in 1994 to 220.1 in 1998, while the involvement rate for straight trucks decreased 9 percent from 162.1 per 10,000 trucks registered to 147.5 for the same period.

Figure 2. Involvement Rates for Heavy Trucks in Personal Injury Collisions 1994-1998



Victims

Victims of collisions involving heavy trucks, as well as victims of all other collisions are displayed in Table 4. Any double counting of victims² between straight trucks and tractor-trailers occupants and pedestrians were removed, as discussed in the explanatory notes on page 14. Occupants of other vehicles include drivers and passengers of all other vehicles, bicyclists and motorcyclists, as well as the unknown road user class. The pedestrians shown in the table under straight trucks and tractor-trailers were not necessarily struck by heavy vehicles.

The number of fatalities in collisions involving heavy trucks averaged 554, comprised of 65 heavy truck occupants (11.8 percent), 444 occupants of other vehicles (80.1 percent), and 45 pedestrians (8.2 percent). Fatalities in heavy truck collisions averaged 17.6 percent of all road user fatalities, with 6.1 percent involving straight trucks and 11.7 percent involving tractor-trailers. The remaining 2,586 fatalities (82 percent) resulted from collisions not involving heavy trucks.

Of the total pedestrian fatalities which averaged 423 over the period, 20 pedestrians were in collisions involving straight trucks and 25 were involving tractor-trailers. This does not mean that pedestrians were actually struck by heavy trucks.

The number of fatalities per collision involving straight trucks averaged 1.14, while that for tractor-trailers was 1.24. In comparison, there were 1.135 fatalities per collision where no heavy trucks were involved.

An average of 11,848 persons suffered non-fatal injuries in collisions involving heavy trucks, representing 5.1 percent of all road users injured. Personal injuries in heavy truck collisions consisted of 2,960 heavy truck occupants (25 percent), 8,573 occupants of other vehicles (72.4 percent), and 315 pedestrians (2.7 percent). Injuries resulting from collisions involving straight trucks accounted for an average of 2.8 percent of all road user injuries, while injuries related to tractor-trailers accounted for 2.4 percent. Approximately 95 percent of all road user injuries were the result of collisions not involving heavy trucks.

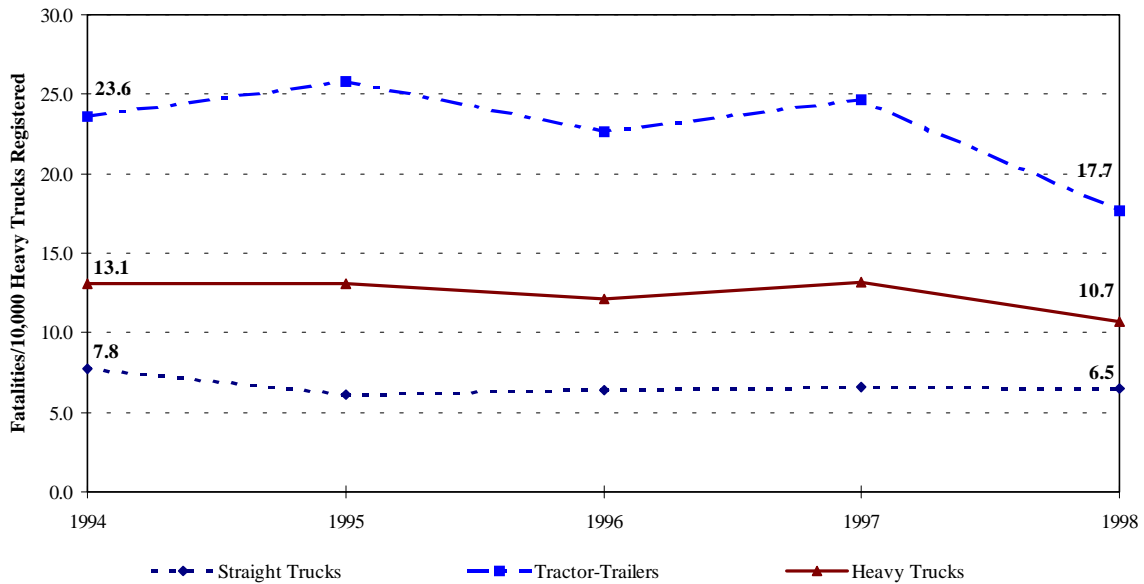
**Table 4. Victims of Collisions Involving Heavy Trucks and All Other Vehicles
by Injury Severity, 1994-1998 Average**

	Fatalities		Injuries		All Casualties	
	Number	Percent	Number	Percent	Number	Percent
Straight Trucks > 4 536 kg						
Occupants	27	14.2	1,571	24.6	1,598	24.3
Occupants Of Other Vehicles						
Inv. With Straight Trucks	144	75.2	4,589	71.8	4,733	71.9
Pedestrians	20	10.6	233	3.6	253	3.8
All Victims of Collisions Involving Straight Trucks	192	100.0	6,392	100.0	6,584	100.0
Tractor-Trailers						
Occupants	38	10.4	1,389	25.1	1,427	24.2
Occupants Of Other Vehicles						
Inv. With Tractor-Trailers	304	82.9	4,058	73.4	4,362	74.0
Pedestrians	25	6.8	82	1.5	107	1.8
All Victims of Collisions Involving Tractor-Trailers	367	100.0	5,529	100.0	5,896	100.0
Heavy Trucks						
Occupants	65	11.8	2,960	25.0	3,025	24.4
Occupants Of Other Vehicles						
Inv. With Heavy Trucks	444	80.1	8,573	72.4	9,017	72.7
Pedestrians	45	8.2	315	2.7	360	2.9
All Victims of Collisions Involving Heavy Trucks	554	100.0	11,848	100.0	12,402	100.0
Victims Of All Other Collisions						
Occupants	2,209	85.4	205,497	93.6	207,706	93.5
Pedestrians	378	14.6	14,063	6.4	14,440	6.5
All Victims of Other Collisions	2,586	100.0	219,560	100.0	222,146	100.0
All Victims of All Collisions	3,140	100.0	231,408	100.0	234,548	100.0

Note: Totals may not add due to rounding.

In terms of exposure, the number of fatalities per 10,000 tractor-trailers registered averaged 22.7 over the period 1994 to 1998 decreasing to a low of 17.7 fatalities per 10,000 tractor-trailers registered in 1998. In contrast, there were 6.7 fatalities per 10,000 straight trucks (trucks greater than 4 536 kg) registered over the five-year period, and this rate remained constant for the last four years of the period. The combined involvement ratio for fatalities in collisions involving heavy trucks averaged 12.4 per 10,000 heavy trucks registered. This data is presented in Figure 3.

Figure 3. Fatalities per 10,000 Heavy Trucks Registered in Canada 1994-1998



Fatalities and injuries are presented on an annual basis for 1994-1998 and five-year average in the Appendix, Table A5.

Single-Vehicle Collisions

The number of heavy trucks in single-vehicle collisions, presented in Table 5, averaged 8,625: 69 trucks (0.8 percent) in fatal crashes, 1,476 (17.1 percent) in personal injury and 7,079 (82.1 percent) in single-vehicle property damage collisions. As a percentage of all heavy trucks in collisions, those involved in single-vehicle crashes represented 14 percent in fatal collisions, 17 percent in personal injury, 19 percent in property damage, and in total – a combined percentage of 18.7 percent of all heavy trucks (vehicles) in collisions. As a percentage of all vehicles involved in single-vehicle crashes, heavy trucks accounted for 5 and 6 percent of fatal and property damage crashes, respectively, and a much lower 3 percent of all vehicles in personal injury collisions. In single-vehicle collisions, the casualties were the vehicle occupant(s) and/or a pedestrian(s).

In terms of percentage changes over the period, all single-vehicle fatal collisions involving heavy trucks decreased by 8 percent. These collisions involving straight trucks decreased 6.5 percent from 1994 to 1998, while those involving tractor-trailers decreased 9.3 percent in comparison. Single-vehicle fatal and personal injury collisions involving tractor-trailers decreased throughout most of the period, however both increased significantly in 1997 over 1996, and then decreased again in 1998. Single-vehicle property damage collisions involving straight trucks and tractor-trailers decreased 8.3 percent and 2.5 percent, respectively, over the period.

Single-vehicle fatal collisions involving straight trucks, on average, occurred most frequently where the road alignment was reported as “*straight and level*” (68 percent), followed by “*straight and gradient*” (16 percent), “*curved and level*” (9 percent) and “*curved and gradient*” (8 percent). Most single-vehicle fatal collisions involving straight trucks happened where road surface condition was reported as “*dry*” (67 percent), compared to “*wet*”, “*slippery*”, “*ice*” and “*snow*” (in descending order) which contributed to 28 percent. The posted speed limits at these collision sites were most often 50-70 km/h (45 percent), 80-90 km/h (24 percent) and 100 km/h or greater (14 percent).

The majority of these collisions (56 percent) occurred while the vehicle was “going straight ahead”, followed by “reversing” (23 percent) and “turning left or right” (12 percent). On average, 25 percent of single-vehicle collisions involving straight trucks occurred between 9:00 a.m. and noon, followed by 3:00 p.m. to 6:00 p.m. (23 percent), and then noon to 3:00 p.m. (16 percent). In other words, most of these collisions happened during the day from 6:00 a.m. to 6 p.m. Only 27 percent, on average, occurred between 6:00 in the evening and 6:00 in the morning.

On average, single-vehicle fatal collisions involving tractor-trailers occurred most frequently where the road alignment was reported as “straight and level” (47 percent), followed by “curved and gradient” (20 percent), “straight and gradient” (15 percent), and “curved and level” (12 percent). Most single-vehicle fatal collisions happened where road surface condition was reported as “dry” (69 percent), compared to “wet”, “snow”, and “ice” (in descending order) which amounted to 23 percent. The posted speed limits at the collision sites were most often 80-90 km/h (38 percent), 100 km/h or greater (28 percent) and 50-60 km/h (25 percent). Most of these collisions (76 percent) occurred while the vehicle was “going straight ahead”, followed by “turning left or right” (6 percent) and “reversing” (5 percent).

Table 5 shows single-vehicle collisions involving heavy trucks by collision severity, by year and the five-year average. The table shows that tractor-trailers were involved in single-vehicle collisions more often than straight trucks.

Table 5. Heavy Trucks Involved in Single-Vehicle Collisions by Collision Severity 1994-1998 and Average

Collision Severity Vehicle Type	Year					5-Year Average
	1994	1995	1996	1997	1998	
Fatal						
Straight Trucks > 4 536 kg	31	29	29	25	29	29
Tractor-Trailers	43	39	36	47	39	41
Total Heavy Trucks	74	68	65	72	68	69
Personal Injury						
Straight Trucks > 4 536 kg	684	696	709	719	694	700
Tractor-Trailers	827	780	678	802	793	776
Total Heavy Trucks	1,511	1,476	1,387	1,521	1,487	1,476
Property Damage						
Straight Trucks > 4 536 kg	3,219	3,258	3,102	3,121	2,952	3,130
Tractor-Trailers	4,046	4,077	3,717	3,959	3,946	3,949
Total Heavy Trucks	7,265	7,335	6,819	7,080	6,898	7,079
Total						
Straight Trucks > 4 536 kg	3,934	3,983	3,840	3,865	3,675	3,859
Tractor-Trailers	4,916	4,896	4,431	4,808	4,778	4,766
Total Heavy Vehicles	8,850	8,879	8,271	8,673	8,453	8,625

Drivers of Heavy Trucks

The drivers of straight trucks and tractor-trailers were reviewed in terms of age and province of driver’s license. Drivers of other vehicles involved in collisions with heavy trucks were not reviewed in terms of age, but were reviewed in the next section involving contributing factors.

The greatest percentage of drivers of straight trucks and tractor-trailers involved in collisions, regardless of collision severity, was in the age-group 25-44 years, which captured 56 percent of drivers involved in fatal and personal injury collisions and 54 percent of drivers involved in property damage crashes. The next largest age group of straight truck drivers involved was 45-54 years (18.5 percent in fatal crashes, and 16 percent in both injury and property damage collisions). From 1994-1998, the oldest drivers of straight trucks in fatal collisions numbered three and fell into the age group of 75-84 years. In personal injury collisions (4) and property damage crashes (49), the oldest drivers involved were over 84 years of age.

The greatest number of drivers of tractor-trailers (in percentage terms) to be involved in collisions were in the age group 35-44 years at 31 percent, 29 percent and 27 percent in fatal, personal injury and property damage collisions, respectively. The next largest involvements of drivers were in the 25-34 years of age group ranging from 26 to 29 percent and then in the age group 45-54 years. The sum of the three age groups accounted for 82 percent of drivers of these vehicles in fatal collisions and 77 percent and 71 percent in injury and property damage crashes, respectively. The oldest drivers of tractor-trailers in fatal collisions numbered nine in the age group 65-74 years. Drivers over the age of 84 were involved in three injury collisions and 37 property damage collisions over the five-year period.

With the introduction of free trade, an increase in the number of heavy trucks using Canadian roads was expected due to increased cross-border traffic. The number of collisions involving drivers with the province of driver's license coded as "US", indicating a driver with a State issued license, does not reflect the increased traffic resulting from NAFTA. In fatal collisions involving drivers of heavy trucks with a province of license coded "US", the number of drivers involved decreased from a high of 20 in 1994 to 6 in 1998. In personal injury collisions, the number of drivers of heavy trucks with a province of license coded "US", decreased from 201 in 1994 to 93 in 1998.

Contributing factors

As stated in the introduction to this report, the cause of a collision cannot be determined through the use of TRRID. This section is intended to present some of the factors contributing to the collisions as recorded on the collision report by the reporting officer. Contributing factors are coded into four categories: driver condition, driver action, vehicle condition and environmental conditions. Vehicle condition or defects at the time of the collision may be under-reported.

This section focuses on the drivers involved – those factors relating to driver condition and driver action for all drivers of tractor-trailers and straight trucks (> 4 536 kg) in fatal collisions involving two or more vehicles, and those drivers of automobiles, light trucks and vans in fatal collisions involving heavy trucks. In the collision reports, more than one driver action/condition may have been recorded for the same driver. The contributing factors are presented for Canada excluding Quebec. Although contributing factors are collected on the collision reports for Quebec, the factors are not linked to a particular driver or vehicle and, as such, they cannot be included in TRRID.

Of the 729 straight trucks in fatal collisions involving two or more vehicles, the driver condition was recorded as "*other than apparently normal*" for 40 drivers over the five-year period, 1994-1998. The driver condition was recorded as "*other than apparently normal*" for 48 drivers of the 1,385 tractor-trailers in fatal collisions involving two or more vehicles. In these fatal heavy truck collisions involving more than one vehicle, 2,436 other vehicles were involved – approximately 90 percent of which were automobiles, light trucks and vans. Of these passenger vehicles, 374 drivers were coded as having a driver condition "*other than apparently normal*" compared to a total of 88 drivers of heavy trucks, as shown in Table A6 of the Appendix

Drivers of heavy trucks accounted for less than 20 percent of all drivers in these collisions where the driver condition was reported as “*other than apparently normal*”. The most frequently recorded driver condition for drivers of heavy trucks was “*Inattention*” with 23 and 34 recorded for drivers of straight trucks and tractor-trailers, respectively. The next most frequently recorded driver conditions for drivers of tractor-trailers were “*Fatigue/Fell Asleep*” at 8 times followed by “*Been Drinking/Impaired: Alcohol*” at 6 times. Drivers of automobiles, light trucks and vans in these collisions were recorded most frequently for ‘*Inattention*’ at 126 times, followed by “*Been Drinking and Impaired: Alcohol*” at 85 and 86 times, respectively, and “*Fatigue/Fell Asleep*” at 40 times. Drivers of automobiles, light trucks and vans were recorded as having a driver condition “*other than apparently normal*” 4.25 times more frequently than the drivers of heavy trucks in these collisions.

Only the drivers involved in fatal collisions were reviewed in terms of contributing factors since each record was reviewed manually. Where two or more related factors were coded for the same driver, for example, “*Been Drinking and Impaired: Alcohol*”, only the more serious value “*Impaired Alcohol*” was counted in the table. There were too many drivers involved in injury collisions to even consider carrying out the same exercise manually.

Figure 4. Drivers in Fatal Collisions Involving Heavy Trucks Where Driver Condition Was Recorded as “Other Than Apparently Normal” 1994-1998

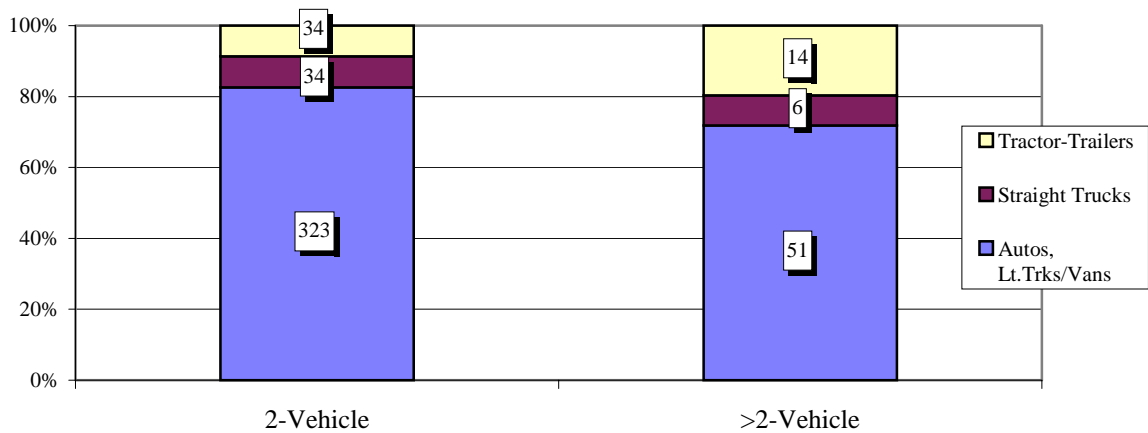
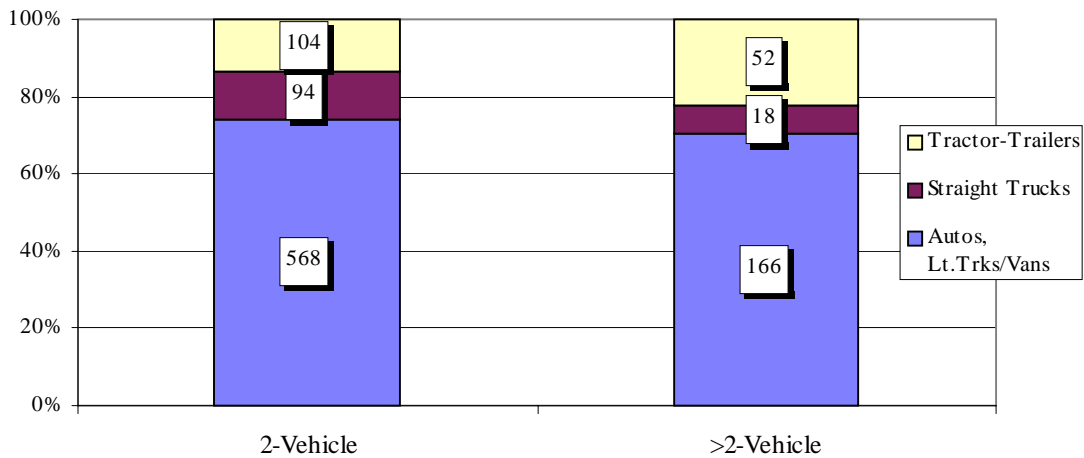


Figure 4 shows the comparison of driver condition of drivers in fatal heavy truck collisions involving two vehicles and more than two vehicles for straight trucks, tractor-trailers and automobiles, light trucks and vans. The chart displays the percentage shares and the numbers of drivers of each vehicle type where driver condition was recorded as “*other than apparently normal*”.

Over the five-year period, in fatal heavy truck collisions involving more than one vehicle, driver action was recorded as “*other than driving properly*” for 112 and 156 drivers of straight trucks and tractor-trailers, respectively, and 734 drivers of automobiles, light trucks and vans. The most frequently recorded driver actions for drivers of heavy trucks were “*Drove Too Fast for Conditions*” (62 drivers), “*Disobeyed Traffic Control*” (55 drivers), “*Failed to Yield Right-of-Way*” (41 drivers) and “*Drove in Wrong Direction*” (37 drivers). For drivers of automobiles, light trucks and vans, driver actions were recorded most frequently for “*Drove Too Fast for Conditions*” (138 drivers), “*Failed to Yield Right-of-Way*” (129 drivers), “*Drove in the Wrong Direction*” (119 drivers) and “*Disobeyed Traffic Control*” (112 drivers).

Figure 5 shows the comparison of driver actions of drivers in fatal heavy truck collisions involving two vehicles and more than two vehicles for straight trucks, tractor-trailers and automobiles, light trucks and vans. The chart displays the percentage shares of drivers of each vehicle type where driver action was recorded as “*other than driving properly*”.

Figure 5. Drivers in Fatal Collisions Involving Heavy Trucks Where Driver Action Was Recorded as “Other Than Driving Properly” 1994-1998



In the Appendix, Table A6 displays the driver conditions and driver actions for drivers of these vehicles in fatal collisions where these data elements were recorded as “*other than apparently normal*” or “*other than driving properly*”.

Conclusions

This report contains most of the statistics available on collisions involving heavy trucks and the data are presented as fairly as possible and without bias toward a particular road user group. Overall, collisions involving heavy trucks, the number of vehicles involved in these collisions, and the victims of collisions involving heavy trucks have decreased slightly over the five-year period.

Recently, the Canadian Council of Motor Transport Administrators, in coordination with all levels of government, has set ambitious goals in reducing the number of fatalities and serious injuries in collisions involving commercial vehicles. Since the majority of fatal collisions involving heavy trucks occur during daylight hours, in clear weather conditions and on dry road surfaces, reaching the targets set out as part of *Road Safety Vision 2010* will depend largely on influencing general driver behaviour.

Footnotes:

- 1 The total of collisions involving heavy trucks is not the sum of collisions involving straight trucks and tractor-trailers. (See explanatory note below.)
- 2 A small double count still exists in occupants of other vehicles shown separately for each heavy truck type.

Explanatory Notes:

Fatal and personal injury collisions include all reportable motor vehicle crashes, which result in fatalities or injuries. Property damage only collisions include all reportable collisions with damage exceeding a specified dollar amount, generally \$1000, set by each province or territory, and include police-attended and self-reported collisions. Fatalities include all those who die as a result of involvement in a reportable traffic collision within 30 days of its occurrence, with the exception of Quebec, which is 8 days. Injuries include all those who suffer any visible injury or complain of pain.

The collisions shown for heavy trucks are not the sum of straight trucks and tractor-trailers. If a straight truck and a tractor-trailer were involved in a collision, a collision would be shown under each truck type. Under the category of heavy trucks, that same collision would be counted as one collision. The collisions shown for vehicles other than heavy trucks are those collisions not involving heavy trucks.

The other vehicles involved in collisions with heavy trucks are not the sum of other vehicles involved with straight trucks and tractor-trailers. If a straight truck, tractor-trailer and other vehicle(s) were involved in a collision, a double count(s) would occur in one of the truck types, and in other vehicles involved in collisions with straight trucks and/or tractor-trailers. Under the category of other vehicles involved with heavy trucks, each vehicle was counted once. Double counts would occur in other vehicles involved in collisions with straight trucks and/or tractor-trailers. All other vehicles in collisions were those not involved in collisions with heavy trucks.

Any double counting of victims between occupants of straight trucks and tractor-trailers were removed, as well as any pedestrians involved in these collisions. If a straight truck and a tractor-trailer were in a collision and the occupants were killed or injured, the occupants of the tractor-trailer would appear under Tractor-Trailer Occupants and not Occupants of Other Vehicles involved in collisions with Straight Truck. Displaying the numbers in this method avoids duplication. Occupants of other vehicles include drivers and passengers of all other vehicles, bicyclists and motorcyclists, as well as the unknown road user class.

The province of driver's license cannot be used in the analysis of provincial data since one province does not report this data element. In most cases, where one province does not report particular data elements, an assumption can be made that the percentage distribution of the data from the other jurisdictions would reflect the national picture. In this case, that assumption would be incorrect. This data element was only used to determine the results of the previous paragraph.

Source:

Transport Canada, Traffic Accident Information Database (TRAID)
Transport Canada, Road Safety Vision 2001, 2000 Update

To find out more about national road safety programs and initiatives, call Transport Canada toll free at **1-800-333-0371** or **(613) 998-8616** if you are calling from the Ottawa area, or e-mail comments or questions to roadsafetywebmail@tc.gc.ca. You can also visit the Transport Canada Web site at www.tc.gc.ca

APPENDIX

Table A1. Number of Collisions Involving Heavy Trucks and Other Vehicles by Collision Severity
1994-1998 and Average

Table A2. Percentage Distribution of Collisions Involving Heavy Trucks by Collision Configuration
1994-1998 Average

Table A3. Vehicles Involved in Heavy Truck and Other Collisions by Collision Severity
1994-1998 and Average

Table A4. Percentage of Vehicles Involved in Collisions with Straight Trucks and Tractor-Trailers
by Vehicle Type 1994-1998 Average

Table A5. Fatalities and Injuries in Collisions involving Heavy Trucks and All Other Vehicles
1994-1998 and Average

Table A6. Drivers in Collisions Involving Heavy Trucks Where Driver Condition was Coded as
Other Than Apparently Normal
Drivers in Collisions Involving Heavy Trucks Where Driver Action was Coded as Other
Than Driving Properly

TABLE A1

**Number of Collisions Involving Heavy Trucks and Other Vehicles by Collision Severity
1994-1998 and Average**

	1994	1995	1996	1997	1998	Average
Fatal Collisions Involving:						
Straight Trucks > 4,536 Kg	192	159	159	168	163	168
Tractor-Trailers	308	314	283	308	269	296
Heavy Trucks	489	465	435	468	423	456
Vehicles other than Heavy Trucks	2,380	2,389	2,273	2,178	2,175	2,279
Total Fatal Collisions	2,869	2,854	2,708	2,646	2,598	2,735
Personal Injury Collisions Involving:						
Straight Trucks > 4,536 Kg	4,707	4,492	4,475	4,497	4,163	4,467
Tractor-Trailers	3,994	3,756	3,652	3,961	3,772	3,827
Heavy Trucks	8,550	8,126	8,022	8,309	7,840	8,169
Vehicles other than Heavy Trucks	158,230	156,064	148,260	141,809	140,536	148,980
Total Injury Collisions	166,780	164,190	156,282	150,118	148,376	157,149
Property Damage Only (PDO) Collisions Involving:						
Straight Trucks > 4,536 Kg	21,014	19,976	19,550	19,998	18,539	19,815
Tractor-Trailers	16,325	15,932	15,298	16,352	15,508	15,883
Heavy Trucks	36,809	35,404	34,363	35,870	33,641	35,217
Vehicles other than Heavy Trucks	468,218	459,975	442,059	430,083	416,538	443,375
Total PDO Collisions	505,027	495,379	476,422	465,953	450,179	478,592
All Collisions Involving:						
Straight Trucks > 4,536 Kg	25,913	24,627	24,184	24,663	22,865	24,450
Tractor-Trailers	20,627	20,002	19,233	20,621	19,549	20,006
Heavy Trucks	45,848	43,995	42,820	44,647	41,904	43,843
Vehicles other than Heavy Trucks	628,828	618,428	592,592	574,070	559,249	594,633
Total All Collisions	674,676	662,423	635,412	618,717	601,153	638,476

Note: The collisions shown for Heavy Trucks are not the sum of Straight Trucks and Tractor-Trailers. If a straight truck and a tractor-trailer were involved in a collision, a collision would be shown under each truck type. Under the category of heavy trucks, that same collision would be counted as one collision. The collisions shown for Vehicles other than Heavy Trucks are those not involving heavy trucks.

TABLE A2

Percentage Distribution of Collisions Involving Heavy Trucks by Collision Configuration
1994-1998 Average

Collision Configuration	Fatal	Personal Injury	Property Damage
2 M.V.: Head-On (& Sideswipes)	35.2	7.3	3.7
2 M.V.: Right Turn	14.0	12.3	6.9
1 M.V.: Hit Object or Person	11.2	12.0	18.3
2 M.V.: Rear-End	10.2	27.1	16.3
Other Configuration/Unknown	9.5	11.0	22.6
2 M.V.: Left Turn Across Traffic	8.3	10.1	8.7
2 M.V.:Sideswipe (Same Direction)	4.7	9.1	14.2
1 M.V.: Ran Off Right Shoulder	2.6	4.5	2.5
1 M.V.: Ran Off Left Shoulder	2.1	3.3	1.6
2 M.V.: Pass on Left of Traffic	1.2	1.6	2.0
2 M.V.: Pass on Right of Traffic	0.9	1.8	3.3
Total	100.0	100.0	100.0

Percentage Distribution of Collisions Involving Straight Trucks by Collision Configuration
1994-1998 Average

Collision Configuration	Fatal	Personal Injury	Property Damage
2 M.V.: Head-On (& Sideswipes)	28.5	6.1	3.6
2 M.V.: Right Turn	16.9	14.3	8.4
1 M.V.: Hit Object or Person	12.6	11.0	16.1
2 M.V.: Left Turn Across Traffic	11.0	10.9	8.9
Other Configuration/Unknown	10.6	11.8	25.8
2 M.V.: Rear-End	10.0	30.8	18.4
2 M.V.:Sideswipe (Same Direction)	4.3	6.1	11.0
1 M.V.: Ran Off Right Shoulder	1.6	3.2	1.9
2 M.V.: Pass on Left of Traffic	1.6	1.6	1.9
1 M.V.: Ran Off Left Shoulder	1.4	2.4	1.2
2 M.V.: Pass on Right of Traffic	1.4	1.6	2.9
Total	100.0	100.0	100.0

Percentage Distribution of Collisions Involving Tractor-Trailers by Collision Configuration
1994-1998 Average

Collision Configuration	Fatal	Personal Injury	Property Damage
2 M.V.: Head-On (& Sideswipes)	38.9	8.7	4.0
2 M.V.: Right Turn	12.3	9.9	5.2
2 M.V.: Rear-End	10.7	23.3	14.1
1 M.V.: Hit Object or Person	10.2	12.8	20.6
Other Configuration/Unknown	8.8	10.2	18.7
2 M.V.: Left Turn Across Traffic	6.9	9.0	8.5
2 M.V.:Sideswipe (Same Direction)	4.9	12.6	17.9
1 M.V.: Ran Off Right Shoulder	3.1	5.8	3.3
1 M.V.: Ran Off Left Shoulder	2.4	4.3	2.0
2 M.V.: Pass on Left of Traffic	1.0	1.5	2.1
2 M.V.: Pass on Right of Traffic	0.6	2.0	3.7
Total	100.0	100.0	100.0

TABLE A3

**Vehicles Involved in Heavy Truck and Other Collisions by Collision Severity
1994-1998 and Average**

Collision Severity Vehicles Involved	Year					Average
	1994	1995	1996	1997	1998	
Fatal Collisions						
Straight Trucks > 4,536 kg	197	163	167	179	166	174
Other Vehs Inv. with Straight Trucks	230	164	161	184	168	181
Total Vehs Inv. with Straight Trucks	427	327	328	363	334	356
Tractor-Trailers	328	346	294	335	286	318
Other Vehs Inv. with Tractor-Trailers	369	375	302	306	276	326
Total Vehs Inv. with Tractor-Trailers	697	721	596	641	562	643
Heavy Trucks	525	509	461	514	452	492
Other Vehs Inv. with Heavy Trucks	542	513	440	463	419	475
Total Vehs Inv. with Heavy Trucks	1,067	1,022	901	977	871	968
All Other Vehicles in Collisions	3,665	3,657	3,495	3,300	3,312	3,486
Total - All Vehicles Involved	4,732	4,679	4,396	4,277	4,183	4,453
Personal Injury Collisions						
Straight Trucks > 4,536 kg	4,871	4,625	4,642	4,652	4,295	4,617
Other Vehs Inv. with Straight Trucks	5,015	4,833	4,715	4,798	4,354	4,743
Total Vehs Inv. with Straight Trucks	9,886	9,458	9,357	9,450	8,649	9,360
Tractor-Trailers	4,201	3,943	3,869	4,182	3,974	4,034
Other Vehs Inv. with Tractor-Trailers	3,939	3,755	3,657	3,980	3,555	3,777
Total Vehs Inv. with Tractor-Trailers	8,140	7,698	7,526	8,162	7,529	7,811
Heavy Trucks	9,072	8,568	8,511	8,834	8,269	8,651
Other Vehs Inv. with Heavy Trucks	8,459	8,187	8,038	8,301	7,637	8,124
Total Vehs Inv. with Heavy Trucks	17,531	16,755	16,549	17,135	15,906	16,775
All Other Vehicles in Collisions	287,544	283,104	268,533	257,235	255,924	270,468
Total - All Vehicles Involved	305,075	299,859	285,082	274,370	271,830	287,243
Property Damage Only Collisions						
Straight Trucks > 4,536 kg	21,711	20,654	20,211	20,702	19,176	20,491
Other Vehs Inv. with Straight Trucks	18,742	17,438	17,356	17,567	16,249	17,470
Total Vehs Inv. with Straight Trucks	40,453	38,092	37,567	38,269	35,425	37,961
Tractor-Trailers	17,092	16,636	15,983	17,066	16,247	16,605
Other Vehs Inv. with Tractor-Trailers	12,808	12,209	12,058	12,841	11,845	12,352
Total Vehs Inv. with Tractor-Trailers	29,900	28,845	28,041	29,907	28,092	28,957
Heavy Trucks	38,803	37,290	36,194	37,768	35,423	37,096
Other Vehs Inv. with Heavy Trucks	30,351	28,537	28,302	29,357	27,188	28,747
Total Vehs Inv. with Heavy Trucks	69,154	65,827	64,496	67,125	62,611	65,843
All Other Vehicles in Collisions	847,973	827,019	794,208	772,721	753,479	799,080
Total - All Vehicles Involved	917,127	892,846	858,704	839,846	816,090	864,923
All Collisions						
Straight Trucks > 4,536 kg	26,779	25,442	25,020	25,533	23,637	25,282
Other Vehs Inv. with Straight Trucks	23,987	22,435	22,232	22,549	20,771	22,395
Total Vehs Inv. with Straight Trucks	50,766	47,877	47,252	48,082	44,408	47,677
Tractor-Trailers	21,621	20,925	20,146	21,583	20,507	20,956
Other Vehs Inv. with Tractor-Trailers	17,116	16,339	16,017	17,127	15,676	16,455
Total Vehs Inv. with Tractor-Trailers	38,737	37,264	36,163	38,710	36,183	37,411
Heavy Trucks	48,400	46,367	45,166	47,116	44,144	46,239
Other Vehs Inv. with Heavy Trucks	39,352	37,237	36,780	38,121	35,244	37,347
Total Vehs Inv. with Heavy Trucks	87,752	83,604	81,946	85,237	79,388	83,585
All Other Vehicles in Collisions	1,139,182	1,113,780	1,066,236	1,033,256	1,012,715	1,073,034
Total - All Vehicles Involved	1,226,934	1,197,384	1,148,182	1,118,493	1,092,103	1,156,619

TABLE A4

**Average Percentage of Other Vehicles Involved in Collisions with Straight Trucks
By Vehicle Type 1994-1998**

Vehicle Type	Fatal	Personal Injury	Property Damage	Total Vehicles
Automobiles	60.9	70.3	72.4	71.8
Light Trucks & Vans	21.3	20.5	20.2	20.3
Buses	0.3	1.0	0.9	0.9
Motorcycles/Mopeds	3.3	1.0	0.2	0.4
Tractor-Trailers	6.0	2.9	2.8	2.9
Bicycles	3.6	2.1	0.0	0.5
Other	4.6	2.2	3.4	3.2
Total Other Vehicles Involved	100.0	100.0	100.0	100.0

**Average Percentage of Other Vehicles Involved in Collisions with Tractor-Trailers
By Vehicle Type 1994-1998**

Vehicle Type	Fatal	Personal Injury	Property Damage	Total Vehicles
Automobiles	64.0	68.7	71.1	70.4
Light Trucks & Vans	25.8	22.8	20.7	21.3
Buses	0.6	0.7	0.6	0.6
Motorcycles/Mopeds	1.4	0.7	0.1	0.3
Straight Trucks	2.8	3.4	4.0	3.8
Bicycles	1.6	1.0	0.0	0.3
Other	3.9	2.7	3.4	3.3
Total Other Vehicles Involved	100.0	100.0	100.0	100.0

TABLE A5

**Fatalities in Collisions Involving Heavy Trucks and All Other Vehicles,
1994-1998 and Average**

Collisions Involving:	1994	1995	1996	1997	1998	Average
Straight Truck > 4,536 kg						
Occupants	40	25	25	18	28	27
Occupants of Other Vehicles	171	134	129	148	140	144
Pedestrians	22	16	25	20	19	20
All Victims	233	175	179	186	187	192
Tractor-Trailers						
Occupants	34	38	33	47	38	38
Occupants of Other Vehicles	304	342	291	326	258	304
Pedestrians	26	26	22	27	23	25
All Victims	364	406	346	400	319	367
Heavy Trucks						
Occupants	74	63	58	65	66	65
Occupants of Other Vehicles	470	466	415	471	397	444
Pedestrians	48	42	47	47	42	45
All Victims	592	571	520	583	505	554
All Other Vehicles						
Occupants	2,290	2,406	2,153	2,126	2,069	2,209
Pedestrians	381	374	418	355	360	378
All Victims	2,671	2,780	2,571	2,481	2,429	2,586
All Victims of All Collisions	3,263	3,351	3,091	3,064	2,934	3,140

**Injuries in Collisions Involving Heavy Trucks and All Other Vehicles,
1994-1998 and Average**

Collisions Involving:	1994	1995	1996	1997	1998	Average
Straight Truck > 4,536 kg						
Occupants	1,633	1,577	1,561	1,622	1,460	1,571
Occupants of Other Vehicles	4,932	4,732	4,564	4,490	4,225	4,589
Pedestrians	250	213	245	235	221	233
All Victims	6,815	6,522	6,370	6,347	5,906	6,392
Tractor-Trailers						
Occupants	1,411	1,401	1,289	1,451	1,395	1,389
Occupants of Other Vehicles	4,235	4,106	4,019	4,121	3,808	4,058
Pedestrians	99	80	69	97	65	82
All Victims	5,745	5,587	5,377	5,669	5,268	5,529
Heavy Trucks						
Occupants	3,044	2,978	2,850	3,073	2,855	2,960
Occupants of Other Vehicles	9,055	8,747	8,535	8,540	7,987	8,573
Pedestrians	349	293	314	332	286	315
All Victims	12,448	12,018	11,699	11,945	11,128	11,848
All Other Vehicles						
Occupants	217,971	215,322	205,050	195,646	193,497	205,497
Pedestrians	14,691	14,595	14,141	13,758	13,129	14,063
All Victims	232,662	229,917	219,191	209,404	206,626	219,560
All Victims of All Collisions	245,110	241,935	230,890	221,349	217,754	231,408

Note: Occupants of other vehicles includes drivers and passengers of all other vehicles, bicyclists and motorcyclists, as well as the unknown road user class.

Totals may not add due to rounding.

TABLE A6

**Number of Drivers in Fatal Collisions Involving Heavy Trucks Where Driver Condition
was Coded as Other Than Normal, Canada Excluding Quebec 1994 - 1998**

Driver Condition	Straight Trucks		Tractor-Trailers		Automobiles, Light Trucks & Vans	
	2-Vehicle Collision	>2-Vehicle Collision	2-Vehicle Collision	>2-Vehicle Collision	2-Vehicle Collision	>2-Vehicle Collision
Been Drinking	1	1	3	1	78	7
Fatigue	2	0	4	3	24	3
Fell Asleep	1	0	1	0	10	3
Impaired: Alcohol	6	1	1	1	74	12
Impaired:Other	0	2	0	0	9	1
Inattention	22	1	25	9	105	21
Inexperience	1	1	0	0	11	1
Lost Consciousness	1	0	0	0	5	0
Medical/Physical Disability	0	0	0	0	4	3
Sudden Illness	0	0	0	0	3	0
Suicide Attempt	0	0	0	0	0	0
Total	34	6	34	14	323	51

**Number of Drivers in Fatal Collisions Involving Heavy Trucks Where Driver Action
was Coded as Other Than Driving Properly, Canada Excluding Quebec 1994 - 1998**

Driver Action	Straight Trucks		Tractor-Trailers		Automobiles, Light Trucks & Vans	
	2-Vehicle Collision	>2-Vehicle Collision	2-Vehicle Collision	>2-Vehicle Collision	2-Vehicle Collision	>2-Vehicle Collision
Disobeyed Traffic Control	29	5	18	3	102	10
Drove in Wrong Direction	19	0	14	4	109	10
Exceeded Speed Limit	3	1	6	5	21	10
Failed to Yield Right-of-Way	22	0	19	0	114	15
Drove Too Fast for Conditions	8	6	25	23	75	63
Followed Too Closely	1	2	6	8	15	9
Made Improper Lane Change	4	1	1	3	51	20
Lights Not Used	2	0	0	0	0	0
Lost Control	2	3	11	5	55	27
Turned Improperly	4	0	4	1	26	2
Total	94	18	104	52	568	166

© Minister of Public Works and Government Services, represented by the Minister of Transport, 2001.

This publication may be reproduced without permission provided that its use is solely for the purposes of private study, research, criticism, review or newspaper summary and the source is fully acknowledged.