

Section 5

Environment and safety

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Commentary

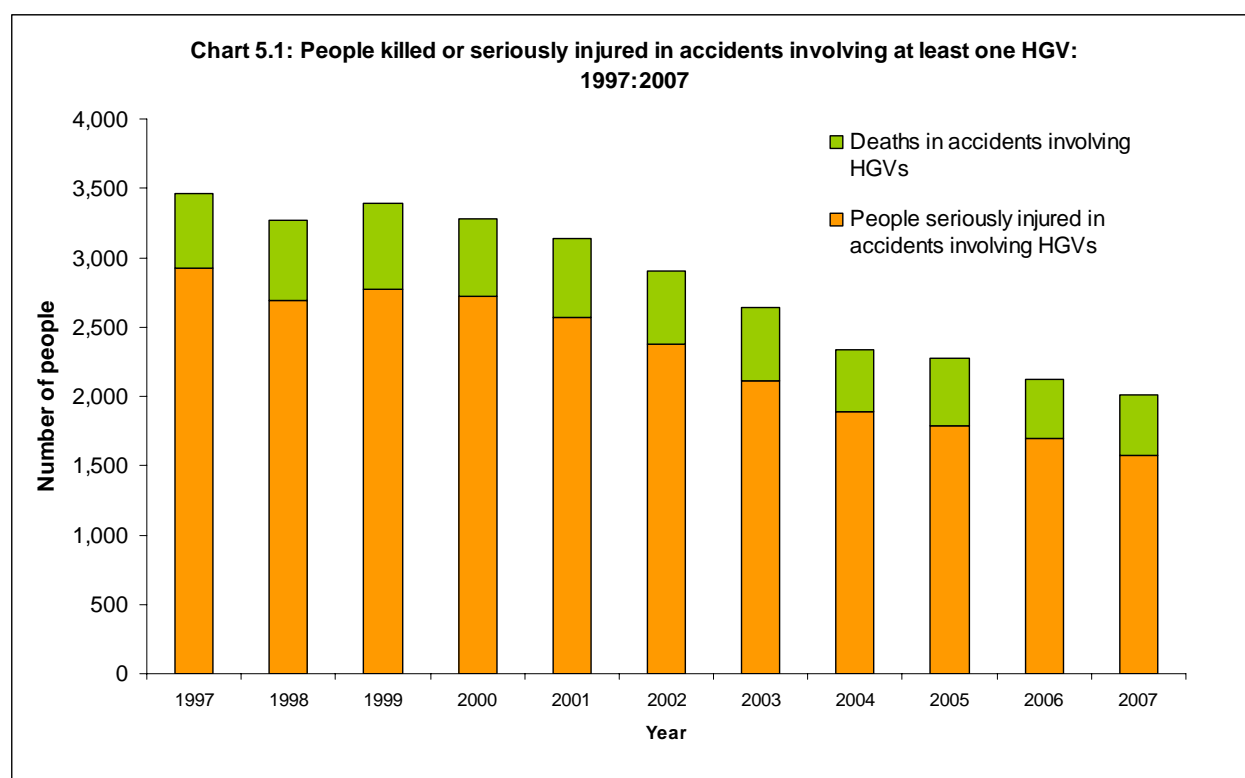
5.1 Environment

Table 5.1 shows the fuel consumption for the various types of road freight vehicle. In 2007 rigid vehicles travelled on average 9.4 miles per gallon (mpg) whilst articulated vehicles travelled 8.0 mpg. Both of these figures are slightly lower than the 2006 figures (9.7 mpg and 8.1 mpg respectively). Compared to ten years ago, rigid vehicles travel 0.6 miles less per gallon whereas artic vehicles travel 0.3 miles further per gallon of fuel.

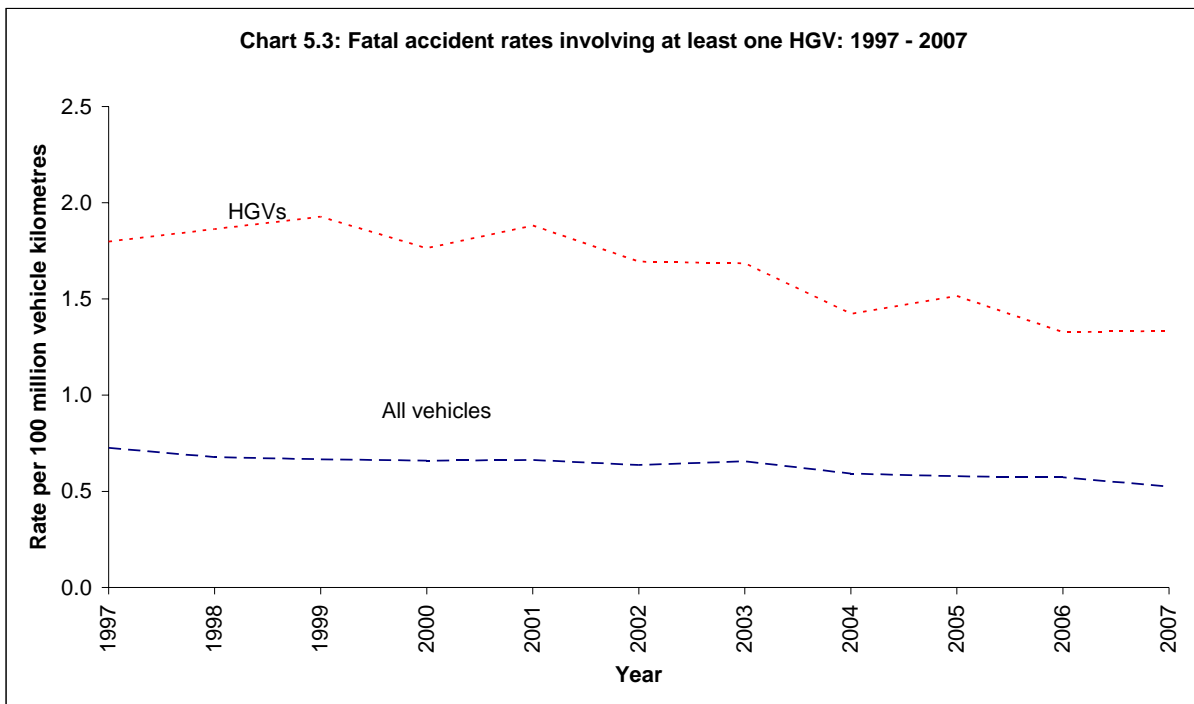
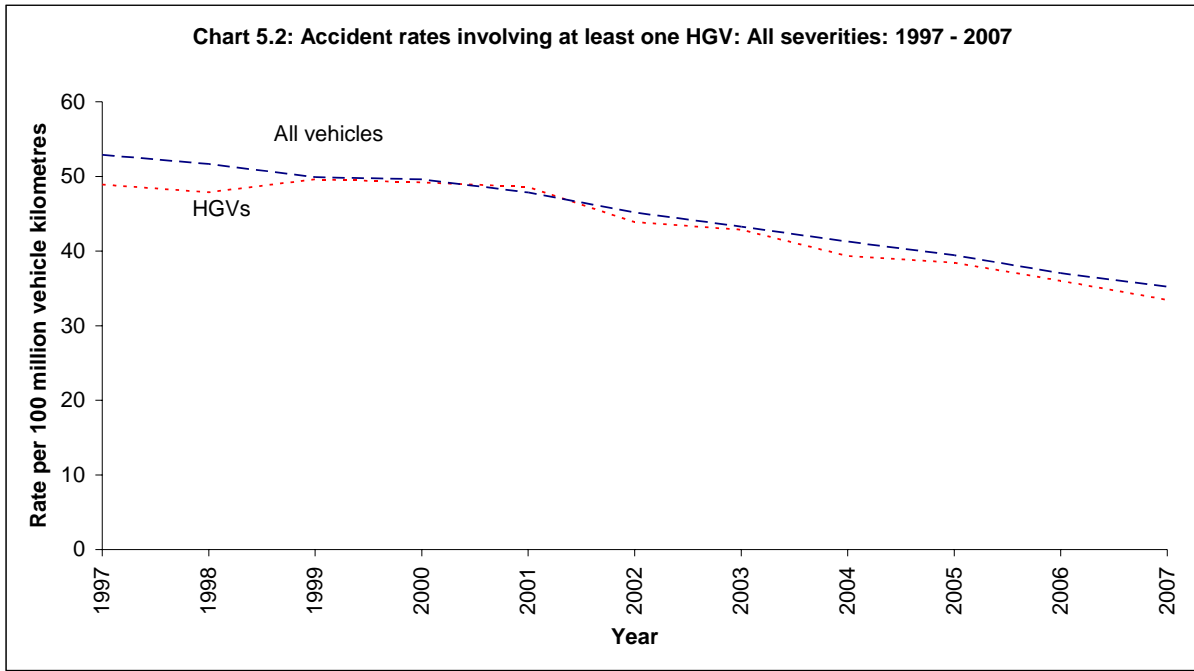
Table 5.2 shows that greenhouse gas emissions from road freight transport rose by 2.5 per cent between 1996 and 2006. However, this is lower than the 5.8 per cent increase in the amount of goods moved and the 11.4 per cent increase in goods lifted over the same period. The emissions in 2006 were 7.4 per cent lower than their peak in 2003.

5.2 Safety on the road

Over the period 1997 to 2007 there was a 42 per cent reduction, to 2,009, in the number of people killed or seriously injured in reported personal injury road accidents involving at least one HGV. The number of fatalities fell by 19 per cent over the same period to 435. (**Chart 5.1**)



Between 1997 and 2007 accident rates for 'all severities of accident involving at least one HGV' fell from 48.9 per 100 million vehicle kilometres to 33.5. This is in line with trends observed for all vehicles where, over the same period, the rate fell from 52.9 to 35.2 per 100 million vehicle kilometres travelled. For the same period the 'fatal accident rate involving at least one HGV' fell from 1.8 per 100 million vehicle kilometres to 1.3 per 100 million vehicle kilometres.



76 per cent of casualties resulting from ‘accidents involving at least one HGV’ occurred on motorways or A roads (**Table 5.5**). This figure rises to 81 per cent for fatalities. For all road casualties the figures are 51 per cent (all casualties) and 61 per cent (fatalities).

5.3 Safety in the workplace

Table 5.6 shows that the majority of reported fatal injuries in 2007 in the road freight industry were due to being hit by a falling or moving object or being hit by a moving vehicle (10 out of 17). The pattern is different for major reported injuries though with slips or trips and falls from height accounting for half of them.

Data Tables

Table 5.1: Fuel consumption by HGV vehicle type in Great Britain: 1989 - 2007

	Rigids						Miles per gallon		
	Over 3.5t to 7.5t	Over 7.5t to 14t	Over 14t to 17t	Over 17t to 25t	Over 25	All rigids	Artics		
							Over 3.5t to 33t	Over 33	All artics
1989	13.3	10.5	8.9	6.6	6.4	8.1	7.2	6.5	6.8
1990	12.6	10.5	9.2	6.4	6.2	8.0	7.2	6.6	6.8
1991	12.2	10.6	8.9	6.7	6.2	8.1	7.3	6.6	7.0
1992	12.4	10.4	8.8	6.7	6.0	7.9	7.3	6.7	6.9
1993 R	12.7	10.7	9.4	7.1	6.6	9.7	7.8	7.0	7.2
1994 R	13.2	10.9	9.3	7.1	6.5	9.9	8.0	7.1	7.4
1995 R	12.7	11.1	9.4	7.3	6.7	9.8	7.9	7.4	7.5
1996 R	13.1	11.0	9.5	7.2	6.8	9.9	8.2	7.5	7.6
1997 R	12.8	11.3	9.8	7.3	6.8	10.0	8.3	7.5	7.7
1998 R	13.2	12.0	10.2	7.9	7.0	10.4	8.4	7.9	8.0
1999 R	13.0	11.1	10.5	8.2	7.0	10.3	8.8	7.8	8.0
2000 R	13.4	11.6	9.6	8.6	6.7	10.1	8.8	7.8	8.0
2001 R	12.3	11.0	9.8	9.0	6.6	9.7	8.6	7.6	7.8
2002 R	13.2	11.3	9.7	8.9	6.8	9.8	8.6	7.7	7.8
2003 R	12.6	10.9	9.7	9.1	6.6	9.5	8.6	7.6	7.8
2004 R	13.3	11.0	10.0	9.6	6.6	9.8	9.0	7.9	8.0
2005 R	13.7	11.6	10.1	10.0	6.9	10.0	9.3	8.0	8.2
2006 R	13.7	10.8	9.6	10.0	6.7	9.7	9.0	8.0	8.1
2007 R	13.7	11.4	9.1	9.5	6.7	9.4	8.9	7.9	8.0

¹ As a result of quality improvements and methodological changes, HGV fuel consumption figures for 1993 onwards have been revised. Data for 1992 and earlier years are not comparable with the revised series.

Source: Continuing Survey of Road Goods Transport, DfT

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✉ roadfreight.stats@dft.gsi.gov.uk

Table 5.2: Greenhouse gas emissions from road freight transport: United Kingdom¹: 1996 - 2006

Year	Total greenhouse gases	Weight in thousand tonnes of carbon dioxide equivalent				
		Total greenhouse gases made up of ^{2,3}				
		Carbon dioxide	Methane	Nitrous oxide	Hydro-flouro carbons	Perfluorocarbons
1996	18,621	18,400	39.7	178.1	2.9	-
1997	19,125	18,896	38.4	186.3	4.3	-
1998	19,506	19,264	37.9	198.4	6.2	0.1
1999	19,881	19,635	36.3	201.5	8.3	0.1
2000	19,998	19,747	35.1	204.5	11.2	0.1
2001	20,614	20,309	34.5	228.7	41.7	0.1
2002	19,753	19,458	30.5	220.2	43.9	0.0
2003	20,616	20,310	29.4	225.6	51.2	0.0
2004	20,015	19,708	27.5	223.3	56.4	0.0
2005	19,006	18,700	25.5	220.0	60.9	0.0
2006	19,089	18,781	24.6	219.6	63.6	0.0

1 Data presented here are based on a UK residents basis, as opposed to fuel purchases in the UK. This means they are based on people residing in the UK and UK-registered businesses

2 For definitions of the greenhouse gases see Annex 1 of UK Environmental Accounts 2008:

http://www.statistics.gov.uk/downloads/theme_environment/EA_J

3 Data for the road freight industry and other industries (1990-2006) are available here: <http://www.statistics.gov.uk/statbase/Expodata/Spreadsheets/D5695.xls>

Source: AEA Energy & Environment, ONS

✉ environment.accounts@ons.gsi.gov.uk

Table 5.3: Number of accidents and casualties involving at least one HGV, and HGV traffic GB: 1979-2007

Year	Casualties resulting from accidents involving HGVs							HGV Traffic ¹
	Accidents	Fatalities	Serious injuries	KSI	Slight injuries	All casualties	Fatalities/KSI percentage	
1979	16,471	1,063	5,878	6,941	15,403	22,344	15.3	20
1980	14,117	859	5,119	5,978	13,283	19,261	14.4	20
1981	13,283	851	4,919	5,770	12,626	18,396	14.7	19
1982	13,307	875	4,816	5,691	12,427	18,118	15.4	18
1983	12,328	811	4,244	5,055	11,635	16,690	16.0	19
1984	12,950	876	4,476	5,352	12,385	17,737	16.4	20
1985	13,073	811	4,331	5,142	12,955	18,097	15.8	20
1986	13,435	908	4,396	5,304	13,153	18,457	17.1	20
1987	13,642	910	4,380	5,290	13,778	19,068	17.2	22
1988	14,775	900	4,655	5,555	14,882	20,437	16.2	24
1989	16,107	989	4,780	5,769	16,846	22,615	17.1	25
1990	15,063	885	4,268	5,153	15,776	20,929	17.2	25
1991	13,622	782	3,645	4,427	14,971	19,398	17.7	25
1992	13,020	742	3,387	4,129	14,349	18,478	18.0	24
1993	13,174	699	3,198	3,897	14,759	18,656	17.9	24
1994	13,184	620	3,284	3,904	15,250	19,154	15.9	25
1995	12,618	597	3,031	3,628	14,362	17,990	16.5	25
1996	12,433	580	2,883	3,463	14,273	17,736	16.7	26
1997	13,132	535	2,924	3,459	15,416	18,875	15.5	27
1998	13,278	576	2,692	3,268	15,430	18,698	17.6	28
1999	13,951	620	2,771	3,391	16,409	19,800	18.3	28
2000	13,894	560	2,719	3,279	16,514	19,793	17.1	28
2001	13,631	575	2,564	3,139	16,020	19,159	18.3	28
2002	12,427	532	2,374	2,906	14,506	17,412	18.3	28
2003	12,205	528	2,111	2,639	14,513	17,152	20.0	28
2004	11,542	449	1,884	2,333	13,813	16,146	19.2	29
2005	11,162	486	1,785	2,271	13,475	15,746	21.4	29
2006	10,466	419	1,700	2,119	12,420	14,539	19.8	29
2007	9,829	435	1,574	2,009	11,699	13,708	21.7	29

1 Billion vehicle kilometres

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Note: The above figures include accidents involving foreign-registered HGVs

✉ roadacc.stats@dft.gsi.gov.uk

Table 5.4: Accident rates for HGVs: All severities and fatalities

Year	Rate per 100 million vehicle kilometres			
	All severities		Fatal	
	HGVs	All vehicles	HGVs	All vehicles
1997	48.9	52.9	1.8	0.7
1998	47.9	51.7	1.9	0.7
1999	49.6	49.9	1.9	0.7
2000	49.2	49.6	1.8	0.7
2001	48.6	47.8	1.9	0.7
2002	43.9	45.2	1.7	0.6
2003	42.8	43.2	1.7	0.7
2004	39.3	41.2	1.4	0.6
2005	38.4	39.4	1.5	0.6
2006	36.0	37.0	1.3	0.6
2007	33.5	35.2	1.3	0.5

Note: The above figures include accidents involving foreign-registered HGVs

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✉ roadacc.stats@dft.gsi.gov.uk

Table 5.5: Casualties in accidents involving HGVs, by road class: GB 2007

Road type	Number of casualties	
	HGV	All
Motorways		
Killed	75	183
KSI	344	1,253
All severities	3,131	12,817
A roads		
Killed	277	1,611
KSI	1,172	14,530
All severities	7,253	113,372
B roads		
Killed	32	454
KSI	177	4,244
All severities	1,146	32,008
Other roads		
Killed	51	698
KSI	316	10,693
All severities	2,178	89,583
All		
Killed	435	2,946
KSI	2,009	30,720
All severities	13,708	247,780

Note: The above figures include accidents involving foreign-registered HGVs

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✉ roadacc.stats@dft.gsi.gov.uk

Table 5.6: Number of reported injuries in the road freight industry¹ by severity²: Great Britain: 2001/02 - 2006/07

Kind of accident	Fatal					
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Contact with moving machinery	0	1	1	0	1	1
Hit by moving, falling object	5	2	4	3	3	5
Hit by moving vehicle	1	7	8	3	2	5
Hit something fixed or stationary	1	2	1	0	0	2
Handling	0	0	0	0	0	0
Slip or trip	0	0	0	0	0	1
Falls from height	2	2	1	4	2	1
Other	1	1	0	1	3	2
Total	10	15	15	11	11	17

Kind of accident	Major³					
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Contact with moving machinery	11	7	9	17	17	21
Hit by moving, falling object	82	103	158	238	223	219
Hit by moving vehicle	36	55	77	107	120	101
Hit something fixed or stationary	28	33	50	85	82	96
Handling	58	90	151	263	281	283
Slip or trip	161	204	268	422	444	497
Falls from height	152	160	246	314	307	307
Other	39	51	57	80	84	76
Total	567	703	1,016	1,526	1,558	1,600

Kind of accident	Over 3 days⁴					
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Contact with moving machinery	23	22	22	53	56	59
Hit by moving, falling object	308	407	600	876	972	955
Hit by moving vehicle	83	110	179	293	278	285
Hit something fixed or stationary	117	166	268	424	512	501
Handling	838	1,226	1,858	3,231	3,740	3,667
Slip or trip	515	616	942	1,317	1,523	1,482
Falls from height	200	194	270	399	407	416
Other	151	153	192	249	326	252
Total	2,235	2,894	4,331	6,842	7,814	7,617

1 As defined by Standard Industrial Classification (SIC) 60249 'freight transport by road'

Source: Health and Safety Executive

✉ Statistics.Request.Team@hse.gsi.gov.uk

2 Each record can only appear in one of the classifications.

3 'Major' injury definition found here:

http://www.opsi.gov.uk/si/si1995/Uksi_19953163_en_3.htm#sdiv1

4 'Over 3 days' defined as an injury which is not major or fatal but results in more than 3 days absence from work.