



Transport Statistics Bulletin

Vehicle Speeds in Great Britain: 2000 Data



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Conversion factors:	1 kilometre = 0.6214 mile	1 tonne = 0.9842 ton
	1 tonne-km = 0.6116 ton-mile	1 gallon = 4.546 litres
	1 billion = 1,000 million	1 litre = 0.220 gallons

Symbols: The following symbols have been used throughout.

..	= not available	.	= not applicable
-	= Negligible (less than half the final digit shown)	0	= Nil
*	= Sample size too small for reliable estimates.	ow	= of which
{	= subsequent data is disaggregated	}	= subsequent data is
aggregated			
	= break in the series	P	= provisional data
F	= forecast expenditure	e	= estimated outturn
n.e.s.	= not elsewhere specified	TSO	= The Stationary Office

VEHICLE SPEEDS IN GREAT BRITAIN

2000

DEPARTMENT FOR TRANSPORT, LOCAL GOVERNMENT AND THE REGIONS
STATISTICS BULLETIN (01)18

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INTRODUCTION

National administrations in England, Scotland and Wales are responsible for setting speed limits on motorways and trunk roads. Local authorities have the power to impose or vary speed limits on principal roads and on all other local roads. In order to monitor the compliance of drivers with these speed limits the Department collects speed data from traffic counting sites around Great Britain.

The Department monitors traffic speeds and traffic levels at about 130 sites throughout Great Britain using automatic traffic counters. These are generally situated away from junctions, hills or sharp bends, at locations where traffic is likely to be free flowing. Thus in principle they provide information on the speeds at which drivers choose to travel when their behaviour is not constrained by congestion or other road conditions. Any sites affected by long term road works are excluded. Of course incidents or congested conditions may arise at any site, and when this happens it will reduce speeds below those in free flowing conditions. This is not believed to have a significant effect on the figures published in this bulletin.

The sample of locations is small and may not accurately reflect the national picture. The results should therefore be treated with some caution.

SUMMARY OF KEY POINTS FROM ANALYSIS OF 2000 SPEED SURVEY

All the results in this bulletin relate, broadly, to the speeds at which drivers travel when not constrained by congestion or other road conditions. More details are given in the Introduction.

NON-URBAN ROADS - 2000 ESTIMATES (Chart 1 and Section 1: Table 1)

- More than half of all cars observed at the survey sites on motorways and dual carriageways travelled faster than the speed limit. 55 per cent of those surveyed on motorways exceeded 70 mph and 17 per cent were travelling in excess of 80 mph, while on non-urban dual carriageways, 52 per cent of cars exceeded 70 mph and 13 per cent were travelling faster than 80 mph.
- On non-urban single carriageway roads, 9 per cent of cars exceeded the 60 mph limit, 2 per cent travelling at 70 mph.
- There was a very high incidence of speeding by heavy goods vehicles (HGVs) on non-urban dual and single carriageway roads. On dual carriageways 90 per cent of articulated HGVs surveyed exceeded their 50 mph limit. On single carriageways 76 per cent of articulated HGVs exceeded their 40 mph limit, and 27 per cent were travelling faster than 50 mph; the average speed of articulated HGVs on these roads was the same as for cars, for which the limit is 60 mph.

URBAN ROADS - 2000 ESTIMATES (Chart 2 and Section 2: Table 5)

- At survey sites on urban roads with a 30 mph speed limit 66 per cent of cars exceeded that limit, 32 per cent travelling faster than 35 mph. On 40 mph roads 25 per cent of cars exceeded the limit, with 7 per cent exceeding 45 mph.
- Speeding by motorcycles remains at high levels. On 40 mph roads 36 per cent of motorcycles exceeded the speed limit, with 21 per cent travelling in excess of 45 mph. And 35 per cent of motorcycles travelled at over 35mph in 30mph zones.
- On urban 30 mph roads, 54 per cent of 2-axle HGVs exceeded the speed limit, 19 per cent by more than 5 mph.

Chart 1: Speeding on non-urban roads

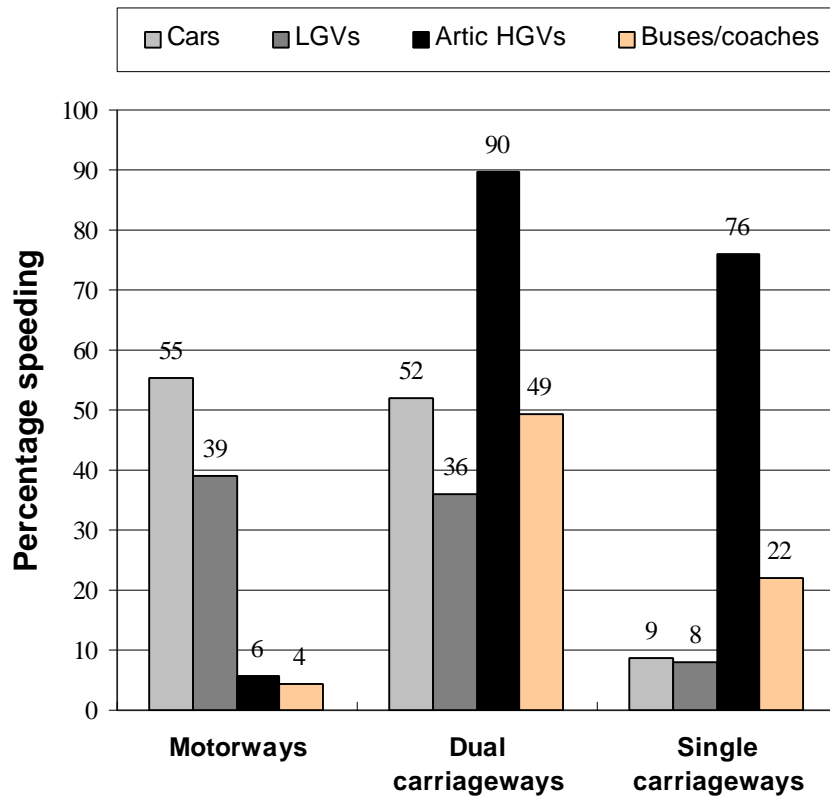
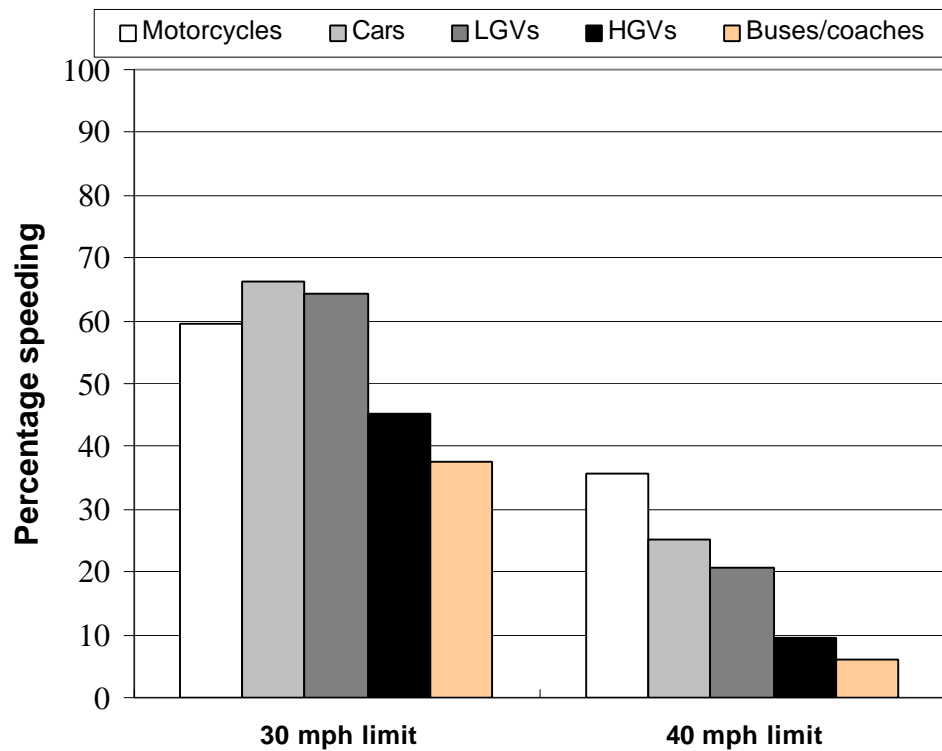


Chart 2: Speeding on urban roads



SECTION 1: DRIVER SPEEDS ON NON-URBAN ROADS

Vehicle speeds by road type and vehicle type (Table 1)

Motorways

1. Speeding at the 26 motorway sites surveyed was widespread; 55 per cent of cars exceeded the 70 mph limit and 17 per cent were travelling at over 80 mph. (The sites included in the survey are typically ones where the traffic is likely to be free flowing; see the Introduction, page 3, for a fuller explanation.) The speed distribution for light goods vehicles (LGVs) generally indicates lower speeds than for cars. 39 per cent of LGVs exceeded 70 mph and 8 per cent exceeded 80 mph.
2. The percentage of heavy goods vehicles (HGVs) exceeding their speed limit has dropped in recent years as shown in Table 4. Since August 1992 speed limiters have been fitted to all new goods vehicles of over 7.5 tonnes gross weight and since 1994 these have been set to 56 mph. Since 1992 most coaches have been fitted with speed limiters set to 70 mph and the lower limit of 65 mph was imposed for new vehicles from 1994.
3. Nevertheless, 6 per cent of articulated heavy goods vehicles and 11 per cent of rigid 3/4 axle HGVs were found to be travelling faster than their 60 mph speed limit. There was little difference between average speeds of the four classes of HGV for which a speed limit could be determined. 4 per cent of buses and coaches exceeded 70 mph.
4. The percentage of motorcycles exceeding the motorway speed limit was almost as high as for cars; 54 percent were travelling faster than 70 mph, and 18 per cent exceeded the limit by more than 10 mph. These figures should be treated with caution however, as they are subject to greater error (see Annex C).

Dual carriageways

1. In general the speed distributions at the four sites on dual carriageways were similar to those on motorways for all vehicle types. Average speeds were only slightly lower. Since HGVs, buses and coaches have lower speed limits on non-motorway dual carriageways, this means that many more were exceeding the relevant speed limit. For example, 90 per cent of articulated HGVs were travelling at more than their 50 mph limit, and 6 per cent were going faster than 60 mph. The speed limit for buses and coaches on dual carriageways is 60mph; 49 per cent of those monitored in the survey were exceeding this limit.
2. The proportion of cars exceeding the 70 mph limit was 52 per cent, and 13 per cent exceeded 80 mph. 36 per cent of LGVs exceeded their 70 mph limit.
3. Figures for motorcycles are included but must be treated with caution as there is a much higher standard error for the estimates for motorcycles on dual carriageways than for other vehicles (see Annex C).

Single carriageways

1. It is particularly difficult to draw conclusions from sites on single carriageway roads due to their greater variation in surface and design quality. Average speeds were lower at the 24 sites and speeding generally less frequent on these roads than on dual carriageways. However, a high proportion of HGVs, in particular the largest goods vehicles, were exceeding their speed limit of 40 mph by more than 10 mph. For example, 76 per cent of articulated HGVs in the survey were exceeding their 40 mph limit, 27 per cent travelling at more than 50mph.
2. About 9 per cent of the cars surveyed at these sites exceeded the 60 mph national speed limit for single carriageway roads.

Table 1 Vehicle speeds on non-urban roads by road type and vehicle type: 2000

(a) Motorways ¹						miles per hour/percent/number of vehicles				
	Motorcycles	Cars	Cars towing	Light goods ⁴	Buses/coaches	Heavy goods vehicles ⁵				
						Rigid		Articulated ⁷	Rigid/articulated	
						2 axle ⁶	3/4 axle		4 axles	5+ axles
Under 50 mph	5	3	15	5	4	7	12	7	9	7
50-60 mph	12	11	53	18	29	50	78	87	86	87
60-65 mph	13	12	16	15	49	14	6	4	4	4
65-70 mph	16	19	9	22	14	15	3	2	2	1
70-75 mph	23	24	5	22	2	9	1	0	0	0
75-80 mph	13	14	1	9	1	2	0	0	0	0
80-90 mph	16	16	1	8	1	2	0	0	0	0
90 mph and over	2	1	0	1	0	0	0	0	0	0
Average speed	70	70	57	66	60	60	54	55	54	55
Speed limit	70	70	60	70	70	n/a	60	60	60	60
Percent over limit	54	55	32	39	4	n/a	11	6	6	6
More than 10 mph over limit	18	17	7	8	1	n/a	1	0	0	0
Number observed (thousands)	60	38,515	286	3,294	183	2,701	450	4,470	1,332	3,455
(b) Dual carriageways ²										
Under 30 mph	0	0	0	0	0	1	0	0	0	0
30-40 mph	10	0	1	0	0	0	2	0	0	0
40-50 mph	11	2	15	3	6	8	18	10	13	8
50-60 mph	13	15	50	22	45	50	74	86	82	86
60-65 mph	17	15	17	20	38	15	6	3	3	3
65-70 mph	11	16	11	19	9	11	0	0	1	1
70-80 mph	22	39	6	30	2	12	0	0	0	1
80 mph and over	15	13	0	6	1	2	0	0	0	0
Average speed	67	70	57	67	59	60	53	54	54	54
Speed limit	70	70	60	70	60	n/a	50	50	50	50
Percent over limit	38	52	34	36	49	n/a	80	90	86	91
More than 10 mph over limit	15	13	6	6	2	n/a	6	4	5	5
Number observed (thousands)	11	5,173	30	401	20	312	57	443	127	370
(c) Single carriageways ³										
Under 20 mph	3	1	2	1	1	1	1	1	1	0
20-30 mph	8	3	4	4	5	4	5	3	5	2
30-40 mph	23	32	23	31	35	32	31	20	30	19
40-50 mph	22	33	44	34	37	37	46	49	44	48
50-60 mph	17	22	24	22	20	22	18	26	19	29
60-65 mph	6	4	2	5	1	2	0	1	1	2
65-70 mph	6	3	1	2	1	1	0	0	0	0
70 mph and over	15	2	0	1	0	1	0	0	0	0
Average speed	54	45	45	45	41	44	43	45	43	46
Speed limit	60	60	50	60	50	n/a	40	40	40	40
Percent over limit	27	9	27	8	22	n/a	64	76	64	79
More than 10 mph over limit	15	2	3	1	2	n/a	18	27	20	31
Number observed (thousands)	35	6,512	53	535	45	384	89	330	120	236

1 Average vehicle speeds from 26 motorway sites.

2 Average vehicle speeds from 4 dual carriageway sites

3 Average traffic speeds from 24 single carriageway sites

4 Goods vehicles under 3.5 tonnes gross weight

5 Goods vehicles over 3.5 tonnes gross weight

6 Speed limit depends on loading which cannot be determined

7 Includes 4 and 5+ axle types

Average car speeds by time of day (Table 2)

1. On motorways the average car speed varied at different times of the day between 66 mph and 73 mph. The lowest speeds, occurring during the morning and evening peaks, can be attributed to denser and slower moving traffic.
2. For dual carriageways the range in average speeds was from 69 mph to 72 mph with no evidence of lower average speeds during the peaks.
3. On single carriageways the range in average speeds was from 44 mph to 50 mph and the highest speeds occurred at night.
4. Although some congestion may have occurred during the survey periods, the evidence in Table 2 indicates that this is unlikely to have dramatically affected the overall results because of the relatively small variation in average speeds between peak and off-peak periods. This reflects the fact that the automatic traffic counters are located at sites where the traffic is generally free-flowing.

Weekday and weekend comparisons (Table 3)

1. The number of observations at weekends is small for some vehicle classes on dual carriageways because there is less traffic, so care should be taken in drawing anything but the broadest conclusions from these data.
2. There is evidence that speeds increase slightly at the weekend when traffic flows are lower and the proportion of heavy vehicles is much smaller. The proportion of vehicles exceeding the speed limit also generally shows an increase at weekends. For cars and LGVs this was most marked on motorways.

Table 2 Average car speeds by time of day: 2000

Time of day	miles per hour		
	Motorways	Dual carriageway	Single carriageway
0000-0400	73	69	50
0400-0600	73	71	50
0600-0700	72	72	49
0700-0800	66	71	46
0800-0900	66	71	45
0900-1000	69	71	45
1000-1100	70	70	45
1100-1600	70	70	45
1600-1700	68	70	44
1700-1800	66	69	44
1800-1900	68	71	44
1900-2200	72	71	47
2200-2400	72	69	47
0000-2400	70	70	45

Table 3 Weekday and weekend comparisons: 2000

Vehicle type	Road type	miles per hour/percent			
		Weekday		Weekend	
		Average speed	Percent speeding	Average speed	Percent speeding
Cars	Motorway	68	50	72	63
	Dual carriageway	70	48	70	46
	Single carriageway	45	8	48	9
LGVs	Motorway	66	38	68	51
	Dual carriageway	66	32	67	34
	Single carriageway	45	7	48	9
Buses/coaches	Motorway	60	5	62	8
	Dual carriageway	59	46	60	49
	Single carriageway	41	15	45	20
Rigid 3/4 axle	Motorway	54	10	57	24
	Dual carriageway	53	83	54	86
	Single carriageway	43	59	44	66
Articulated	Motorway	55	5	55	8
	Dual carriageway	54	90	55	89
	Single carriageway	45	70	47	74

Comparisons with earlier speed surveys (Table 4)

1. Table 4 summarises key results for 2000 compared with earlier years. The figures show some slight changes from year to year but in general these are not statistically significant. (Annex C gives standard errors of the estimated average speeds for each vehicle type and road class in 2000.)

Table 4 Non-urban speed surveys: 1996 - 2000

		number/ miles per hour/ per cent				
		1996	1997	1998	1999	2000
Motorways	Sites	25	26	26	26	26
	Observations (thousands)	60,831	65,444	72,414	80,129	54,686
	Average car speed	70	70	69	70	70
	Percent exceeding limit	57	54	55	56	55
	Average artic ¹ speed	55	55	55	55	55
	Percent exceeding limit	11	8	7	6	6
	Average bus/coach speed	61	61	60	61	60
	Percent exceeding limit	3	3	3	4	4
Dual carriageways	Sites	5	5	4	4	4
	Observations (thousands)	9,397	7,840	8,409	8,916	6,933
	Average car speed	69	70	70	70	70
	Percent exceeding limit	49	53	54	53	52
	Average artic ¹ speed	55	55	55	54	54
	Percent exceeding limit	89	91	91	90	90
	Average bus/coach speed	59	59	59	59	59
	Percent exceeding limit	50	53	49	50	49
Single carriageways	Sites	23	24	24	24	24
	Observations (thousands)	10,463	9,756	9,751	12,847	8,304
	Average car speed	47	46	46	47	45
	Percent exceeding limit	10	9	10	10	9
	Average artic ¹ speed	45	44	45	45	45
	Percent exceeding limit	72	70	72	76	76
	Average bus/coach speed	44	42	42	43	41
	Percent exceeding limit	22	16	19	23	22

¹ artic = articulated heavy goods vehicles

SECTION 2: DRIVER SPEEDS ON URBAN ROADS

Vehicle speeds by speed limit and vehicle type (Table 5)

30 mph roads

1. Travelling above the speed limit on 30 mph roads was common among drivers of all types of vehicle at the 30 sites surveyed. (The sites included in the survey are typically ones where the traffic is likely to be free flowing; see the Introduction, page 3, for a fuller explanation.) This was particularly the case for drivers of cars and LGVs, 66 per cent and 64 per cent of whom respectively exceeded the speed limit. 32 per cent of cars were travelling at more than 5 mph above the limit.
2. 60 per cent of the motorcycles surveyed were also exceeding the speed limit. Furthermore, a higher proportion of motorcycles - 35 per cent - were travelling at over 35 mph than any other vehicle on these roads.
3. Well over half of the heavy goods vehicles observed were speeding. Just under 20 per cent of HGVs exceeded the limit by more than 5 mph.
4. The speed distribution for buses and coaches indicates lower speeds than for other vehicles; nevertheless, 38 per cent of buses and coaches exceeded the speed limit, and 12 per cent did so by more than 5 mph.

40 mph roads

1. Average speeds on 40 mph limit roads were about 5mph higher than on 30mph roads for all vehicle types and excessive speed was much less common. Motorcyclists showed the greatest propensity to exceed the speed limit at the 8 sites surveyed, with 36 per cent travelling in excess of 40 mph and 21 per cent above 45 mph. About a quarter of the cars surveyed exceeded the speed limit, with 7 per cent travelling at over 45 mph.
2. 15 per cent of 2 axle HGVs were travelling over the speed limit; for larger HGVs, the proportion ranged from 9 per cent to 12 per cent. Just under 3 per cent of goods vehicles were found to be exceeding the speed limit by more than 5 mph.

Average car speeds by time of day (Table 6)

1. Vehicle speeds on urban roads were collected between 6 am and midnight. Although the automatic traffic detectors are generally located at places where the traffic is likely to be free flowing, some sites may have been affected by congestion during part of the day. In general, car speeds and the percentage exceeding the speed limit were slightly lower during the morning and evening peak periods when the traffic flow was heaviest, and highest in early morning or late evening when traffic was lightest. On 30 mph roads car speeds varied at different times of the day between 29 mph and 36 mph and on 40 mph roads between 35 mph and 40 mph. At both speed limits the lowest average speeds occurred between 0800-0900.
2. Average speeds on urban roads showed more variation by time of day than the results for non-urban roads shown in Table 2. The pattern of this variation on 30 mph and 40 mph roads was similar.

Table 5: Vehicle speeds on urban roads by speed limit and vehicle type: 2000(a) 30 mph speed limit roads¹

miles per hour/ per cent/ number of vehicles

	Motorcycles ³	Cars	Cars towing	Light goods ⁴	Buses/coaches	Heavy goods vehicles ⁵				
						Rigid		Articulated	Rigid/articulated	
						2 axle	3 axle	3 axle	4 axles	5+ axles
Under 20 mph	18	7	10	8	9	11	12	15	12	12
20 - 30 mph	22	27	38	28	53	34	37	39	38	46
30 - 35 mph	25	34	36	35	26	35	35	33	33	31
35 - 40 mph	18	21	13	22	10	14	13	11	13	8
40 - 45 mph	8	9	3	6	2	4	3	1	3	3
45 - 50 mph	5	2	0	1	0	1	0	0	0	0
50 mph and over	4	0	0	0	0	1	0	0	0	0
Average speed	32	32	30	31	28	30	29	28	30	27
Percent over 30 mph	60	66	52	64	38	54	52	45	49	42
Percent over 35 mph	35	32	16	29	12	19	16	13	16	11
Number observed (thousands)	5	1,686	5	105	15	46	3	1	6	5

(b) 40 mph speed limit roads²

miles per hour/ percent/ number of vehicles

	Motorcycles ³	Cars	Cars towing	Light goods ⁴	Buses/coaches	Heavy goods vehicles ⁵				
						Rigid		Articulated	Rigid/articulated	
						2 axle	3 axle	3 axle	4 axles	5+ axles
Under 20 mph	12	2	3	2	5	3	5	5	5	8
20 - 30 mph	16	10	14	13	32	17	17	25	23	20
30 - 35 mph	16	27	35	31	35	32	33	31	33	36
35 - 40 mph	20	36	33	34	22	33	33	30	29	27
40 - 45 mph	15	18	12	14	5	11	10	7	7	8
45 - 50 mph	10	5	2	5	1	2	1	1	2	1
50 - 60 mph	8	2	1	1	0	1	0	0	0	0
60 mph and over	3	0	0	0	0	1	0	1	0	0
Average speed	37	37	35	36	32	35	34	33	33	32
Percent over 40 mph	36	25	15	21	6	15	12	9	9	9
Percent over 45 mph	21	7	3	7	1	4	2	2	2	1
Number observed (thousands)	4	706	2	55	5	26	2	1	4	5

1 Speed measurements taken from 30 sites.

2 Speed measurements taken from 8 sites.

3 Motorcycles includes mopeds and other types of powered two wheeled vehicles.

4 Goods vehicles up to 3.5 tonnes gross weight.

5 Goods vehicles over 3.5 tonnes gross weight.

Table 6: Average car speeds by time of day: 2000

Time of day	miles per hour/ percent			
	30 mph limit		40 mph limit	
	Average speed	Percent speeding	Average speed	Percent speeding
0600-0700	36	85	40	44
0700-0800	33	72	37	30
0800-0900	29	57	35	20
0900-1000	32	65	36	23
1000-1100	31	66	37	23
1100-1200	31	65	37	23
1200-1300	31	67	37	23
1300-1400	32	66	37	22
1400-1500	32	66	37	23
1500-1600	31	63	37	23
1600-1700	31	62	37	23
1700-1800	31	60	36	23
1800-1900	32	68	38	25
1900-2000	32	71	38	30
2000-2100	33	73	39	32
2100-2200	33	74	39	32
2200-2300	34	76	39	32
2300-2400	34	77	39	33
0600-2400	32	66	37	25

Table 7: Weekday and weekend comparisons: 2000

Vehicle type	Speed limit	miles per hour/ percent			
		Weekday		Weekend	
		Average speed	Percent speeding	Average speed	Percent speeding
Cars	30mph	31	63	32	70
	40mph	37	23	39	32
LGVs	30mph	31	64	32	68
	40mph	36	21	38	26
Motorcycle	30mph	29	56	32	66
	40mph	34	34	38	44
Rigid 2 axle	30mph	30	56	32	60
	40mph	35	16	37	24

Weekday and weekend comparisons (Table 7)

1. Average speeds were slightly higher at the weekend and a greater proportion of drivers exceeded the speed limit. This repeats the pattern shown by the results for non-urban roads, reflecting the lower traffic volumes at the weekend.

Average speeds on urban roads by time of year (Charts 3 and 4)

1. Due to the small number of sites surveyed and the small changes seen throughout the year none of the differences in quarterly average speeds observed in 2000 were significant. Looking over a number of years, Charts 3 and 4 show that motorcycle speeds on both 30 mph and 40 mph roads are, generally, higher in the summer and lower in winter, probably because motorcycles are the vehicles most affected by adverse weather conditions and possibly because of seasonal differences in motorcycle usage.

2. Average speeds for most other vehicle types showed little variation throughout the year. For example, average car speeds remained between 32 and 33 mph on 30 mph roads throughout 2000 and between 35 and 37 mph on 40 mph roads.

3. None of the quarterly average speeds in 2000 differed significantly from the average speeds in the corresponding quarter of 1999.

Comparisons with earlier speed surveys (Table 8)

1. The first urban speed survey was carried out in 1994 and the survey has been operating continuously since then. Detailed results are shown in earlier editions of this bulletin. The survey method has not changed and the selection of sites has remained largely constant.

2. Table 8 summarises key results for 2000 compared with earlier years. The figures show some slight changes from year to year. In general, these year on year changes are not statistically significant. (Annex C gives standard errors of the estimated average speeds for each vehicle type and road class in 2000.)

3. Some broad patterns are discernible from Table 8. The proportion of drivers exceeding the speed limit on urban roads has fallen gradually over the past five years. Taking into account results for earlier years, the proportion of motorcycles exceeding the speed limit on 30 mph roads was higher in 1997-2000 (when it averaged 61 per cent) than in the previous 3 years. (In 1994 it was 46 per cent, and in 1995, 52 per cent.) These tentative conclusions should be treated with caution because of the relatively large errors, and because observations at the sample sites are not necessarily representative of driver behaviour generally.

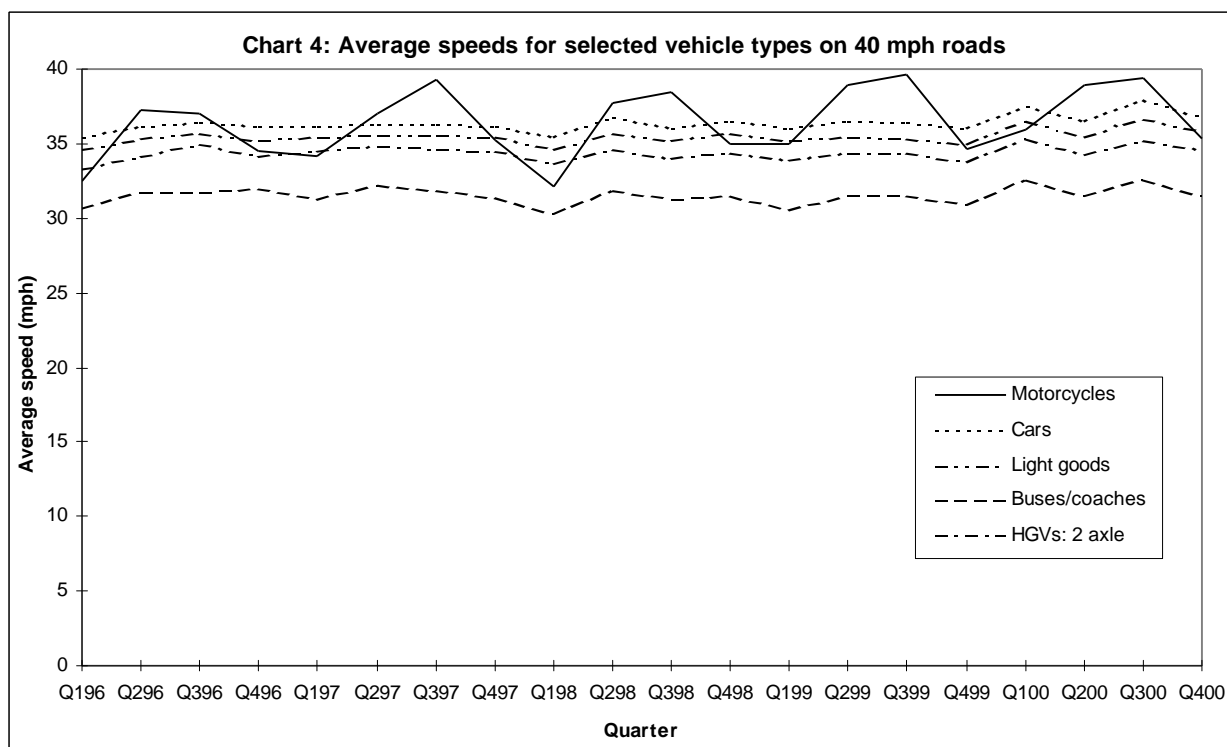
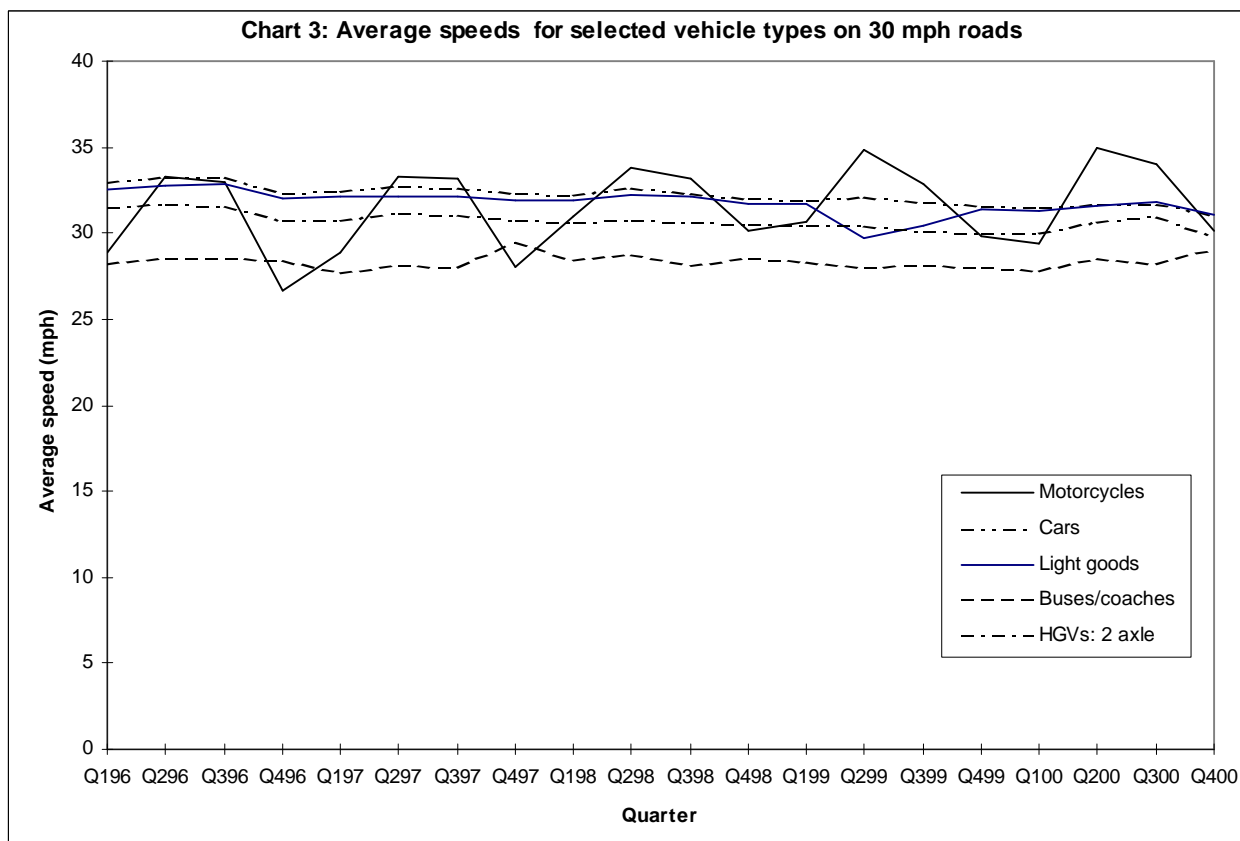


Table 8 Urban speed surveys: 1996 - 2000

		number/ miles per hour/ per cent				
		1996	1997	1998	1999	2000
30 mph limit	Sites	30	30	30	30	30
	Observations (thousands)	2,047	2,109	2,218	2,060	1,877
	Average motorcycle speed	31	32	32	33	32
	Percent exceeding limit	56	60	63	62	60
	Average car speed	33	33	32	32	32
	Percent exceeding limit	72	70	69	67	66
	Rigid 2-axle HGV speed	31	31	31	31	30
	Percent exceeding limit	61	58	57	55	54
	Average bus/coach speed	28	28	28	28	28
	Percent exceeding limit	39	39	41	38	38
40 mph limit	Sites	8	8	8	8	8
	Observations (thousands)	1,068	1,121	921	925	811
	Average motorcycle speed	35	37	36	37	37
	Percent exceeding limit	34	38	35	38	36
	Average car speed	36	36	36	36	37
	Percent exceeding limit	25	27	26	26	25
	Rigid 2-axle HGV speed	34	35	34	34	35
	Percent exceeding limit	16	19	16	15	15
	Average bus/coach speed	31	32	31	31	32
	Percent exceeding limit	6	7	7	7	6

1 Comparisons are indicative only, see commentary.

ANNEX A: SPEED DATA FROM AUTOMATIC TRAFFIC COUNTERS

This bulletin is based on information on vehicle speeds collected during 2000 from sites on both urban and non-urban roads. The non-urban results in the bulletin are from 26 motorway sites, 4 dual carriageway non built-up sites and 24 single carriageway non built-up sites. For urban roads, data were collected from 30 sites with a 30 mph speed limit and 8 sites with a 40 mph limit. The number of vehicle speeds measured daily at the sites varies widely from a few hundred at the least busy site to many thousands at the motorway sites.

The counting equipment relies on inductive loop and axle sensors to detect vehicle length, chassis height and the number and position of axles. The equipment is capable of classifying 21 different vehicle types. However, it cannot distinguish between vehicles with the same electronic 'footprint' such as cars and car-based vans (which have an identical chassis to that of a car). The information on non-urban speeds is collected continuously and stored in 8 pre-set speed bands for 14 groups of vehicles. These have been used for the non-urban speed study in Section 1. The urban speeds in Section 2 are derived from a special survey in which the urban sites were monitored for pre-selected 15-minute periods during which the speeds of individual vehicles were collected.

The types of vehicle identified in the non-urban survey are motorcycles, cars, cars towing, LGVs, buses/coaches, rigid 2 axle HGVs, rigid 3 or 4 axle HGVs, articulated HGVs, all 4 axle HGVs and all 5 or more axle HGVs. There are two important points concerning these categories. Firstly, the categories of goods vehicle are not mutually exclusive and therefore in the non-urban survey some vehicles are counted twice. For example, a 4 axle articulated lorry would appear in both the results for all articulated lorries and the results for all 4-axle heavy goods vehicles. In the urban speed survey such vehicles *have* been uniquely allocated to a single category and the 4 or more axle HGVs are not recorded a second time in the articulated HGV category. Secondly, the automatic counters identify rigid 2 axle lorries but cannot distinguish between vehicles weighing less than 7.5 tonnes gross and those weighing more. The weight of this type of vehicle determines its speed limit on non built-up roads. Consequently, it is impossible to tell how many rigid 2 axle HGVs are speeding on non-built up roads. The speed limits for different types of vehicle on different classes of non-built up road are shown in Annex B.

It was discovered in 1996 that the recording of motorcycle speeds by counters at **non-urban** sites was distorted. As a result there was the potential for bias in the estimates of motorcycle speeds at these sites and they were excluded from the analysis for previous years. Software to correct the discrepancy has been tested and implementation began at the end of 1997 and continued throughout 1998, 1999 and into 2000. Data for 2000 were collected for 18 motorway sites (7 sites all year, and for 7-8 months from the other sites); 3 dual-carriageway sites (1 site all year, 1 site for 5 months and 1 site for 4 months); and 9 single-carriageway sites (2 sites all year, 2 sites for a minimum of six months, 5 sites for a maximum of 3 months). Although results for motorcycles are included this year, the data are relatively sparse and standard errors are high (see Annex C). Motorcycle speeds collected at **urban** sites are not affected by the same problem and are included in Section 2.

A number of sites of high flow, particularly on motorways have had to be excluded for various periods of time because the Automatic Traffic Counters have been replaced. The changes should result in more reliable data in the future, but for this year it has affected the numbers of vehicles in the sample.

The accuracy of the average speeds presented in this bulletin depend on the number of sites surveyed and the number of vehicles observed at each site. The higher these numbers are, the more accurate estimates of average speed will be. Annex C shows the estimates of average speed for each vehicle type together with their estimated standard errors. Sections 1 & 2 contain discussion of the differences between average vehicle speeds over time. The statistical reasoning behind the variability underlying the estimates of average speed has been presented in previous editions of this bulletin.

Annex B: UK Maximum speed limits on non built up roads

		miles per hour		
Vehicle type		Motorway	Dual carriageway	Single carriageway
Cars /motorcycles ¹		70	70	60
Cars towing	1 trailer	60	60	50
	2 or more trailers	40	20	20
Buses /coaches	< 12 metres	70	60	50
	> 12 metres	60	60	50
Goods vehicle	< 7.5 tonnes ²	70	60	50
	artic < 7.5 tonnes	60	60	50
	> 7.5 tonnes ³	60	50	40
Goods vehicle towing 2 or more trailers		40	20	20

1 Not more than 3.5 tonnes. Includes car-derived vans.

2 Maximum laden weight. Not an artic, trailer puller or car-derived van.

3 Maximum laden weight of cab and trailer

Annex C: Average vehicle speeds and their standard errors: 2000

miles per hour											
		Motorcycles ¹	Cars	Cars towing	Light goods ²	Buses/coaches	Heavy goods vehicles ³				
							Rigid		Rigid/articulated		
							2 axle	3/4 axle ⁴	Articulated ⁵	4 axles	5+ axles
Non-urban sites											
Motorways ⁶	Average speed	69.7	70.1	57.3	66.4	60.5	59.7	54.5	54.6	54.4	54.7
	Standard error	2.1	0.9	0.8	0.8	0.5	0.7	0.4	0.4	0.3	0.4
Dual carriageways ⁶	Average speed	67.4	70.2	57.4	66.7	59.3	59.5	53.2	53.9	53.7	54.4
	Standard error	7.3	2.3	1.9	2.4	1.6	1.9	1.0	1.5	1.1	1.6
Single carriageway ⁶	Average speed	53.9	45.3	44.7	45.2	41.0	44.3	42.7	45.0	43.1	45.9
	Standard error	3.0	1.8	1.2	1.8	1.8	1.5	1.4	1.8	1.3	1.5
Urban sites											
30mph ⁶	Average speed	32.0	31.5	29.5	31.4	28.4	30.3	29.2	28.0	30.0	27.3
	Standard error	2.0	0.9	0.9	0.9	1.2	0.9	0.8	0.8	0.8	2.4
40mph ⁶	Average speed	37.2	37.1	34.5	36.0	32.1	34.9	33.8	32.9	33.5	31.8
	Standard error	3.0	1.4	1.0	1.3	1.2	1.1	1.2	1.0	1.1	1.6

1 Motorcycles includes mopeds and other types of powered two wheeled vehicles

2 Goods vehicles up to 3.5 tonnes gross weight

3 Goods vehicles over 3.5 tonnes gross weight

4 Does not include 4 axle types on urban roads

5 Includes 4 and 5+ axle types

6 Number of sites given in table 4 or table 8

Patient Information	
First Name	
Last Name	
Address	
City	
State	
Zip	
Phone	
Age	
Gender	
Occupation	
Referral Source	
History of Present Illness	
Onset of symptoms	
Duration of symptoms	
Frequency of symptoms	
Severity of symptoms	
Associated symptoms	
Previous treatments	
Response to treatment	
Family History	
Social History	
Physical Examination	
Vital Signs	
General Appearance	
Head and Neck	
Chest and Lungs	
Heart and Vascular	
Abdomen	
Genitourinary	
Neurological	
Musculoskeletal	
Skin	
Laboratory Tests	
Imaging Studies	
Pathology	
Differential Diagnosis	
Final Diagnosis	
Treatment Plan	
Follow-up	

Case	Age	Sex	Occupation	Duration of symptoms (years)	Onset of symptoms	Family history of psychiatric illness	Previous psychiatric history	Current psychiatric symptoms	Current medical symptoms	Current medications	Current treatments	Outcome
1	25	F	Teacher	10	1995	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
2	32	M	Engineer	5	2000	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
3	40	F	Homemaker	15	1985	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
4	28	M	Student	3	2005	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
5	35	F	Manager	8	1998	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
6	45	M	Retired	20	1975	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
7	22	F	Student	2	2008	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
8	38	M	Engineer	7	2002	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
9	42	F	Homemaker	12	1988	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
10	27	M	Student	4	2006	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
11	33	F	Manager	6	2001	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
12	48	M	Retired	18	1980	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
13	24	F	Student	1	2009	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
14	36	M	Engineer	9	2000	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
15	41	F	Homemaker	14	1986	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
16	29	M	Student	3	2007	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
17	34	F	Manager	7	2001	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
18	44	M	Retired	19	1979	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
19	23	F	Student	1	2010	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
20	37	M	Engineer	8	2002	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
21	43	F	Homemaker	13	1987	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
22	26	M	Student	2	2009	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
23	31	F	Manager	5	2004	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
24	46	M	Retired	17	1981	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
25	21	F	Student	1	2011	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
26	39	M	Engineer	6	2003	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
27	47	F	Homemaker	16	1983	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
28	20	M	Student	1	2012	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
29	30	F	Manager	4	2008	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved
30	49	M	Retired	21	1982	No	No	Depression, anxiety, panic attacks	Headaches, dizziness, fatigue	Antidepressants, anxiolytics	Psychotherapy	Improved

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The Transport Statistics Users Group (TSUG) was set up in 1985 as a result of an initiative by the Statistics Users Council and the Chartered Institute of Transport (now known as The Institute of Logistics and Transport). From its inception it has had strong links with the Department of Transport, Local Government and the Regions. The aims of the Group are:


- to identify problems in the collection, provision, use and understanding of transport statistics, and to discuss solutions with the responsible authorities;
- to provide a forum for the exchange of views and information between users and providers of transport statistics;
- to encourage the proper use of statistics through publicity and education.

The Group holds regular seminars on topical subjects connected with the provision and/or use of transport statistics. Recent seminars have included:

- Parking
- London Statistics
- Bus priority routes in London
- Transport and social exclusion
- Statistics for the national rail system
- Transport Statistics for a developed Scotland
- Airport accessibility statistics

A newsletter is sent to all members about four times a year. Corporate membership of the Group is £50, personal membership £22.50, and student membership £10. For further details please contact:

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