Newbold Astbury cum Moreton Parish Council

Traffic Study in Astbury Village
January 2018

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1. Introduction

1.1 This report contains the results of a Traffic Study that has been carried out on behalf of Newbold Astbury cum Moreton Parish Council. The study has been commissioned by the parish council following local concern about high traffic flows and high traffic speeds in Astbury Village and to compare with the traffic survey results that were obtained in 2004. The traffic survey results will also assist the parish council to monitor any future changes in traffic flows and traffic speeds in the village and to support the case for improvements to be carried out to reduce traffic flows and improve road safety in the village.

1.2 The parish council are concerned about the effects of high traffic volumes in the conservation area in Astbury village and the low priority that this been afforded to this problem by the Highway Authority, Cheshire East Council. The parish council are concerned that with the increase in traffic there has been an increase in accidents, safety risks to residents and damage to kerbs and the village green. The Parish Council have carried out comprehensive surveys of residents to identify possible improvement measures.

1.3 The traffic data was collected using automatic traffic speed and volume counters that were installed for a typical week commencing on Sunday 28th January, 2018. The locations for the traffic surveys were selected by the parish council and agreed at a site meeting that was held on the 28th November, 2017. The surveys were carried out at the following locations, and as shown on the survey location maps in Appendix 1 :

- Peel Lane, approximately 100 metres west of the junction with School Lane, and
- The Village (southern arm of the triangle of roads at the Village Green).

1.4 The traffic survey results (traffic flows), are provided as a separate file for the sites and the main results are described in the following section. The road safety records for each road have also been examined in view of the concerns that have been expressed by local residents.

2. Main Results of the Traffic Surveys

Peel Lane (100 metres west of the junction with School Lane) : Site 1

Traffic Survey Period	Traffic Flows Westbound (vehicles)	Traffic Flows Eastbound (vehicles)	Total 2-way Traffic Flow (vehicles)
Average Weekday	3874	4064	7938
Average Weekday A.M. Peak	527	330	857
Average Weekday P.M. Peak	291	490	781
Saturday	2676	2891	5567
Saturday A.M. Peak	294	314	608
Saturday P.M. Peak	296	308	604
Sunday	2331	2467	4798
Sunday A.M. Peak	242	266	508
Sunday P.M. Peak	287	305	592

Table 1 : Summary of Traffic Flow Information on Peel Lane (27.1.18 – 2.2.18)

2.1 Table 1 shows a summary of the traffic survey results for Peel Lane, 100 metres west of School Lane. The results show that traffic flows on the road are, relatively, high for a minor road with the highest (average), hourly traffic flow being 857 vehicles on a weekday during the morning peak period. The main movement of traffic on the road is westbound (towards the A34) during the weekday a.m. peak period (61%), and away from the A34 during the weekday p.m. peak period (57%).

2.2 Traffic flows on Peel Lane on a Saturday are 30% lower than on an average weekday and 40% lower on a Sunday than on an average weekday.

2.3 The road safety data shows that the road has a good road safety record during the last 5 years with just 1 slight injury accident on the section of Peel Lane between the junction with School Lane and The Village (as shown in Appendix 1). The road safety data only shows recorded injury accidents that are attended by the police and, therefore, some collisions will not be recorded if they only involve damage to vehicles.

Direction of Travel	No. of Cars / Light Goods Vehicles	No. of HGVs	Total Traffic (vehs.)	% HGVs
West bound	3846	66	3912	1.7 %
East bound	3912	89	4001	2.2 %

Table 2 : Summary of Vehicle Types on Peel Lane on a Typical Weekday (31.1.18)

Direction of Travel	Average Traffic Speed (mph)	85th Percentile Traffic Speed (mph)
West bound	23.7 mph	27.3 mph
East bound	26.4 mph	30.4 mph

Table 3 : Traffic Speeds on Peel Lane on a Typical Weekday (31.1.18)

2.4 Whilst the overall distribution of traffic speeds is, relatively, low the traffic speed surveys recorded some drivers travelling at 40 – 45 mph and a small number at 45 – 50 mph. These speeds are, clearly, excessive for the road layout and present a risk to other road users.

The Village (Site 2)

Traffic Survey Period	Traffic Flows West bound (vehicles)	Traffic Flows East bound (vehicles)	Total 2-way Traffic Flow (vehicles)
Average Weekday	1850	2130	3980
Average Weekday A.M. Peak	174	312	486
Average Weekday P.M. Peak	224	169	393
Saturday	1300	1436	2736
Saturday A.M. Peak	127	157	284
Saturday P.M. Peak	142	160	302
Sunday	1170	1318	2488
Sunday A.M. Peak	111	135	246
Sunday P.M. Peak	144	180	324

Table 4 : Summary of Traffic Flow Information

2.5 Table 4 shows a summary of the traffic survey results for The Village. The results show that traffic flows on the road are, relatively, high for a minor road with the highest hourly traffic flow being 486 vehicles on a weekday during the morning peak period. The traffic flows on the road are, reasonably, balanced in an east / west direction with slightly more vehicles using the road in an eastbound direction on a typical weekday (53%).

2.6 Traffic flows on The Village on a Saturday are 31% lower than on an average weekday and 37% lower on a Sunday than on an average weekday.

2.7 By using the traffic survey results from Sites 1 and 2 it is possible to calculate the traffic flows that use the Peel Lane section at the village green (north side), assuming there is very little traffic entering or leaving Peel Lane between the 2 survey sites (which is reasonable). The resulting traffic flows are shown in Table 5, below, for the average (24 hour), weekday during the survey period :

Direction of Travel	The Village	Peel Lane (north side of village green)	Peel Lane (near School Lane)
Westbound (towards A34)	1850 (48%)	2024 (52%)	3874 (100%)
Eastbound (from A34)	2130 (52%)	1934 (48%)	4064 (100%)

Table 5 : Traffic Flows on Peel Lane and The Village (24 hr. Weekday)

2.8 Table 5 shows that the traffic flows on each side of the village green are, reasonably, balanced on Peel Lane and The Village for the east and west directions of travel.

2.9 The road safety data shows that there have been 5 recorded injury accidents on the A34 Newcastle Road at the junctions with The Village and Peel Lane during the last 5 years, as shown in Appendix 2. Four of the accidents, including 1 serious, occurred at the junction of the A34 and Peel Lane and a road safety investigation should be carried out at this junction to identify if any remedial measures can be carried out.

Direction of Travel	No. of Cars / Light Goods Vehicles	No. of HGVs	Total Traffic (vehs.)	% HGVs
West bound	1759	38	1797	2.2 %
East bound	2119	55	2174	2.6 %

Table 6 : Summary of Vehicle Types on The Village on a Typical Weekday (31.1.18)

Direction of Travel	Average Traffic Speed (mph)	85th Percentile Traffic Speed (mph)
West bound	26.4 mph	30.4 mph
East bound	33.8 mph	46.6 mph

Table 7 : Traffic Speeds on The Village on a Typical Weekday (31.1.18)

2.10 Whilst the traffic speed distribution is, relatively, low there were speeds recorded in the 40 – 45 mph and 45 – 50 mph bands. These are excessive speeds for the road layout and create a risk to other road users.

Comparison of 2004 and 2018 Traffic Surveys

2.11 A traffic survey was carried out in Astbury (assumed to be on Peel Lane), during the week 30.1.04 – 6.2.04. The results of the traffic survey are included in Appendix 3. The traffic survey that has been carried out in 2018 was approximately on the same dates at the end of January to allow a good comparison to be made.

2.12 Table 8 compares the main results of the 2004 and 2018 surveys :

	2004 Survey	2018 Survey	Change (2004 – 2018)
Average Weekday Traffic (24 hrs.)	7449 vehicles	7938 vehicles	+ 489 vehicles (+ 6.6%)
Weekday A.M. Peak (0800 – 0900 hrs.)	988	857	- 131 vehicles (-13%)
Weekday P.M. Peak (1700 – 1800 hrs.)	792	781	- 11 vehicles (-3%)
HGVs	150 (2.2%)	155 (2.2%)	+5 (0%)
Saturday (24 hrs.)	6099	5567	- 532 vehicles (- 8%)
Sunday (24 hrs.)	5028	4798	-230 vehicles (-6%)
Total 7-day Traffic	48,373	50,055	+ 1682 vehicles (+3.5%)

Table 8 : Comparison of 2004 and 2018 Traffic Flows on Peel Lane in Astbury

2.13 Table 8 shows that there have been increases in the average weekday traffic flow and the total 7 day traffic flow between 2004 – 2018 of 6.6% and 3.5%, respectively. Whilst these are significant, there has also been a national increase in traffic levels over this period (for example, there was a 4% increase in all motor vehicle traffic mileage between 2006 – 2016 as published by the Department for Transport – Appendix 4). There have been reductions in the traffic flows during the weekday peak periods and on a Saturday and a Sunday which is positive for the village. There has also been no significant change in the number of HGVs that travel through the village which is positive (although nationally there has been a 8% reduction in HGV traffic between 2006 – 2016, as shown in the Table in Appendix 4).

3. Conclusions and Recommendation

3.1 This Traffic Study report contains a summary of the traffic surveys that have been carried out at 2 locations in Astbury village near Congleton.

3.2 The data that has been collected can be used to monitor the future traffic levels on this road network and to assist the parish council to investigate measures to reduce the speed and volume of traffic that travels through the village, especially in the Conservation Area.

3.3 The report also contains recent road safety information for the roads where the traffic surveys have been carried out and shows that further investigations should be carried out, in consultation with the Highway Authority Cheshire East Council (CEC), to examine whether improvements can be carried out at the junction of the A34 Newcastle Road and Peel Lane where there have been 4 recorded injury accidents in the last 5 years, one of which was serious.

3.4 The report contains a comparison of the traffic surveys that have been carried out in 2004 and 2018 at the same time of year (end of January). The results show that there has been a slight increase in the total weekday traffic and weekly traffic that uses Peel Lane (increases of 6.6% and 3.5%, respectively), and reductions in the traffic flow during the weekday peak periods and on a Saturday and a Sunday. The number of HGVs that use the road has remained similar between 2004 – 2018.

3.5 Taking into account the results of this traffic study, the following, possible, improvements should be examined in consultation with CEC to improve road safety and traffic conditions in Astbury village :

- possible zebra crossing at the church gateway,
- 20 mph speed limit on The Village and Peel Lane,
- possible one way on The Village (westbound), with Peel Lane made one way (eastbound), on the north side of the village green,
- timber posts along the highway boundary of the village green to prevent vehicles over-running the verges.

Appendix 1

Locations of Traffic Surveys

35739 - VTC Consultancy Ltd – Congleton ATC – Location Map

Appendix 2

Road Safety Data

Road Safety Information

Recorded Injury Accidents 5 Years Data
(2013 – 2017 inclusive)

www.crashmap.co.uk)

Road Safety Information

5 Years Recorded Injury Accidents
(2013 – 2017 inclusive)

www.crashmap.co.uk

Appendix 3

Results of 2004 Traffic Survey

7 Day Volumetric With Peaks
Averaged from 30/01/04 to 06/02/04

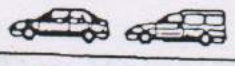
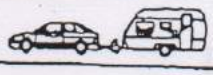
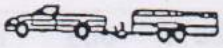
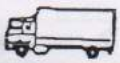
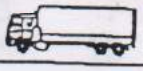
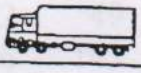
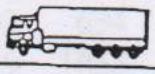
Hour End	Day Sun	Mon	Tue	Wed	Thu	Fri	Sat	Working Week	Total
1:00	59	8	6	19	20	28	48	16	27
2:00	25	6	6	4	5	13	22	7	12
3:00	10	4	2	7	4	5	14	4	7
4:00	8	13	7	7	4	5	6	7	7
5:00	8	15	12	18	9	16	13	14	13
6:00	17	52	49	49	56	48	23	51	42
7:00	24	156	143	144	162	156	51	152	119
8:00	63	702	634	643	641	628	116	650	490
9:00	137	1119	1023	924	955	917	215	988	756
10:00	287	468	479	448	432	468	368	459	421
11:00	452	326	343	331	293	341	577	327	380
12:00	530	333	325	334	335	385	719	342	423
13:00	651	350	330	343	374	471	708	374	461
14:00	469	344	363	372	383	432	511	379	411
15:00	453	392	425	432	494	562	493	461	464
16:00	459	487	500	535	548	746	486	563	537
17:00	416	612	692	597	675	754	409	666	594
18:00	305	823	784	778	812	763	384	792	664
19:00	204	437	462	502	500	456	292	471	408
20:00	153	252	279	292	285	282	217	278	251
21:00	121	131	161	143	192	183	140	162	153
22:00	72	118	133	135	113	97	91	119	108
23:00	71	91	119	106	112	93	91	104	98
24:00	34	35	68	61	60	90	105	63	65
12 Hour	4426	6393	6360	6239	6442	6923	5278	6471	6009
16 Hour	4796	7050	7076	6953	7194	7641	5777	7183	6641
18 Hour	4901	7176	7263	7120	7366	7824	5973	7350	6803
24 Hour	5028	7274	7345	7224	7464	7939	6099	7449	6910
AM Peak	12:00	9:00	9:00	9:00	9:00	9:00	12:00		
PM Peak	13:00	18:00	18:00	18:00	18:00	18:00	13:00		

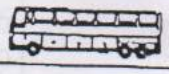
Class Distribution (24 Hours)
Averaged from 30/01/04 to 06/02/04

Hour End	Vehicle Class													
	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
1:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
2:00	11	0	0	0	0	0	0	0	0	0	0	0	0	11
3:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
4:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
5:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
6:00	40	1	0	0	0	0	0	0	0	0	0	0	0	41
7:00	115	3	0	0	0	0	0	0	0	0	0	0	0	118
8:00	472	11	0	0	0	0	0	0	0	0	0	1	3	487
9:00	734	13	0	0	0	0	0	0	0	0	0	2	4	753
10:00	406	13	0	0	0	0	0	0	0	0	0	0	0	419
11:00	364	12	0	0	0	0	0	0	0	0	0	1	1	378
12:00	406	14	0	0	0	0	0	0	0	0	0	0	0	420
13:00	450	8	0	0	0	0	0	0	0	0	0	0	0	458
14:00	396	11	0	0	0	0	0	0	0	0	0	1	1	409
15:00	452	10	0	0	0	0	0	0	0	0	0	0	1	463
16:00	523	11	0	0	0	0	0	0	0	0	0	1	0	535
17:00	579	11	0	0	0	0	0	0	0	0	0	0	2	592
18:00	654	8	0	0	0	0	0	0	0	0	0	0	0	662
19:00	403	3	0	0	0	0	0	0	0	0	0	0	0	406
20:00	248	2	0	0	0	0	0	0	0	0	0	0	0	250
21:00	152	0	0	0	0	0	0	0	0	0	0	0	0	152
22:00	106	1	0	0	0	0	0	0	0	0	0	0	0	107
23:00	97	0	0	0	0	0	0	0	0	0	0	0	0	97
24:00	63	0	0	0	0	0	0	0	0	0	0	0	0	63
2 Hour	5839	125	0	0	0	0	0	0	0	0	0	6	12	5982
6 Hour	6460	131	0	0	0	0	0	0	0	0	0	6	12	6609
8 Hour	6620	131	0	0	0	0	0	0	0	0	0	6	12	6769
4 Hour	6721	132	0	0	0	0	0	0	0	0	0	6	12	6871

ASTBURY LANE 00000334 30 Jan 2004 17:00 Averaged from 30/01/04 to 06/02/04 Both Directions

Vehicle Classification Table GR03-EUR13

1	Car, Light Van	
	Light Goods Vehicle (LGV)	
	Car/LGV & 1-Axle Caravan/Trailer	
	Car/LGV & 2-Axle Caravan/Trailer	
2	Rigid 2-Axle Truck (HGV)	
3	Rigid 3-Axle Truck (HGV)	
	Rigid 3-Axle Truck (HGV)	
4	Rigid 4-Axle Truck (HGV)	
	Rigid 4-Axle Truck (HGV)	
5	Rigid 2-Axle Truck & 2-Axle Drawbar Trailer	
	Rigid 2-Axle Truck & 3-Axle Drawbar Trailer	
	Rigid 2-Axle Truck & 1-Axle Caravan/Trailer	
	Rigid 2-Axle Truck & 2-Axle Trailer/Caravan	

6	Rigid 3-Axle HGV & 2-Axle Drawbar Trailer	
	Rigid 3-Axle HGV & 3-Axle Drawbar Trailer	
7	Artic, 2-Axle Tractor & 1-Axle Semi-Trailer	
8	Artic, 2-Axle Tractor & 2-Axle Semi-Trailer	
9	Artic, 2-Axle Tractor & 3-Axle Semi-Trailer	
10	Artic, 3-Axle Tractor & 1-Axle Semi-Trailer	
	Artic, 3-Axle Tractor & 2-Axle Semi-Trailer	
11	Artic, 3-Axle Tractor & 3-Axle Semi-Trailer	
12	Bus or Coach 2-Axle	
	Bus or Coach 3-Axle	
13	Vehicle with 7 or more Axles	
	Vehicle not classified above	

Appendix 4

Extract from Road Traffic Statistics 2016

Department for Transport

Road Traffic Estimates: Great Britain 2016

About this release

This release presents the latest annual estimates of traffic on Great Britain's roads. It looks at recent and long term trends in traffic broken down by vehicle type, road category and geographic area, in the context of related statistics. Traffic statistics are mostly presented in units of vehicle miles, which combines the number of vehicles on the road and how far they drive.

Annual traffic statistics are compiled using data from around 8,000 roadside 12-hour manual counts, continuous data from around 300 automatic traffic counters, and data on road lengths.

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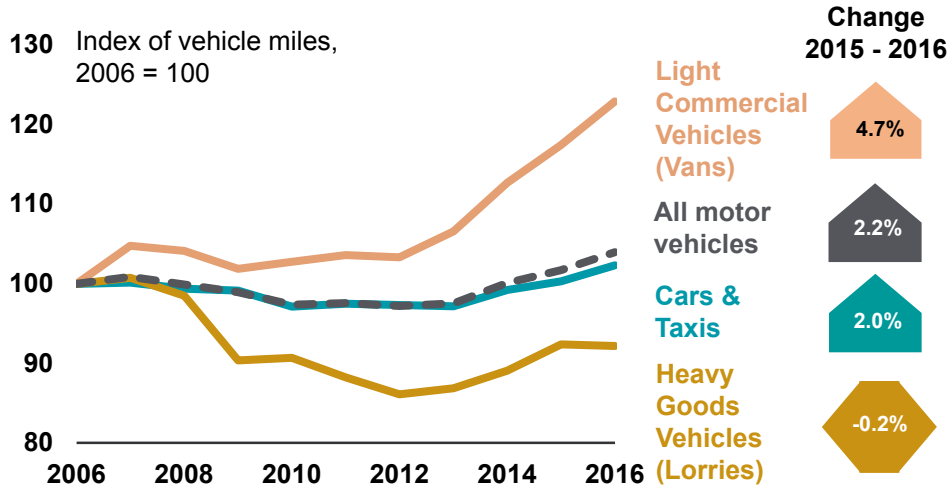
323.7 billion miles were driven on Great Britain's roads in 2016, a 2.2% increase from the previous year.

Vehicle miles travelled by selected vehicle types in Great Britain, 2006-2016



In 2016:

- **Car traffic** grew by 2% from 2015 to 252.6 billion vehicle miles (bvm); the highest annual car traffic estimate ever (page 9).
- **Van traffic** continued to grow more quickly than any other vehicle type, rising 4.7% from 2015 to 49.1 bvm (page 11).
- **Lorry traffic** showed little change from 2015, after having grown steadily for the previous three years (page 13).
- **Pedal cycle traffic** was 3.5 bvm, 23% above the figure ten years before (page 18).
- **Motorways** carried 67.8 bvm of traffic, 2% more than in 2015 and almost 10% more than 10 years ago (page 21).
- **The Strategic Road Network** carried 91.9 bvm of traffic; one-third of all motorised traffic in England (page 26).
- **Rural roads** saw a 2.6% rise in traffic from 2015, with traffic on both 'A' roads and minor roads reaching record levels (page 22).
- **Urban road** traffic increased by 1.8% from 2015, though it remained below the peak level seen in 2007 (page 23).

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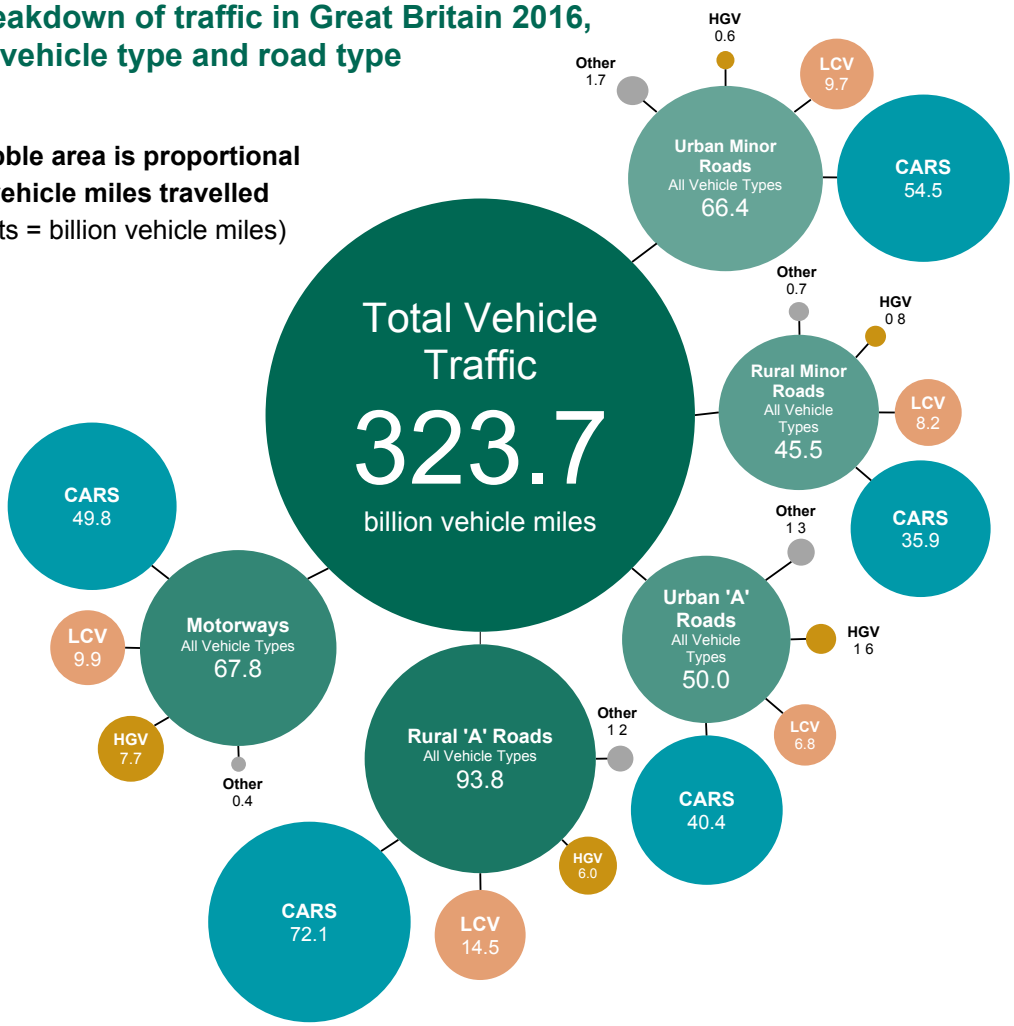
Summary statistics

The summary table below shows patterns in vehicle traffic across a range of years.

⇔ is used for changes of 0.5% or less	Vehicle Miles 2016	Percentage change from: Last Year 2015	5 Years Ago 2011	10 Years Ago 2006	20 Years Ago 1996
All Motor Vehicle Traffic	323.7 billion	↑ 2.2%	↑ 6.5%	↑ 4.0%	↑ 18.1%
Cars and Taxis	252.6 billion	↑ 2.0%	↑ 5.0%	↑ 2.3%	↑ 13.0%
Light Commercial Vehicles (LCV)	49.1 billion	↑ 4.7%	↑ 18.7%	↑ 22.9%	↑ 71.1%
Heavy Goods Vehicles (HGV)	16.6 billion	⇔ -0.2%	↑ 4.5%	↓ -7.8%	↑ 2.1%
Buses	2.5 billion	↓ -7.7%	↓ -14.7%	↓ -24.8%	↓ -20.7%
Motorcycles	2.8 billion	↑ 1.9%	↓ -2.0%	↓ -11.0%	↑ 21.0%
Pedal cycles	3.5 billion	↑ 6.3%	↑ 12.4%	↑ 23.4%	↑ 36.4%
Motorways	67.8 billion	↑ 2.0%	↑ 9.7%	↑ 9.7%	↑ 39.5%
Rural 'A' Roads	93.8 billion	↑ 2.8%	↑ 7.0%	↑ 5.2%	↑ 22.3%
Urban 'A' Roads	50.0 billion	↑ 0.7%	↑ 1.6%	↓ -2.4%	⇔ -0.5%
Rural Minor Roads	45.5 billion	↑ 2.4%	↑ 10.6%	↑ 7.9%	↑ 24.5%
Urban Minor Roads	66.4 billion	↑ 2.6%	↑ 4.1%	↓ -0.7%	↑ 7.3%
Strategic Road Network (SRN)	91.9 billion	↑ 2.4%	↑ 8.8%	↑ 8.6%	

Breakdown of traffic in Great Britain 2016, by vehicle type and road type

Bubble area is proportional to vehicle miles travelled
(units = billion vehicle miles)



Key definitions:

Traffic

Traffic refers to the total distance travelled by all vehicles over the year, measured in **vehicle miles.** This combines the number of vehicles on the road, and how far they drive.

Flow

Flow refers to the average number of vehicles travelling along a given stretch of the road network per day (24 hours).

Billion

In this release 1 billion = 1000 million (10^9).