
**ASSOCIATION OF GREATER MANCHESTER AUTHORITIES
GREATER MANCHESTER TRANSPORTATION UNIT**

**TRANSPORT STATISTICS
GREATER MANCHESTER 2008
ROAD TRAFFIC SECTION**

SUMMARY

This section presents results of GMTU's traffic and transport monitoring during 2008.

These include:

- countywide traffic growth
- daily, weekly and seasonal flow profiles on motorways and A roads
- traffic growth by district
- comparison of local and national traffic growth

ACKNOWLEDGEMENTS

We acknowledge the assistance of The Highways Agency in providing automatic traffic counter data on motorways.

Version No.	Purpose/ Changes	Author	Date Changed	Date Issued	To Whom
1	First Release	A Castle et al	17/11/2009	17/11/2009	www.gmtu.gov.uk

All enquiries to:

Greater Manchester Transportation Unit
1st Floor
Salisbury House
Granby Row
Manchester
M1 7AH

Telephone: 0161 455 2062
Internal Tel; 815 2062

Fax: 0161 455 2071

e-mail: a.castle@manchester.gov.uk

website: <http://www.gmtu.gov.uk/>

The Greater Manchester Transportation Unit provides a strategic and local transportation service to and on behalf of the ten district councils of Greater Manchester. The unit is funded by the ten districts and attached to Manchester City Council as lead authority.

C O N T E N T S

	Page
EXECUTIVE SUMMARY	1
1 ROAD TRAFFIC.....	7
MOTORWAY TRAFFIC.....	9
Traffic Growth on Motorways 2007-2008.....	9
Changes in Motorway Weekday Traffic Flow Profiles 2007-2008.....	10
Peak Hour to Peak Period Ratios on Motorways.....	12
Traffic Flows on Motorways in 2008.....	12
24-Hour Traffic Flow Profiles on Motorways in 2008.....	13
Daily Traffic Flow Indices on Motorways in 2008.....	15
Daily Variation on Motorways by Time Period.....	16
Monthly Traffic Flow Indices on Motorways in 2008.....	17
A ROAD TRAFFIC	18
Traffic Growth on A Roads 2007-2008.....	18
Changes in A Road Weekday Traffic Flow Profiles 2007-2008.....	18
Peak Hour to Peak Period Ratios on A Roads.....	20
24-Hour Traffic Flow Profiles on A Roads in 2008.....	21
Daily Traffic Flow Indices on A Roads in 2008.....	23
Daily Variation on A Roads by Time Period.....	24
Monthly Traffic Flow Indices on A Roads in 2008.....	25
B ROAD TRAFFIC	26
Traffic Growth on B Roads 2007-2008.....	26
Changes in B Road Weekday Traffic Profiles 2007-2008.....	26
Peak Hour to Peak Period Ratios on B Roads.....	28
MINOR ROAD TRAFFIC.....	29
Traffic Growth on Minor Roads 2007-2008.....	29
Changes in Minor Road Weekday Traffic Profiles 2007-2008.....	29
COMPARISONS OF TRAFFIC AND GROWTH	30
Comparison of National and Local Growth in Traffic Flows 1993-2008.....	30
Composition of Motorway, A Road, B Road and Minor Road Traffic 1999-2008.....	32
Average Hourly Flows on Motorways, A, B and Minor Roads in 2008.....	34
Traffic Growth on A Roads and B Roads Combined 2007-2008.....	36
Traffic Growth on A Roads and B Roads by District 2007-2008.....	36
Annual Vehicle Kilometres on Motorways, A Roads and B Roads in 2008.....	37
Annual Vehicle Kilometres on A Roads and B Roads by District in 2008.....	38
Trends in Greater Manchester Vehicle Kilometres on Motorways, A and B Roads 1993-2008.....	39
National and Local Vehicle Kilometres 1993 – 2008.....	40
Congestion Monitoring: Average Journey Time Rates 2004/05 – 2007/08.....	41

LIST OF TABLES

Page

EXECUTIVE SUMMARY

Table 1	Percentage Changes in 12-Hour Traffic Flows on a Sample of Motorways, A Roads and B Roads between 2007 and 2008	3
Table 2.1	Percentage Changes in Average Flows on 12 Motorway Links Between 2007 and 2008	9
Table 2.2	Average Hourly Traffic Flows on 12 Motorway Links in 2007 and 2008	10
Table 2.3	Ratio of Peak Hour to Peak Period Traffic for Motorways 1990-2008 12	
Table 2.4	Average Hourly Traffic Flow Indices on Motorways in 2008	13
Table 2.5	Average Daily Traffic Flow Indices on Motorways in 2008	15
Table 2.6	Average Traffic Flow Indices on Motorways in 2008 by Time Period.....	16
Table 2.7	Average Monthly Traffic Flow Indices on Motorways in 2008	17
Table 2.8	Percentage Changes in Average Flows on 96 A Road Links Between 2007 and 2008	18
Table 2.9	Average Hourly Traffic Flows on 96 A Road Links in 2007 and 2008	18
Table 2.10	Ratio of Peak Hour to Peak Period Traffic for A Road Links 1990-2008	20
Table 2.11	Average Hourly Traffic Flow Indices on A Roads in 2008.....	21
Table 2.12	Average Daily Traffic Flow Indices on A Roads in 2008	23
Table 2.13	Average Traffic Flow Indices on A Roads in 2008 by Time Period	24
Table 2.14	Average Monthly Flow Indices on A Roads in 2008	25
Table 2.15	Percentage Changes in Average Flows on 70 B Road Links Between 2007 and 2008	26
Table 2.16	Average Hourly Traffic Flows on 70 B Road Links in 2007 and 2008	26
Table 2.17	Ratio of Peak Hour to Peak Period Traffic for B Road Links 1990-2008	28
Table 2.18	Percentage Changes in Average Flows on 127 Minor Road Links Between 2007 and 2008	29
Table 2.19	Average Hourly Traffic Flows on 40 Minor Road Links in 2007 and 2008	29
Table 2.20	Traffic Flow Indices for Local and National Motorways and A Roads, 1993-2008	30
Table 2.21	Percentage Composition of Traffic on Motorway, A Road, B Road and Minor Road Links 07:00-19:00 Hours, 2001- 2008.....	32
Table 2.22	Average Hourly Traffic Flows on 24 Motorway, 198 A Road, 124 B Road and 144 Minor Road Links in 2008	34
Table 2.23	Average Hourly Traffic Flows on 24 Motorway, 198 A Road, 124 B Road and 144 Minor Road Links in 2008 as a Percentage of 12-	

LIST OF TABLES

	Page
Hour Flow	34
Table 2.24 Percentage Changes in Average Flows on 166 A and B Road Links Between 2007 and 2008	36
Table 2.25 12-Hour Average Traffic Flows in 2007 and 2008 on A Roads and B Roads by District	36
Table 2.26 Annual Vehicle Kilometres in 2008	37
Table 2.27 Vehicle Kilometres on A Roads by District in 2008	38
Table 2.28 Vehicle Kilometres on B Roads by District in 2008	38
Table 2.29 Trends in Vehicle Kilometres (millions) 1993-2008 by Vehicle Type and Road Class	39
Table 2.30 National and Local Vehicle Kilometres (millions) by Road Class 1993-2008	40
Table 2.31 Average Journey Time Rates Greater Manchester 2007/08	41

LIST OF FIGURES

Figure		Page
EXECUTIVE SUMMARY		
1	National and Local Growth in Traffic Flows 1993-2008	4
2 ROAD TRAFFIC		
2.1	Average Hourly Traffic Flows on Motorways in 2007 and 2008 - All Motors	11
2.2	Average Hourly Traffic Flows on Motorways in 2007 and 2008 - All Goods	11
2.3	24-Hour Annual Average Weekday Flows on Motorways in Greater Manchester 2008	Insert after 12
2.4	Average Hourly Traffic Flow Indices on Motorways in 2008	14
2.5	Average Daily Traffic Flow Indices on Motorways in 2008	15
2.6	Average Monthly Traffic Flow Indices on Motorways in 2008	17
2.7	Average Hourly Traffic Flows on A Roads in 2007 and 2008 - All Motors	19
2.8	Average Hourly Traffic Flows on A Roads in 2007 and 2008 - All Goods	19
2.9	Average Hourly Traffic Flow Profiles on A Roads in 2008	22
2.10	Average Daily Traffic Flow Indices on A Roads in 2008	23
2.11	Average Monthly Traffic Flow Indices on A Roads and Motorways in 2008	25
2.12	Average Hourly Traffic Flows on B Roads in 2007 and 2008 - All Motors	27
2.13	Average Hourly Traffic Flows on B Roads in 2007 and 2008 - All Goods	27
2.14	National and Local Growth in Traffic Flows on Motorways 1993-2008	31
2.15	National and Local Growth in Traffic Flows on A Roads 1993-2008	31
2.16	Percentage Composition of 12-Hour Traffic Flows By Road Class in 2008	33
2.17	Average Hourly All Motor Traffic Flows on Motorways, A Roads, B Roads and Minor Roads in 2008	35
2.18	Average Hourly All Goods Vehicle Traffic Flows on Motorways, A Roads, B Roads and Minor Roads in 2008	35

Figure		Page
2.19	Annual Vehicle Kilometres by Vehicle and Road Type in 2008	37
2.20	Indices of National and Local Vehicle Kilometres by Road Class 1993-2008	40
2.21	Change in Average Journey Time Rates (mins/mile) 2004/2005 to 2007/08 (Motorways)	41
2.22	Change in Average Journey Time Rates (mins/mile) 2004/2005 to 2007/08 (A & B Roads)	42
2.23	Average Journey Time Rates 2005/06 to 2007/08 – Motorways and A & B Roads	42

EXECUTIVE SUMMARY

ROAD TRAFFIC SECTION

EXECUTIVE SUMMARY

Road Traffic

Traffic Flow Changes on Major Roads in Greater Manchester 2007-2008

Table 1 gives a summary of percentage changes in traffic flows in Greater Manchester between 2007 and 2008.

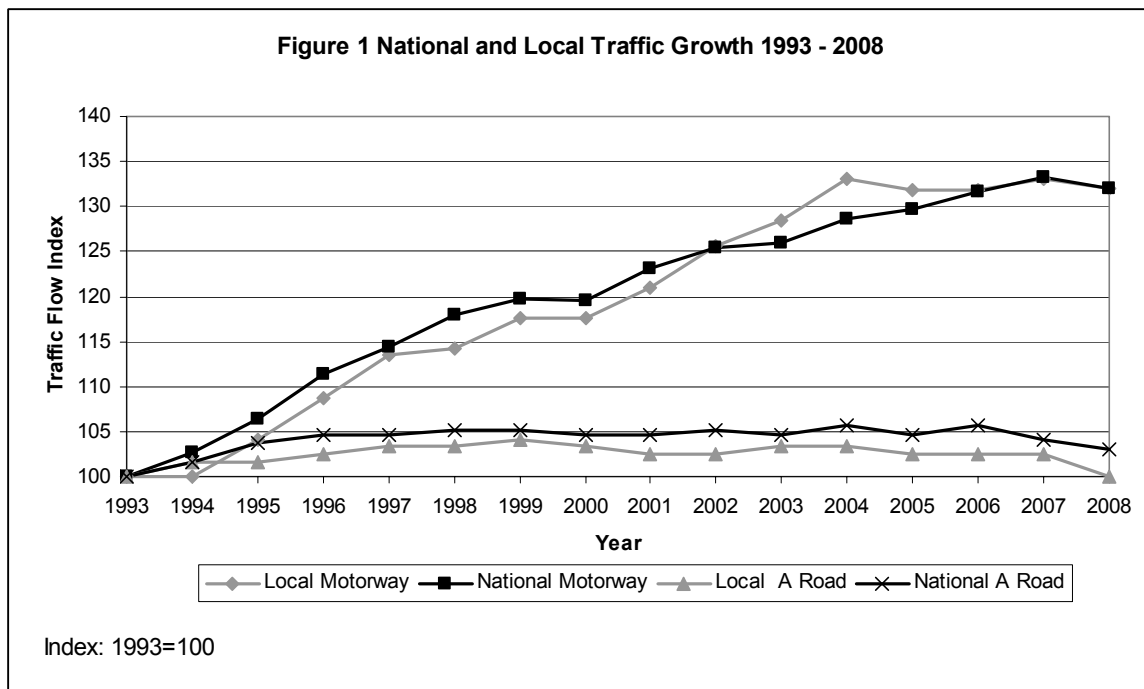
- There was a 1% decrease in traffic flows on motorways, 2% decrease on A roads and a 1% decrease on B roads between 2007 and 2008. Traffic flows also decreased by 1% on minor roads.
- Goods vehicle traffic increased slightly on motorways but decreased on other roads.
- Pedal cycle flows have increased by 8% on A roads, 6% on B roads and 8% on minor roads. Note, though, that as the flows are small, measured changes are less statistically reliable than for other vehicle types.

Table 1 Percentage Changes in 12-Hour Traffic Flows on a Sample of Motorways, A Roads and B Roads between 2007 and 2008						
Road Class	Cars	Goods	Buses and Coaches	Motor Cycles	Pedal Cycles	All Motors
Motorways	-2	1	3	21	-	-1
A Roads	-2	-3	-2	3	8	-2
B Roads	-1	-1	-1	3	6	-1
Minor Roads*	-1	-3	-3	0	8	-1

* Flows are small and observed changes are consequently less statistically reliable than on other roads

Longer Term National and Local Growth in Traffic Flows

- Indices of national and local growth in traffic flows on motorways and A roads since 1993 are illustrated in Figure 1.
- Traffic flows on national and local motorways both showed increases of 32% between 1993 and 2008. Growth on local motorways had been slower than nationally but, following the completion of the M60 ring in October 2000, began to rise more steeply in 2001 to exceed national levels by 2002. Local flows have levelled off in the last few years, partly due to long-term roadworks on the M60 junctions 5 to 8, now completed.
- Traffic flow levels on A roads locally have shown less increase than nationally since 1993 although both have been fairly static in the last 10 years and fell between 2007 and 2008.



Composition of Traffic

- In 2008 cars made up about 80% of all road traffic. The proportion of cars ranged from 75% on motorways to 84% on minor roads
- Motorways had a higher proportion of goods traffic than other roads. This relative difference increased with size of goods vehicle. Heavy goods vehicles with more than 4 axles accounted for 5.5% of traffic on motorways, 1.4% on A roads, 0.6% on B roads and 0.5% on minor roads.

Vehicle Kilometres on Motorways, A Roads and B Roads in Greater Manchester in 2008

- Motorways made up 12% of the major road network and carried 45% of traffic including 62% of goods vehicle traffic. The average annual flow per kilometre on motorways was 34.4 million vehicles.
- A roads made up 61% of the major road network and carried 44% of traffic. The average annual flow per kilometre on A roads was 6.7 million vehicles.
- B roads made up 27% of the major road network and carried 11% of traffic. The average annual flow per kilometre on B roads was 3.9 million vehicles.
- Vehicle kilometres on major roads have increased by 20% since 1993 but this overall increase reflects increases of 50% on motorways compared with 4% on A roads.

Traffic Speeds

- Average morning peak hour (0800-0900) speeds are 34 mph on GM motorways and 15 mph on built-up A and B roads.

- Average inter-peak speeds (1000-1600) are 49 mph on motorways and 19 mph on built-up A and B roads.

1 ROAD TRAFFIC

MOTORWAY TRAFFIC

Traffic Growth on Motorways 2007-2008

2.1 Table 2.1 shows the percentage changes by time period, in average flows on 12 motorway links between 2007 and 2008. The links included in the analysis are:

- M6 junctions 25 to 26 and 26 to 27
- M56 junction 6 to 7
- M60 junctions 17 to 18, 19 to 20, 20 to 21, 22 to 23 and 23 to 24
- M61 junctions 3 to 4 and 5 to 6
- M62 junction 18 to 19, 20 to 21.

2.2 The small number of sites means that the data is less reliable the more it is disaggregated by time period and/or vehicle class. The decrease in all motor flows of 1% over the 12-hour period differs slightly from analysis of ATC data at 31 equivalent sites in 2007 and 2008 (0%). A combination of ATC and manual traffic data has been used for traffic growth factors between 2007 and 2008 and motorway analysis in the district reports. Combined goods vehicle flow differences are thought to be more reliable than LGV and OGV differences and these have been used in year-on-year traffic growth factors for all types of goods vehicle.

Table 2.1 Percentage Changes in Average Flows on 12 Motorway Links Between 2007 and 2008							
Time Period	Cars	LGV	OGV	All Goods	Buses and Coaches	Motor Cycles	All Motors
07:00-10:00	-1	-8	11	0	19	13	0
10:00-16:00	-3	-12	10	-1	-3	18	-3
16:00-19:00	-2	4	22	10	2	31	0
07:00-19:00	-2	-7	13	1	3	21	-1
08:00-09:00	0	-9	14	0	14	4	0
17:00-18:00	-2	7	28	14	6	33	1

Changes in Motorway Weekday Traffic Flow Profiles 2007-2008

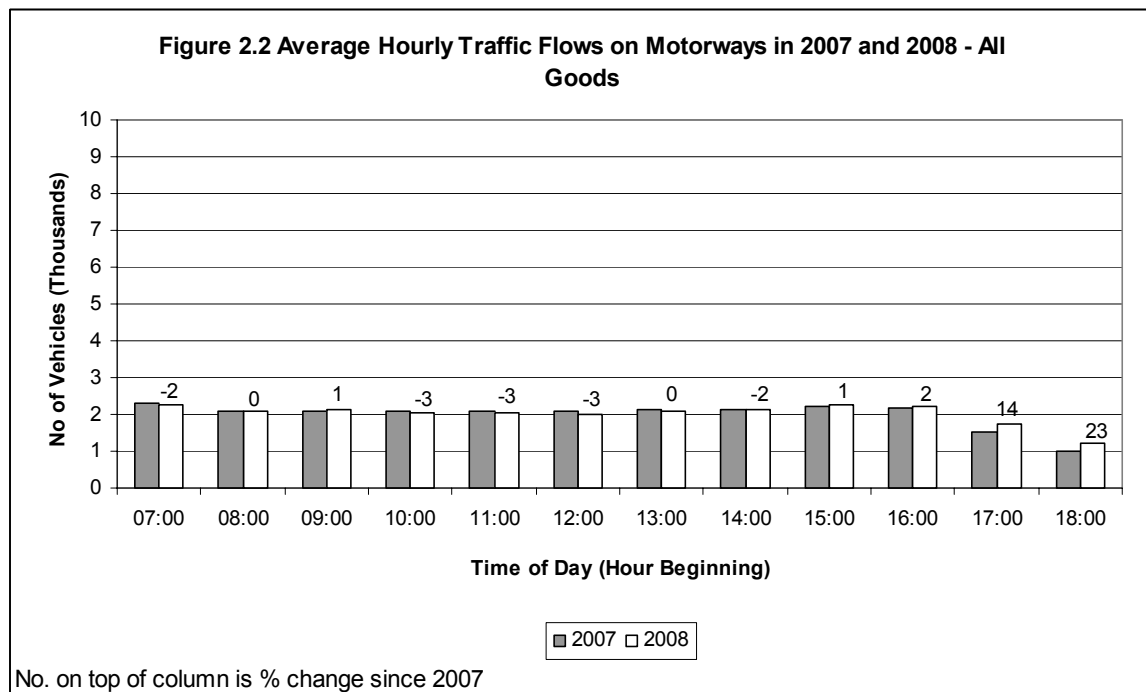
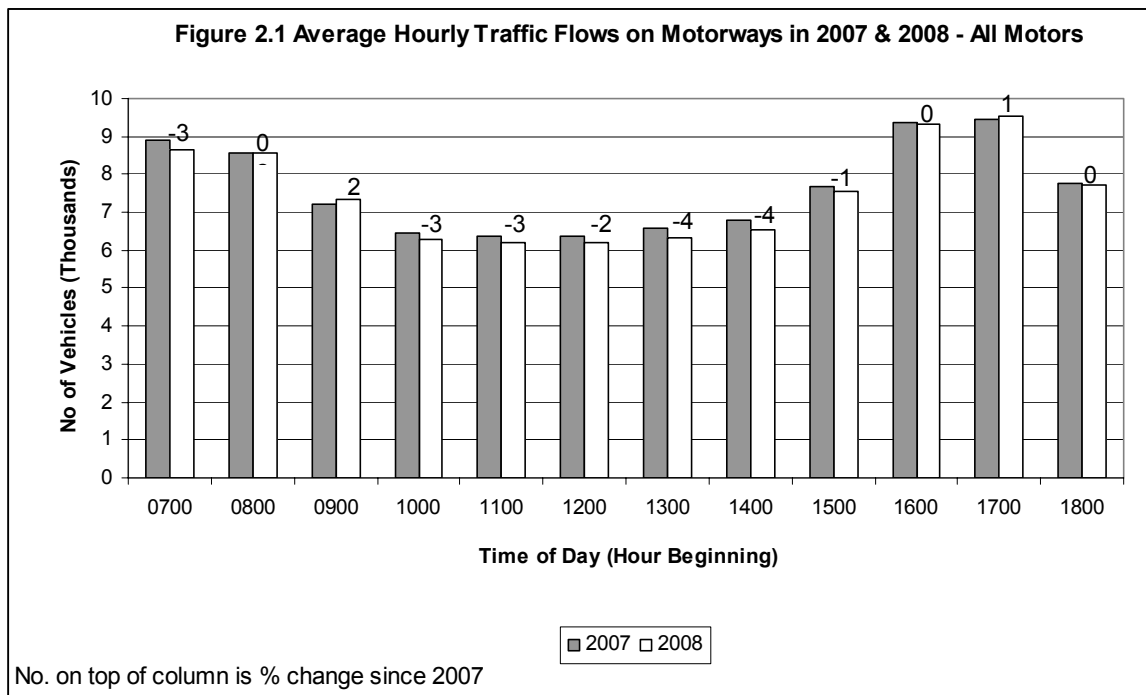
2.3 Table 2.2 shows average weekday traffic flows by hour on 12 motorway links in 2007 and 2008 together with the percentage changes in flows. The all motors and all goods profiles are illustrated in Figures 2.1 and 2.2.

Table 2.2 Average Hourly Traffic Flows on 12 Motorway Links in 2007 and 2008									
Start Hour	2007				2008				
	Cars	Light Goods Vehicles	Other Goods Vehicles	All Motors	Cars	Light Goods Vehicles	Other Goods Vehicles	All Motors	
07:00	6547	1459	851	8899	6358 (-3)	1322 (-9)	936 (10)	8664 (-3)	
08:00	6468	1225	841	8573	6467 (0)	1116 (-9)	957 (14)	8581 (0)	
09:00	5100	1122	971	7229	5191 (2)	1049 (-7)	1067 (10)	7354 (2)	
10:00	4309	1066	1024	6439	4192 (-3)	930 (-13)	1107 (8)	6272 (-3)	
11:00	4252	1093	987	6369	4132 (-3)	931 (-15)	1094 (11)	6195 (-3)	
12:00	4243	1087	991	6352	4158 (-2)	949 (-13)	1071 (8)	6213 (-2)	
13:00	4428	1123	989	6576	4180 (-6)	1022 (-9)	1085 (10)	6327 (-4)	
14:00	4615	1211	937	6802	4405 (-5)	1035 (-15)	1075 (15)	6554 (-4)	
15:00	5396	1327	906	7673	5260 (-3)	1241 (-6)	1014 (12)	7564 (-1)	
16:00	7121	1441	742	9351	7026 (-1)	1368 (-5)	854 (15)	9307 (0)	
17:00	7898	999	510	9459	7730 (-2)	1071 (7)	652 (28)	9516 (1)	
18:00	6702	578	423	7747	6455 (-4)	696 (20)	535 (26)	7735 (0)	
Total	67079	13731	10171	91469	65553 (-2)	12729 (-7)	11448 (13)	90281 (-1)	

Note: The figures in brackets are the percentage changes between 2007 and 2008.

Figures may not sum due to rounding.

The average link flows are pertinent to the twelve measured links only and not to the motorway network as a whole



Peak Hour to Peak Period Ratios on Motorways

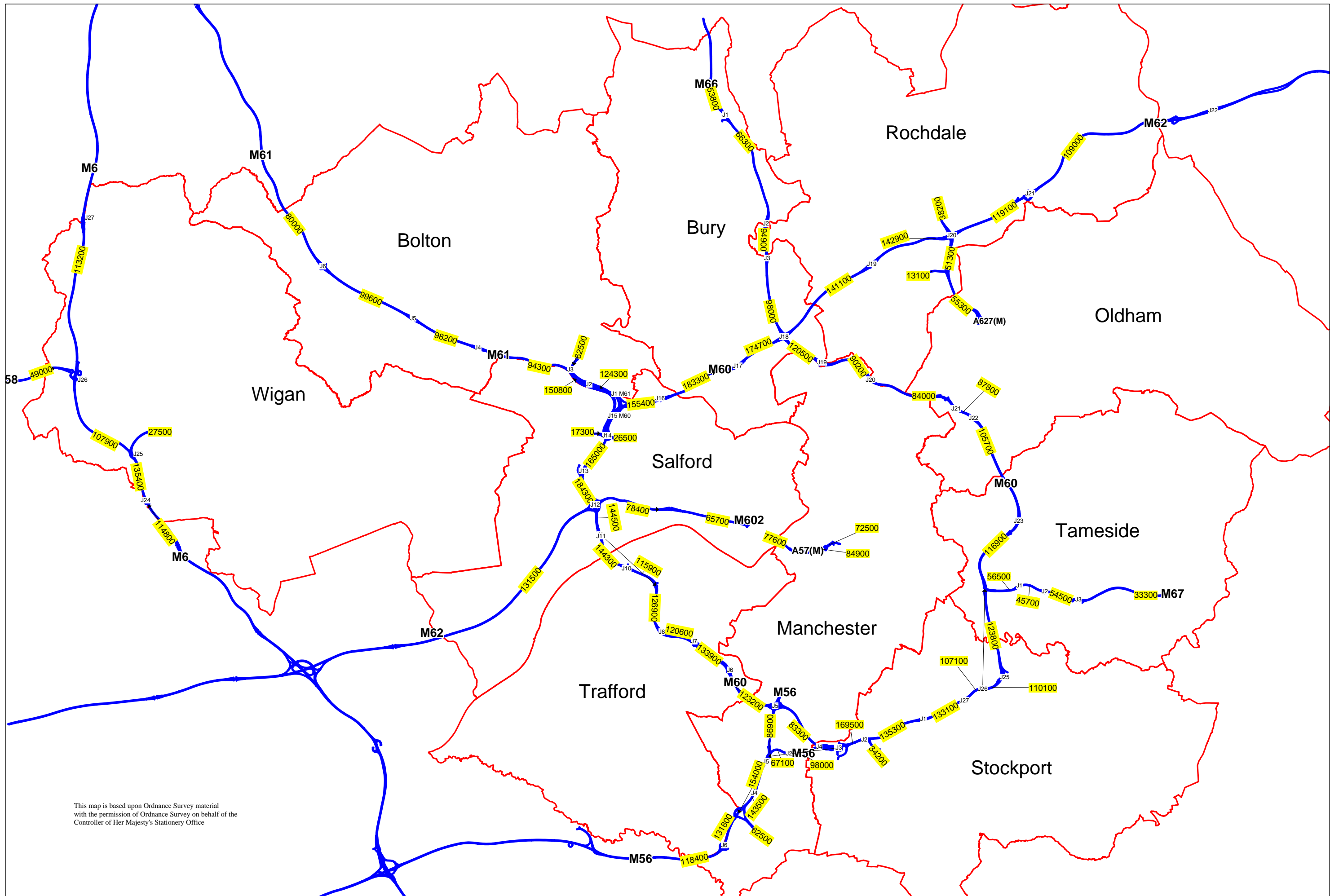
2.4 Table 2.3 shows peak hour and peak period traffic flow ratios for motorway links surveyed between 1990 and 2008.

Table 2.3 Ratio of Peak Hour to Peak Period Traffic for Motorways 1990-2008			
Year	Number of Sites	<u>08:00 – 09:00</u> <u>07:00 – 10:00</u>	<u>17:00 – 18:00</u> <u>16:00 – 19:00</u>
1990	21	0.38	0.38
1991	15	0.38	0.37
1992	19	0.37	0.37
1993	22	0.37	0.37
1994	37	0.36	0.37
1995	39	0.36	0.37
1996	40	0.36	0.37
1997	29	0.36	0.37
1998	25	0.36	0.36
1999	42	0.36	0.36
2000	48	0.35	0.36
2001	51	0.36	0.37
2002	43	0.36	0.37
2003	37	0.35	0.36
2004	36	0.35	0.35
2005	21	0.36	0.36
2006	22	0.35	0.36
2007	27	0.35	0.36
2008	24	0.36	0.36

Note: For ease of comparison with other road classes, the morning peak hour quoted is 08:00-09:00. The true peak flow on most motorways occurs 07:00-08:00 (see Figure 2.4).

Traffic Flows on Motorways in 2008

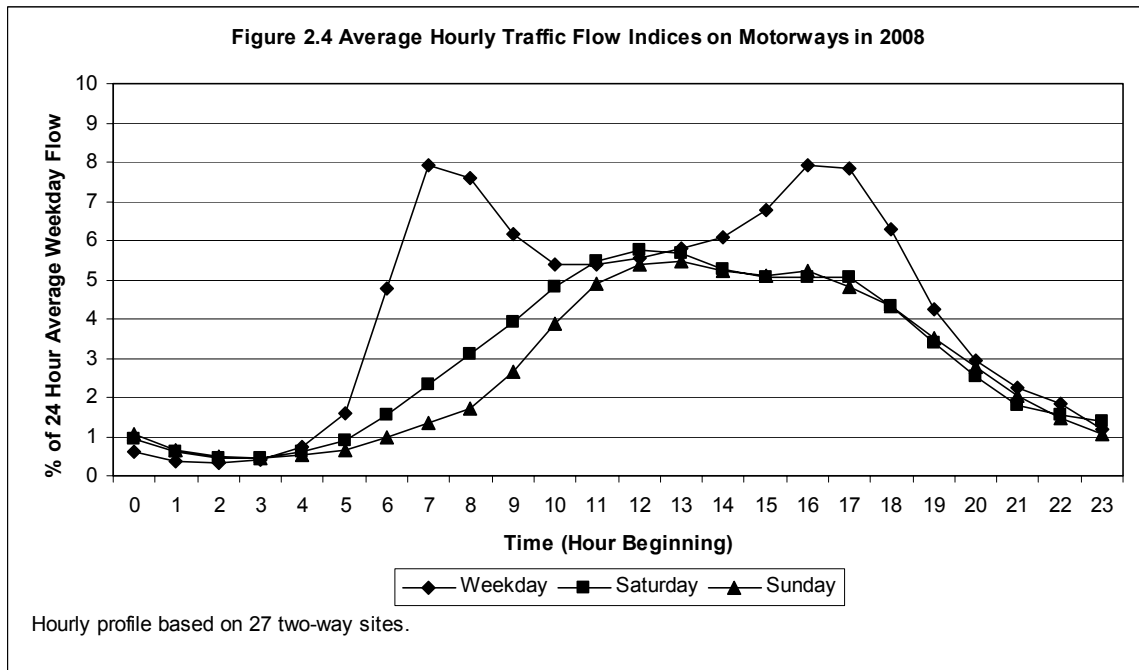
2.5 Figure 2.3 shows the average 24-hour weekday flow of motor vehicles on each link of Greater Manchester's motorway network. The flows are either automatic traffic counts or estimates based on 12-hour manual classified counts undertaken as part of GMTU's countywide monitoring programme. The manual counts have been factored using the 12 to 24-hour factors given in Appendix 1.



24-Hour Traffic Flow Profiles on Motorways in 2008

2.6 Data from 27 two-way continuous automatic traffic counts on motorways have been analysed to provide the daily profiles in Table 2.4. Flows affected by bank and school holidays, roadworks and unusual events were excluded from the analysis. Figure 2.4 shows the profiles expressed as a percentage of the 24-hour average weekday flow.

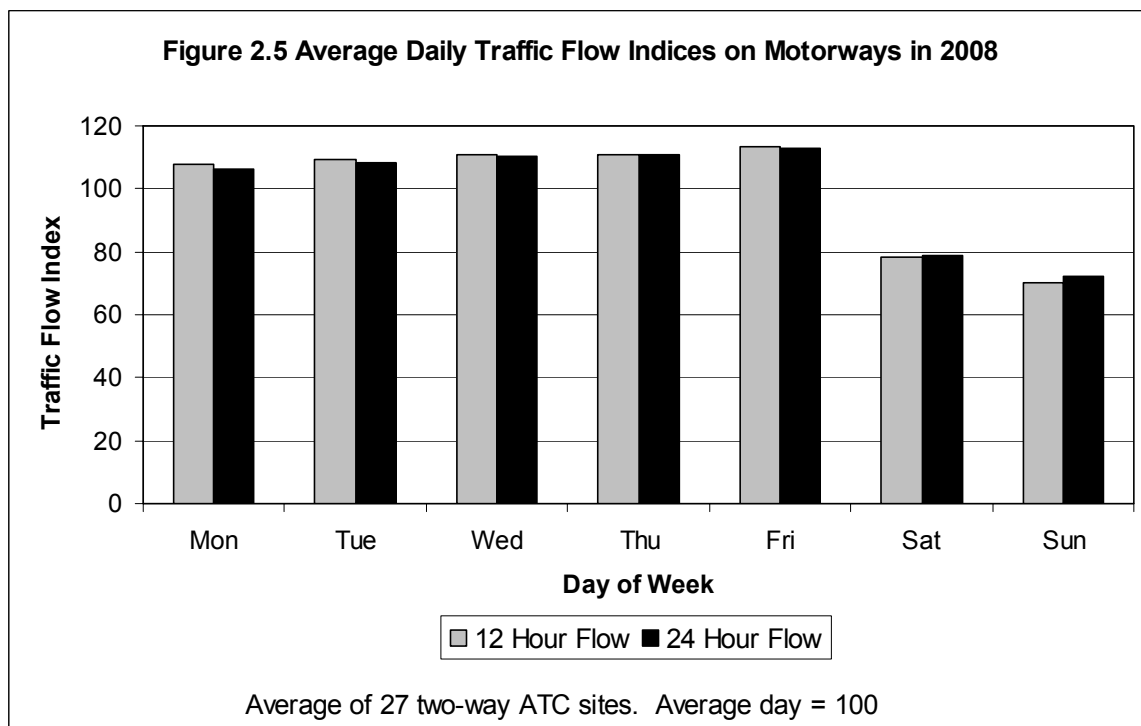
Table 2.4 Average Hourly Traffic Flow Indices on Motorways in 2008			
Hour Beginning	% of 24 Hour Flow Weekday	% of 24 Hour Flow Saturday	% of 24 Hour Flow Sunday
00:00	0.6	1.3	1.6
01:00	0.4	0.8	1.0
02:00	0.3	0.6	0.7
03:00	0.4	0.6	0.7
04:00	0.7	0.9	0.8
05:00	1.6	1.3	1.0
06:00	4.8	2.2	1.5
07:00	7.9	3.2	2.0
08:00	7.6	4.3	2.6
09:00	6.2	5.4	4.1
10:00	5.4	6.7	5.9
11:00	5.4	7.6	7.5
12:00	5.6	8.0	8.2
13:00	5.8	7.9	8.3
14:00	6.1	7.3	8.0
15:00	6.8	7.0	7.8
16:00	7.9	7.0	7.9
17:00	7.8	7.0	7.3
18:00	6.3	6.0	6.6
19:00	4.2	4.7	5.3
20:00	2.9	3.5	4.2
21:00	2.2	2.5	3.1
22:00	1.9	2.2	2.3
23:00	1.2	1.9	1.6



Daily Traffic Flow Indices on Motorways in 2008

2.7 Table 2.5 shows indices of motorway traffic throughout the week. These are also shown graphically in Figure 2.5 and are derived from two-way automatic traffic counts undertaken continuously on 27 links.

Table 2.5 Average Daily Traffic Flow Indices on Motorways in 2008				
Day of Week	12 Hour Flow Average Weekday Index = 100	12 Hour Flow Average Day Index = 100	24 Hour Flow Average Weekday Index = 100	24 Hour Flow Average Day Index = 100
Monday	98	108	97	106
Tuesday	99	109	99	108
Wednesday	100	111	100	110
Thursday	100	111	101	111
Friday	103	114	103	113
Saturday	71	78	72	79
Sunday	64	70	66	72



Daily Variation on Motorways by Time Period

2.8 Table 2.6 gives a more detailed breakdown of the variation in traffic flows in individual time periods for each day of the week.

Time of Day	Time Period	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Within the normal working day	07:00-10:00	100	101	101	101	97	44	27
	10:00-16:00	96	97	99	99	109	91	86
	16:00-19:00	98	101	102	102	98	66	66
	07:00-19:00	98	99	100	100	103	71	64
Peak periods	07:00-08:00	100	100	100	101	98	30	17
	08:00-09:00	100	100	101	101	97	42	23
	16:00-17:00	98	100	101	101	100	65	67
	17:00-18:00	100	101	101	101	97	66	63
Outside the normal working day	00:00-07:00 and 19:00-24:00	94	98	101	103	104	77	74
All Day	00:00-24:00	97	99	100	101	103	72	66

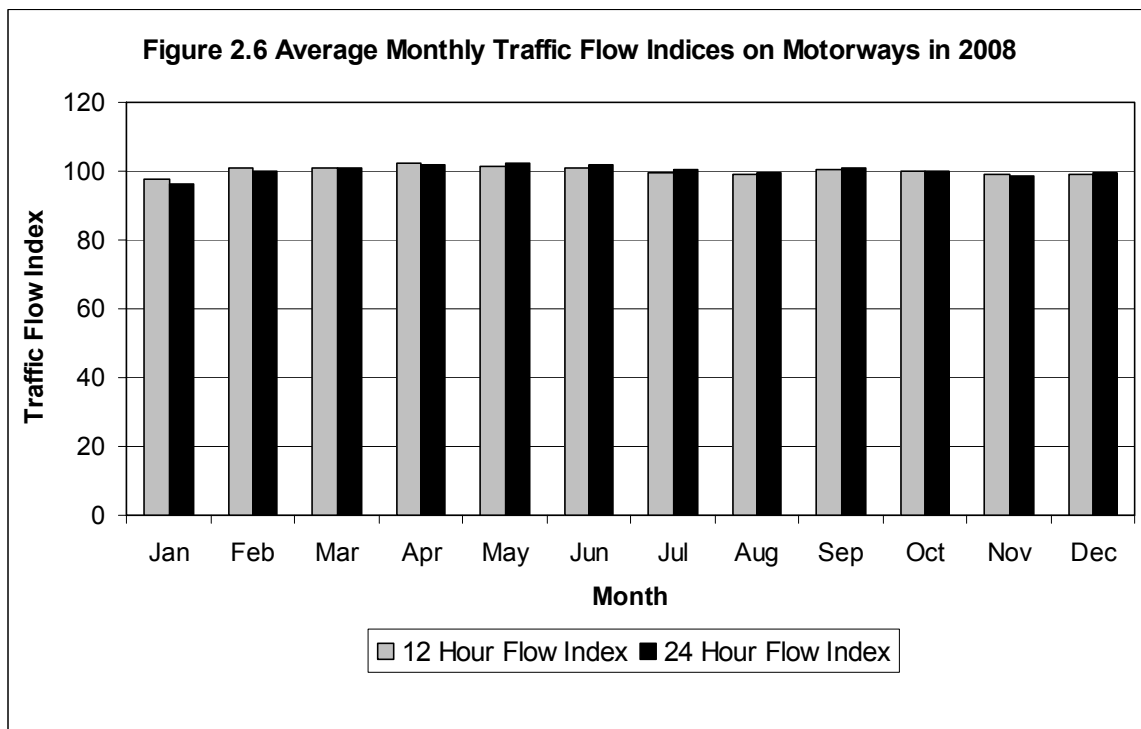
Note: Indices for each time period are based on an average weekday flow index of 100 for the time period.

Monthly Traffic Flow Indices on Motorways in 2008

2.9 Monthly indices of 12 and 24-hour flows based on average monthly weekday flows at 27 two-way motorway sites are given in Table 2.7 and illustrated in Figure 2.6.

Table 2.7 Average Monthly Traffic Flow Indices on Motorways in 2008		
Month	12 Hour Flow Average Month Index = 100	24 Hour Flow Average Month Index = 100
January	98	96
February	101	100
March	101	101
April	102	102
May	102	102
June	101	102
July	100	100
August	99	100
September	100	101
October	100	100
November	99	98
December	99	99

Note: Based on ATC data from 27 two-way motorway sites in 2008.



A ROAD TRAFFIC

Traffic Growth on A Roads 2007-2008

2.10 Table 2.8 shows the percentage changes, by time period, in average flows on 93 A road links throughout the county between 2007 and 2008. The figures are based on manual classified counts.

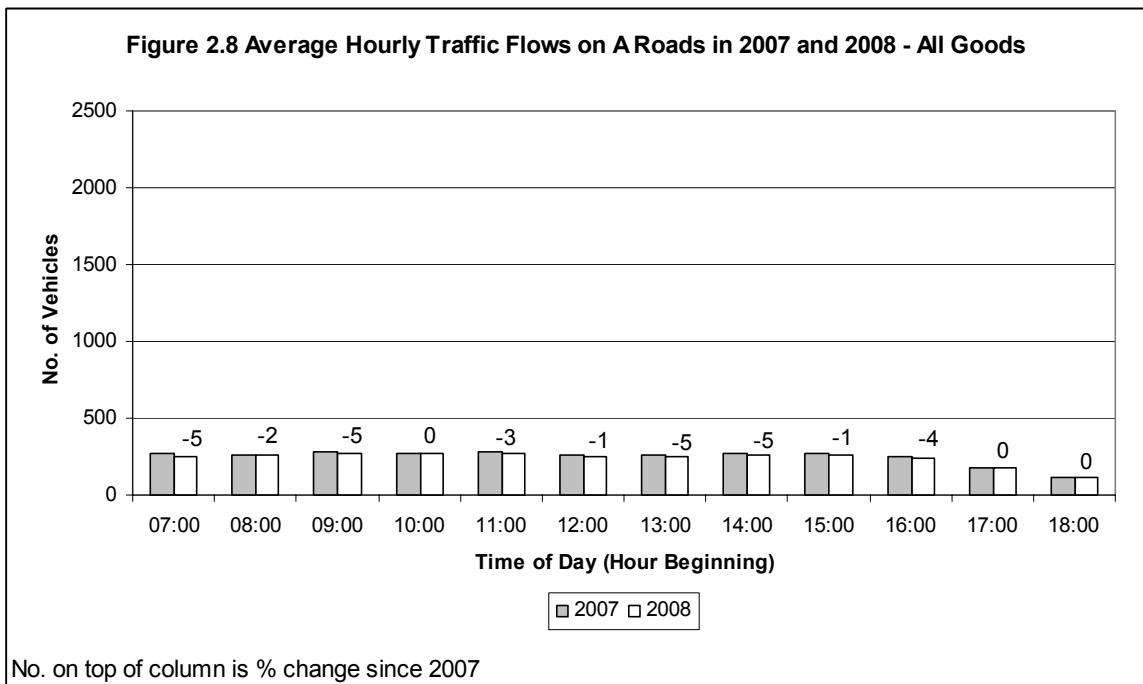
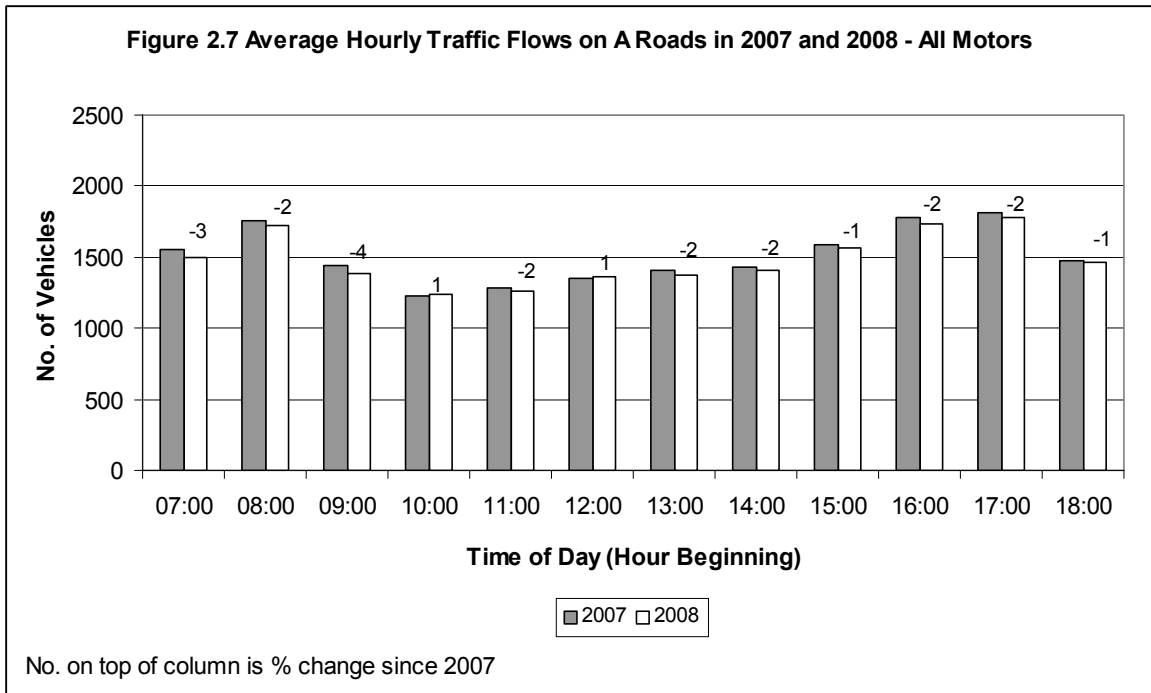
Table 2.8 Percentage Changes in Average Flows on 96 A Road Links Between 2007 and 2008							
Time Period	Cars	LGV	OGV	Buses and Coaches	Motor Cycles	Pedal Cycles	All Motors
07:00-10:00	-3	-5	-2	-2	3	14	-3
10:00-16:00	0	-3	-2	-2	5	13	-1
16:00-19:00	-2	-2	-1	-3	0	-3	-2
07:00-19:00	-2	-3	-2	-2	3	8	-2
08:00-09:00	-2	-2	0	0	9	9	-2
17:00-18:00	-2	-1	10	-4	0	0	-2

Changes in A Road Weekday Traffic Flow Profiles 2007-2008

2.11 Table 2.9 shows average weekday traffic flows by hour on 96 A road links in 2007 and 2008 together with the percentage change in flow since 2007. The all motors and all goods profiles are illustrated in Figures 2.7 and 2.8.

Table 2.9 Average Hourly Traffic Flows on 96 A Road Links in 2007 and 2008									
Start Hour	2007				2008				
	Cars	Light Goods Vehicles	Other Goods Vehicles	All Motors	Cars	Light Goods Vehicles	Other Goods Vehicles	All Motors	
07:00	1244	214	52	1549	1204 (-3)	199 (-7)	54 (4)	1497 (-3)	
08:00	1457	198	62	1756	1423 (-2)	194 (-2)	62 (0)	1718 (-2)	
09:00	1121	208	74	1437	1078 (-4)	199 (-4)	70 (-5)	1380 (-4)	
10:00	925	198	74	1226	934 (1)	199 (1)	73 (-1)	1236 (1)	
11:00	978	210	71	1288	961 (-2)	201 (-4)	72 (1)	1261 (-2)	
12:00	1060	192	65	1346	1075 (1)	191 (-1)	64 (-2)	1360 (1)	
13:00	1110	199	66	1404	1092 (-2)	188 (-6)	64 (-3)	1373 (-2)	
14:00	1123	206	68	1431	1116 (-1)	198 (-4)	62 (-9)	1409 (-2)	
15:00	1281	212	56	1586	1270 (-1)	208 (-2)	56 (0)	1570 (-1)	
16:00	1485	214	40	1780	1455 (-2)	205 (-4)	38 (-5)	1737 (-2)	
17:00	1600	151	21	1812	1564 (-2)	149 (-1)	23 (10)	1774 (-2)	
18:00	1331	101	13	1475	1318 (-1)	101 (0)	13 (0)	1462 (-1)	
Total	14715	2304	664	18090	14490 (-2)	2231 (-3)	652 (-2)	17778 (-2)	

Note: The figures in brackets are the percentage changes between 2007 and 2008.



Peak Hour to Peak Period Ratios on A Roads

2.12 Table 2.10 shows peak hour to peak period traffic flow ratios for A Road links surveyed between 1990 and 2008.

Table 2.10 Ratio of Peak Hour to Peak Period Traffic for A Road Links 1990-2008			
Year	Number of Sites	<u>08:00 – 09:00</u> <u>07:00 – 10:00</u>	<u>17:00 – 18:00</u> <u>16:00 – 19:00</u>
1990	185	0.39	0.37
1991	173	0.39	0.37
1992	180	0.40	0.37
1993	205	0.39	0.35
1994	196	0.39	0.37
1995	289	0.39	0.37
1996	185	0.39	0.37
1997	192	0.39	0.36
1998	225	0.38	0.36
1999	246	0.39	0.36
2000	239	0.38	0.37
2001	287	0.38	0.36
2002	255	0.38	0.36
2003	229	0.38	0.36
2004	204	0.37	0.36
2005	213	0.38	0.36
2006	135	0.37	0.36
2007	198	0.37	0.36
2008	198	0.37	0.36

24-Hour Traffic Flow Profiles on A Roads in 2008

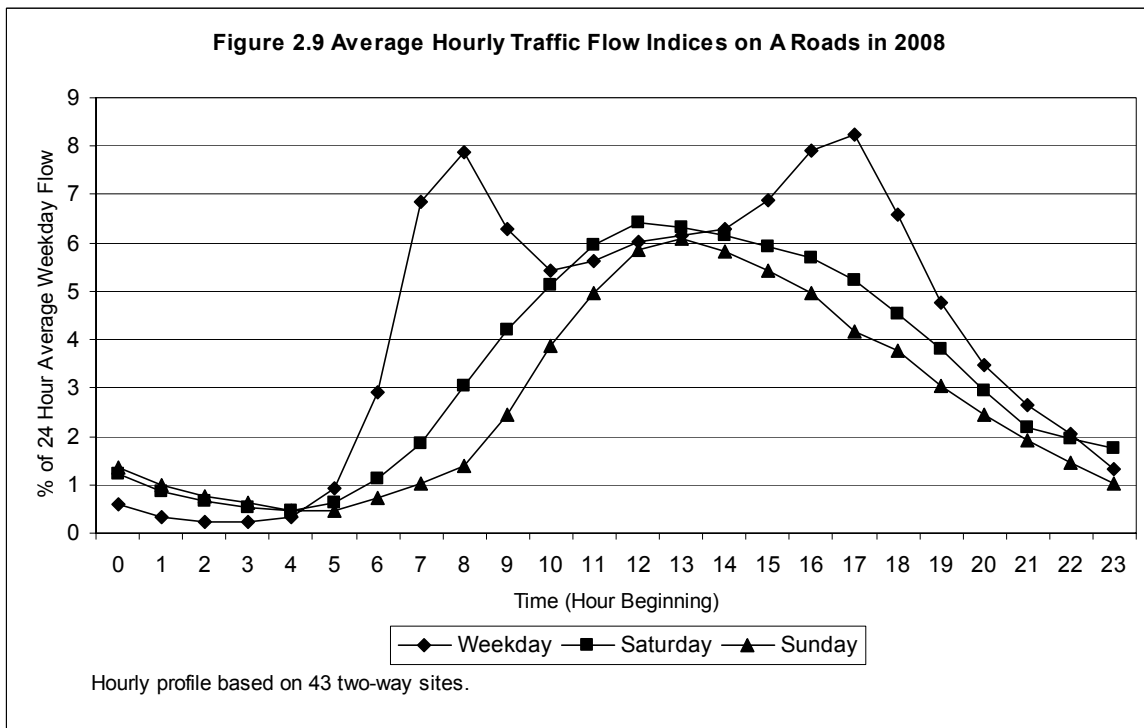
2.13 Table 2.11 gives profiles of hourly traffic flow based on automatic traffic counter data. Flows affected by bank and school holidays, roadworks and unusual events have been excluded from this analysis. Figure 2.9 shows the profiles expressed as a percentage of the 24-hour average weekday flow.

Table 2.11 Average Hourly Traffic Flow Indices on A Roads in 2008			
Hour Beginning	% of 24-Hour Flow Weekday	% of 24-Hour Flow Saturday	% of 24-Hour Flow Sunday
00:00	0.6	1.6	2.1
01:00	0.3	1.1	1.5
02:00	0.2	0.8	1.2
03:00	0.2	0.7	1.0
04:00	0.3	0.6	0.7
05:00	0.9	0.8	0.7
06:00	2.9	1.4	1.1
07:00	6.9	2.4	1.6
08:00	7.9	3.9	2.1
09:00	6.3	5.3	3.8
10:00	5.4	6.5	6.0
11:00	5.6	7.6	7.6
12:00	6.0	8.2	9.0
13:00	6.2	8.1	9.4
14:00	6.3	7.8	9.0
15:00	6.9	7.5	8.4
16:00	7.9	7.2	7.6
17:00	8.2	6.7	6.4
18:00	6.6	5.8	5.8
19:00	4.8	4.8	4.7
20:00	3.5	3.7	3.8
21:00	2.6	2.8	3.0
22:00	2.1	2.5	2.2
23:00	1.3	2.2	1.6

Notes:

Traffic flows are based on data from 43 two-way ATC sites on A roads throughout the county in 2008.

Percentages may not sum to 100 due to rounding.

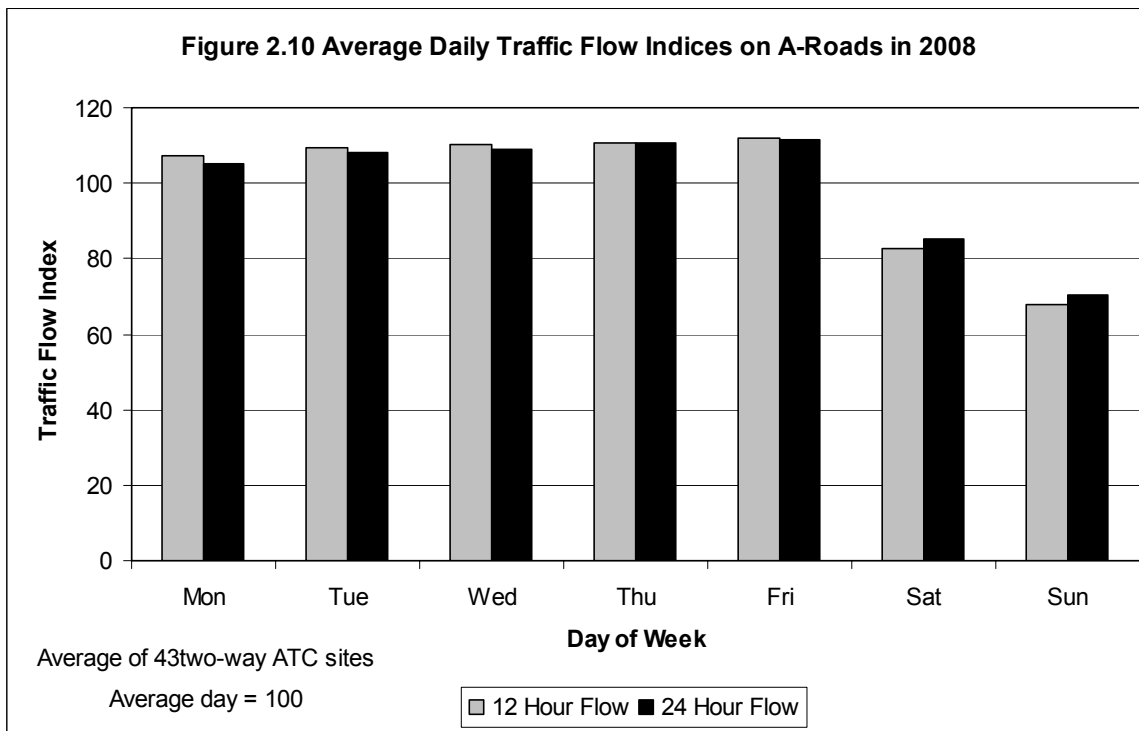


Daily Traffic Flow Indices on A Roads in 2008

2.14 Table 2.12 and Figure 2.10 show average daily traffic profiles on A roads.

Table 2.12 Average Daily Traffic Flow Indices on A Roads in 2008				
Day of Week	12-Hour Flow Average Weekday Index = 100	12-Hour Flow Average Day Index = 100	24-Hour Flow Average Weekday Index = 100	24-Hour Flow Average Day Index = 100
Monday	98	107	97	105
Tuesday	100	109	99	108
Wednesday	100	110	100	109
Thursday	101	111	101	110
Friday	102	112	103	112
Saturday	76	83	79	85
Sunday	62	68	65	70

Note: Indices are based on average flows at 43 two-way ATC sites on A roads throughout the county in 2008.



Daily Variation on A Roads by Time Period

2.15 Table 2.13 gives a more detailed breakdown of the variation in weekday flow in individual time periods.

Time of Day	Time Period	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Within the normal working day	07:00-10:00	99	101	101	101	99	44	24
	10:00-16:00	96	98	99	100	107	99	88
	16:00-19:00	98	101	101	102	98	69	58
	07:00-19:00	98	100	100	101	102	76	62
Peak periods	07:00-08:00	99	101	101	100	98	29	16
	08:00-09:00	99	101	101	100	99	40	18
	16:00-17:00	98	100	100	101	101	74	64
	17:00-18:00	100	101	102	101	96	66	53
Outside the normal working day	00:00-07:00 and 19:00-24:00	92	98	100	105	106	91	76
All Day	00:00-24:00	97	99	100	101	103	79	65

Note: Indices for each time period are relative to an average weekday flow index of 100 for the time period.

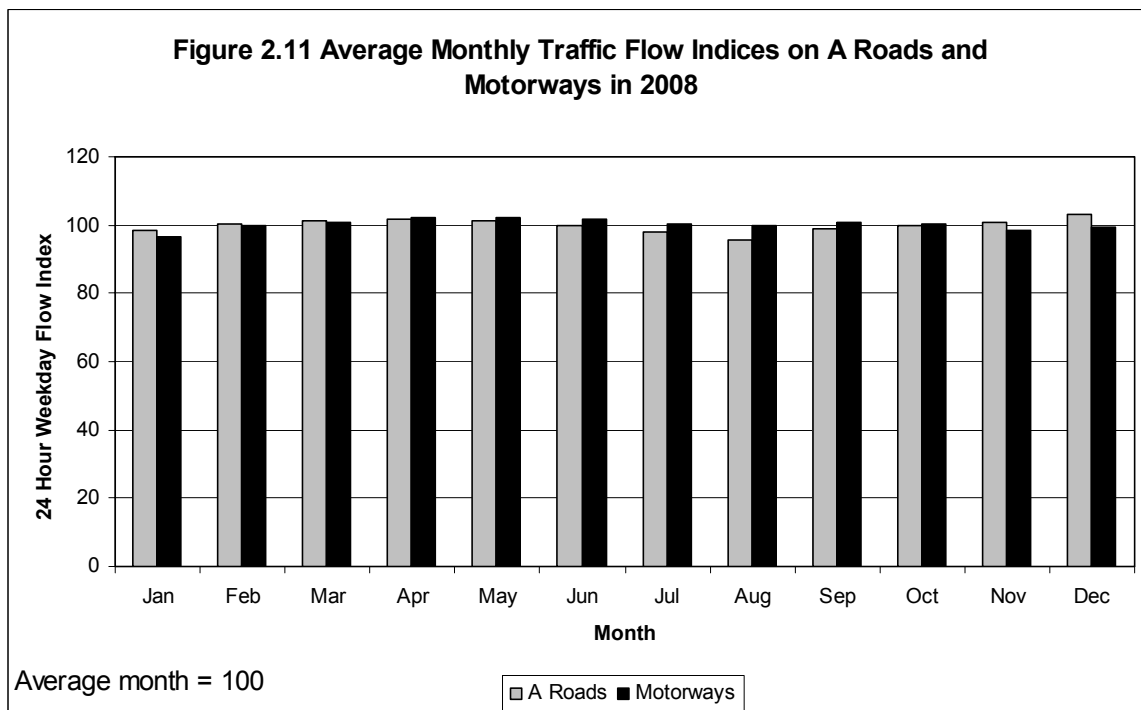
Indices are based on average flows at 43 two-way ATC sites on A roads throughout the county in 2008.

Monthly Traffic Flow Indices on A Roads in 2008

2.16 Table 2.14 shows monthly traffic indices on A roads. Figure 2.11 compares 24-hour weekday monthly traffic profiles for motorways and A roads.

Table 2.14 Average Monthly Flow Indices on A Roads in 2008		
Month	12-Hour Flow Index Average Month = 100	24-Hour Flow Index Average Month = 100
January	99	98
February	101	100
March	101	101
April	102	102
May	101	101
June	99	100
July	97	98
August	95	96
September	99	99
October	100	100
November	101	101
December	102	103

Note: Indices are based on average monthly flows at 43 two-way ATC sites on A roads throughout the county.



B ROAD TRAFFIC**Traffic Growth on B Roads 2007-2008**

2.17 Table 2.15 shows the percentage changes by time period, in average traffic flows on 69 B road links between 2007 and 2008. The figures are based on manual classified counts undertaken throughout the county.

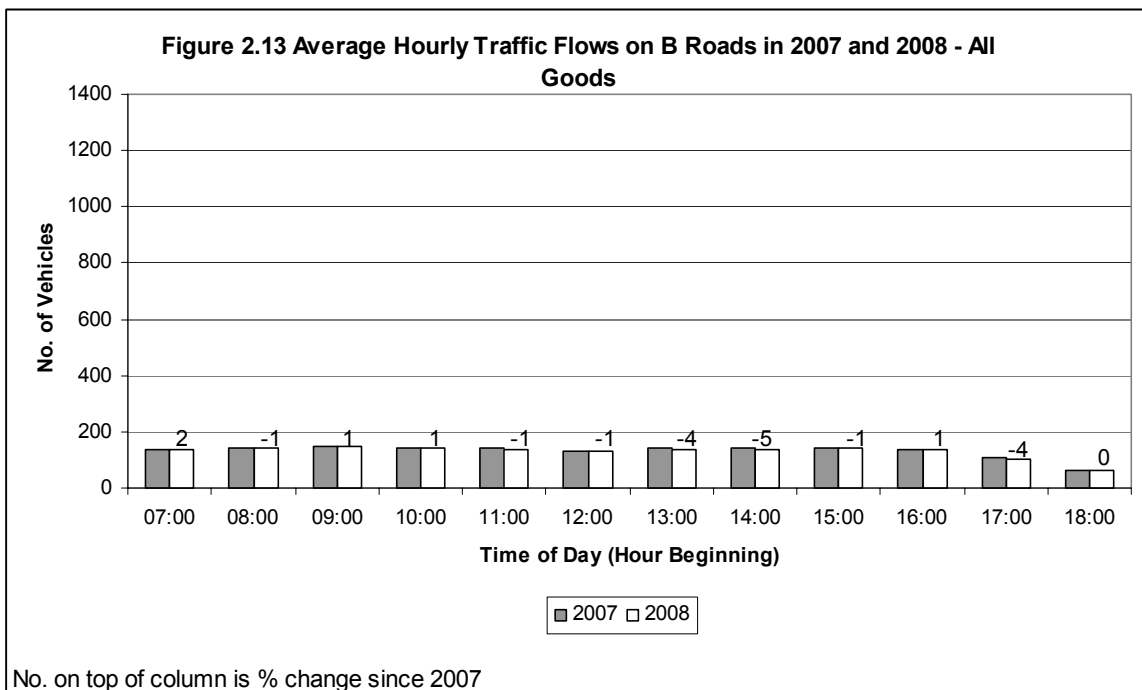
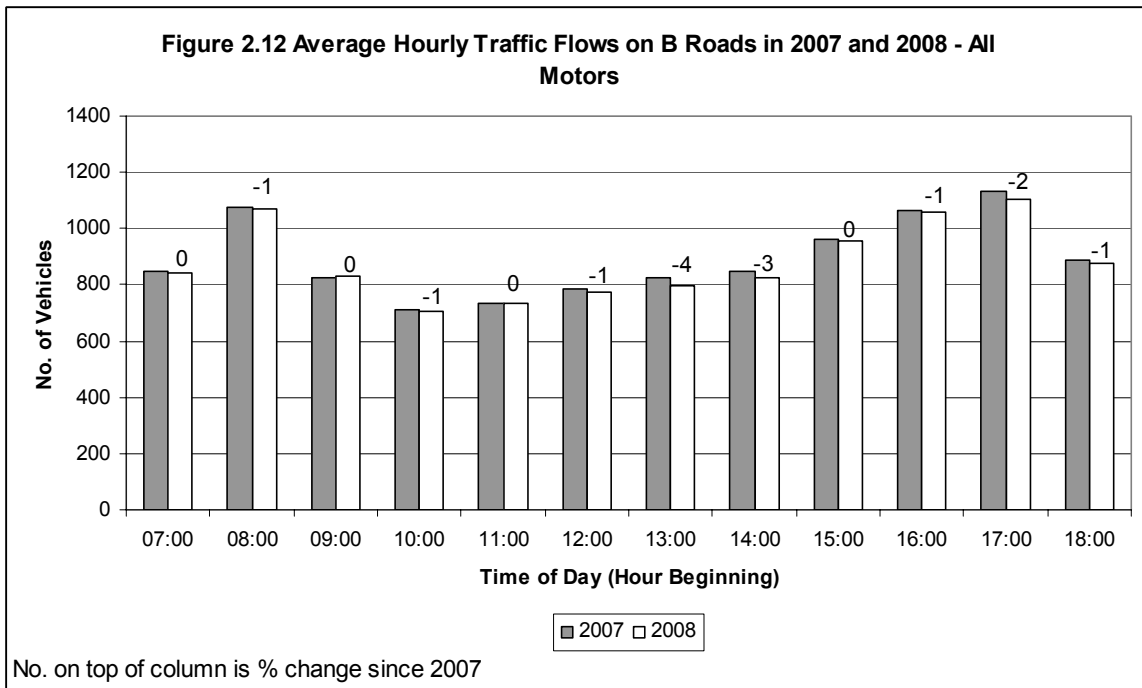
Table 2.15 Percentage Changes in Average Flows on 70 B Road Links Between 2007 and 2008							
Time Period	Cars	LGV	OGV	Buses and Coaches	Motor Cycles	Pedal Cycles	All Motors
07:00-10:00	0	1	0	0	6	5	0
10:00-16:00	-1	-1	-4	0	-4	4	-2
16:00-19:00	-1	0	-10	0	0	8	-1
07:00-19:00	-1	0	-4	-1	3	6	-1
08:00-09:00	-1	-1	0	0	0	13	-1
17:00-18:00	-2	-2	-22	8	0	10	-2

Changes in B Road Weekday Traffic Profiles 2007-2008

2.18 Table 2.16 shows average hourly traffic flows on 70 B road links in 2007 and 2008 together with the percentage change in flow since 2007. The all motors and all goods profiles are illustrated in Figures 2.12 and 2.13.

Table 2.16 Average Hourly Traffic Flows on 70 B Road Links in 2007 and 2008									
Start Hour	2007				2008				
	Cars	Light Goods Vehicles	Other Goods Vehicles	All Motors	Cars	Light Goods Vehicles	Other Goods Vehicles	All Motors	
07:00	691	114	20	847	684 (-1)	117 (3)	20 (0)	844 (0)	
08:00	911	119	25	1078	904 (-1)	118 (-1)	25 (0)	1070 (-1)	
09:00	660	118	28	826	663 (0)	119 (1)	28 (0)	829 (0)	
10:00	553	111	30	710	547 (-1)	114 (3)	28 (-7)	706 (-1)	
11:00	579	112	28	736	578 (-0)	112 (0)	27 (-4)	734 (-0)	
12:00	634	106	25	783	628 (-1)	106 (0)	24 (-4)	775 (-1)	
13:00	666	114	26	826	641 (-4)	109 (-4)	26 (0)	795 (-4)	
14:00	681	118	27	847	665 (-2)	113 (-4)	25 (-7)	824 (-3)	
15:00	794	119	23	959	791 (-0)	119 (0)	21 (-9)	955 (-0)	
16:00	903	121	17	1065	894 (-1)	124 (2)	15 (-12)	1057 (-1)	
17:00	1003	97	9	1130	982 (-2)	95 (-2)	7 (-22)	1106 (-2)	
18:00	806	59	4	886	797 (-1)	59 (0)	4 (0)	877 (-1)	
Total	8881	1307	261	10693	8774 (-1)	1306 (0)	250 (-4)	10573 (-1)	

Note: The figures in brackets are the percentage changes between 2007 and 2008.



Peak Hour to Peak Period Ratios on B Roads

2.19 Table 2.17 shows peak hour and peak period traffic flow ratios for all B road links surveyed between 1990 and 2008.

Table 2.17 Ratio of Peak Hour to Peak Period Traffic for B Road Links 1990-2008			
Year	Number of Sites	<u>08:00 – 09:00</u> <u>07:00 – 10:00</u>	<u>17:00 – 18:00</u> <u>16:00 – 19:00</u>
1990	85	0.41	0.37
1991	100	0.41	0.37
1992	76	0.42	0.37
1993	84	0.41	0.35
1994	102	0.42	0.37
1995	75	0.41	0.37
1996	83	0.41	0.37
1997	94	0.41	0.37
1998	71	0.42	0.37
1999	87	0.41	0.37
2000	53	0.40	0.37
2001	76	0.40	0.37
2002	104	0.40	0.37
2003	101	0.40	0.36
2004	97	0.40	0.37
2005	68	0.39	0.36
2006	85	0.40	0.37
2007	116	0.40	0.37
2008	124	0.39	0.36

MINOR ROAD TRAFFIC

Traffic Growth on Minor Roads 2007-2008

2.20 Table 2.18 shows the average percentage changes by time period, in average traffic flows on 140 minor roads between 2007 and 2008. The percentage change in vehicle flows other than car and LGV should be treated with caution since they are based on very low flows, which are subject to greater percentage variability than higher flows.

Time Period	Cars	LGV	OGV	Buses and Coaches	Motor Cycles	Pedal Cycles	All Motors
07:00-10:00	-2	-6	-4	-5	0	0	-2
10:00-16:00	0	-4	4	-3	0	7	-1
16:00-19:00	-1	-4	10	0	0	7	-1
07:00-19:00	-1	-4	1	-3	0	8	-1
08:00-09:00	-3	-8	-11	0	0	0	-4
17:00-18:00	0	-3	0	0	0	20	0

Changes in Minor Road Weekday Traffic Profiles 2007-2008

2.21 Table 2.19 shows average hourly traffic flows on 127 minor road links in 2006 and 2007 together with the percentage change in flow since 2006.

Start Hour	2007				2008			
	Cars	Light Goods Vehicles	Other Goods Vehicles	All Motors	Cars	Light Goods Vehicles	Other Goods Vehicles	All Motors
07:00	260	42	6	317	256 (-2)	40 (-5)	6 (0)	310 (-2)
08:00	403	49	9	470	390 (-3)	45 (-8)	8 (-11)	453 (-4)
09:00	271	42	10	331	270 (0)	41 (-2)	9 (-10)	328 (-1)
10:00	213	40	10	269	216 (1)	37 (-8)	9 (-10)	269 (0)
11:00	234	40	9	290	226 (-3)	38 (-5)	9 (0)	280 (-3)
12:00	249	38	8	302	251 (1)	38 (0)	8 (0)	304 (1)
13:00	257	39	8	312	256 (0)	36 (-8)	9 (13)	309 (-1)
14:00	260	39	7	315	265 (2)	37 (-5)	9 (29)	319 (1)
15:00	347	43	7	406	338 (-3)	42 (-2)	7 (0)	397 (-2)
16:00	371	47	5	432	372 (0)	46 (-2)	6 (20)	433 (0)
17:00	417	39	3	468	417 (0)	38 (-3)	3 (0)	467 (-0)
18:00	326	26	1	360	309 (-5)	23 (-12)	2 (100)	340 (-6)
Total	3607	484	84	4272	3567 (-1)	463 (-4)	85 (1)	4209 (-1)

Note: The figures in brackets are the percentage changes between 2007 and 2008.

COMPARISONS OF TRAFFIC AND GROWTH

Comparison of National and Local Growth in Traffic Flows 1993-2008

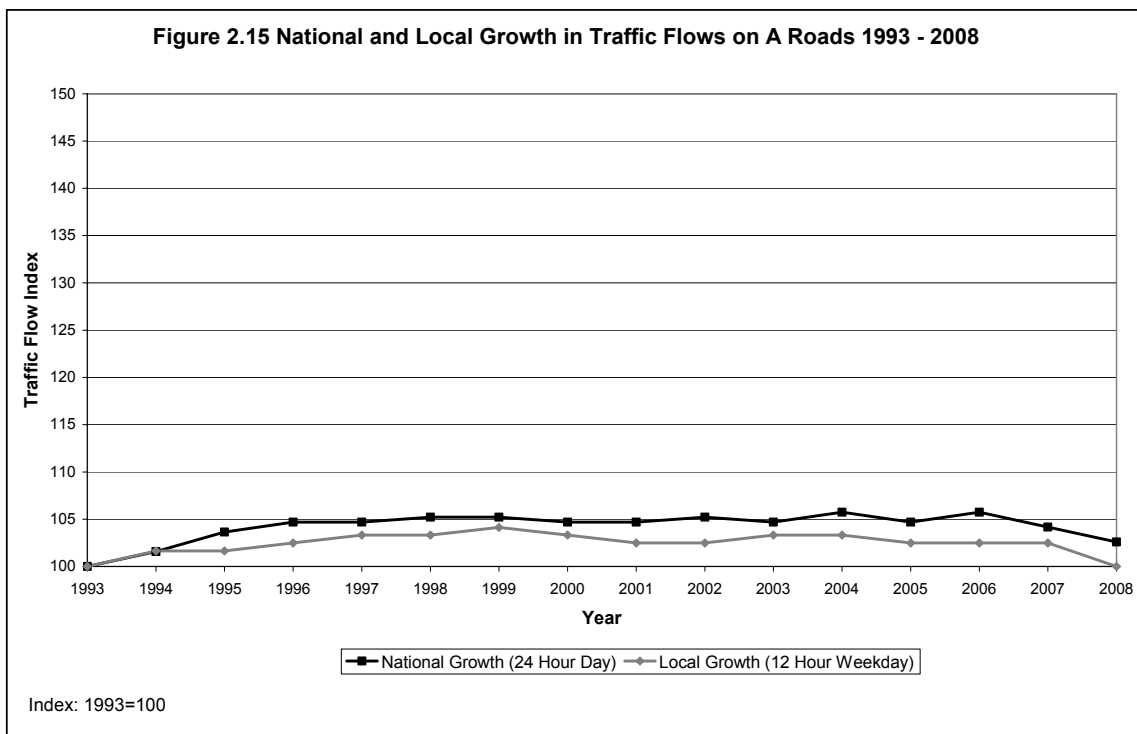
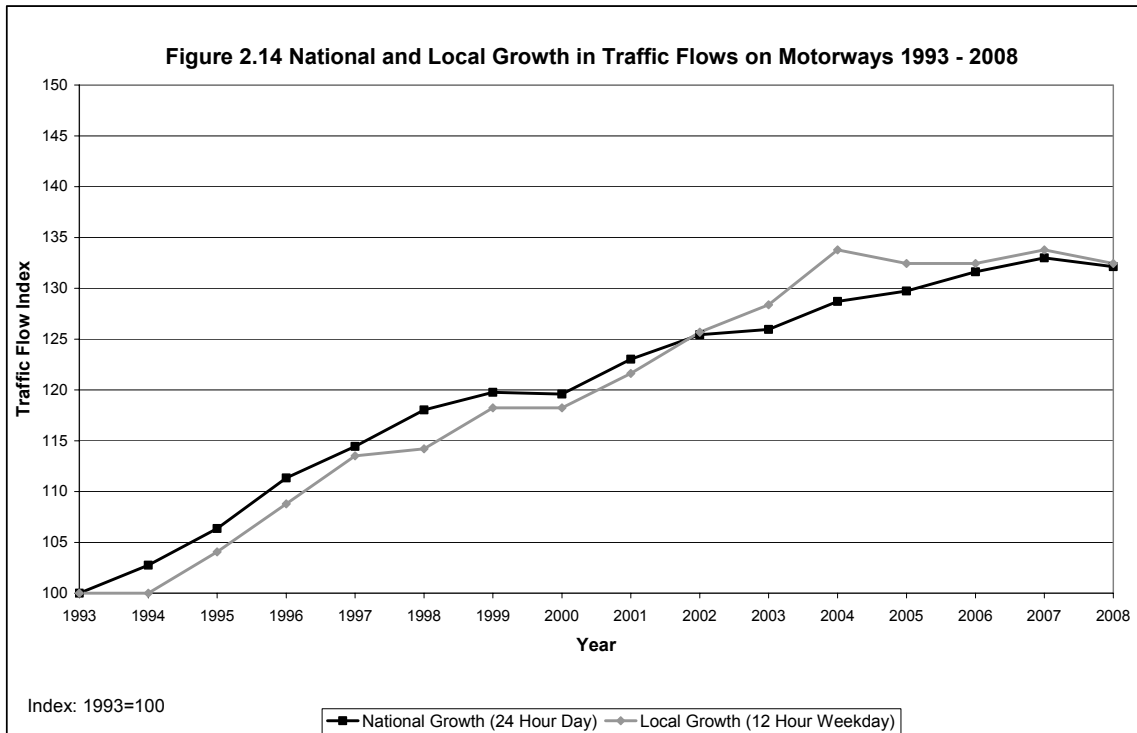
2.22 Indices of local and national growth in traffic flows are given in Table 2.20 and illustrated in Figures 2.14 and 2.15.

Table 2.20 Traffic Flow Indices for Local and National Motorways and A Roads, 1993-2008				
Year	Motorways		A Roads	
	Local	National	Local	National
1993	100	100	100	100
1994	100	103	102	102
1995	104	106	102	104
1996	109	111	102	105
1997	114	114	103	105
1998	114	118	103	105
1999	118	120	104	105
2000	118	120	103	105
2001	122	123	102	105
2002	126	125	102	105
2003	128	126	103	105
2004	134	129	103	106
2005	132	130	102	105
2006	132	132	102	106
2007	134	133	102	104
2008	132	132	100	103

Notes:

1993-2008 National Data based on average 24-hour daily traffic flow data for urban A Roads published in Table 2.1 Road Traffic Statistics 2008, Traffic, Speeds and Congestion.

Local figures are based on 12-hour average weekday flows on a sample of links throughout Greater Manchester.



Composition of Motorway, A Road, B Road and Minor Road Traffic 1999-2008

2.23 Table 2.21 shows the percentage composition of traffic on motorway, A road, B road and minor road links between 2001 and 2008. The percentage composition for 2008 is illustrated in Figure 2.16.

Table 2.21 Percentage Composition of Traffic on Motorway, A Road, B Road and Minor Road Links 07:00-19:00 Hours, 2001- 2008							
	Vehicle Type						
	Cars	LGV	OGV1	OGV2	Buses and Coaches	Motor Cycles	Pedal Cycles
Motorways							
2001	75.3	13.0	4.9 (45)	6.0 (55)	0.4	0.3	-
2002	75.3	13.3	4.7 (44)	6.0 (56)	0.4	0.3	-
2003	75.9	13.1	4.4 (43)	5.9 (57)	0.4	0.1	-
2004	74.4	13.8	4.6 (42)	6.5 (58)	0.4	0.1	-
2005	75.4	13.0	4.5 (41)	6.5 (59)	0.4	0.3	-
2006	73.7	14.8	4.4 (41)	6.4 (59)	0.4	0.3	-
2007	74.1	14.6	4.4 (41)	6.3 (59)	0.3	0.3	-
2008	75.0	13.7	5.2 (49)	5.5 (51)	0.3	0.3	-
A Roads							
2001	80.4	11.8	3.0 (68)	1.4 (32)	2.2	0.7	0.5
2002	80.8	11.8	2.9 (68)	1.4 (32)	1.9	0.7	0.5
2003	81.2	11.7	2.8 (66)	1.4 (34)	1.7	0.7	0.4
2004	80.9	12.0	2.8 (65)	1.5 (35)	1.8	0.6	0.4
2005	80.7	12.2	2.8 (66)	1.4 (34)	1.8	0.6	0.4
2006	80.8	12.3	2.6 (66)	1.3 (34)	1.9	0.6	0.5
2007	80.7	12.8	2.5 (65)	1.4 (35)	1.6	0.6	0.5
2008	80.9	12.2	2.9 (67)	1.4 (33)	1.6	0.6	0.5
B Roads							
2001	82.3	11.2	2.3 (77)	0.7 (23)	2.2	0.7	0.8
2002	83.1	10.8	2.0 (75)	0.7 (25)	2.0	0.7	0.8
2003	82.5	11.3	2.0 (74)	0.7 (26)	2.1	0.7	0.7
2004	82.2	11.4	2.1 (76)	0.7 (24)	2.3	0.6	0.7
2005	82.3	11.6	2.1 (72)	0.8 (28)	2.0	0.6	0.7
2006	82.2	11.8	2.0 (75)	0.7 (25)	2.1	0.5	0.8
2007	82.6	12.0	1.7 (75)	0.6 (25)	1.8	0.5	0.8
2008	82.8	11.7	1.6 (73)	0.6 (27)	1.8	0.5	0.9
Minor Roads							
2001	82.8	10.8	2.1 (78)	0.6 (22)	1.8	0.6	1.2
2002	83.4	10.7	2.0 (75)	0.7 (25)	1.5	0.6	1.2
2003	84.3	10.3	1.8 (74)	0.6 (26)	1.4	0.6	1.0
2004	83.6	10.9	1.8 (74)	0.6 (26)	1.4	0.6	1.0
2005	84.1	10.7	1.7 (75)	0.6 (25)	1.4	0.6	1.0
2006	83.8	10.9	1.5 (76)	0.5 (24)	1.8	0.6	1.0
2007	84.0	11.1	1.4 (76)	0.5 (24)	1.7	0.5	0.8
2008	83.8	11.0	1.5 (76)	0.5 (24)	1.7	0.5	1.0

Notes:

LGV = Light Goods Vehicles with 2 axles

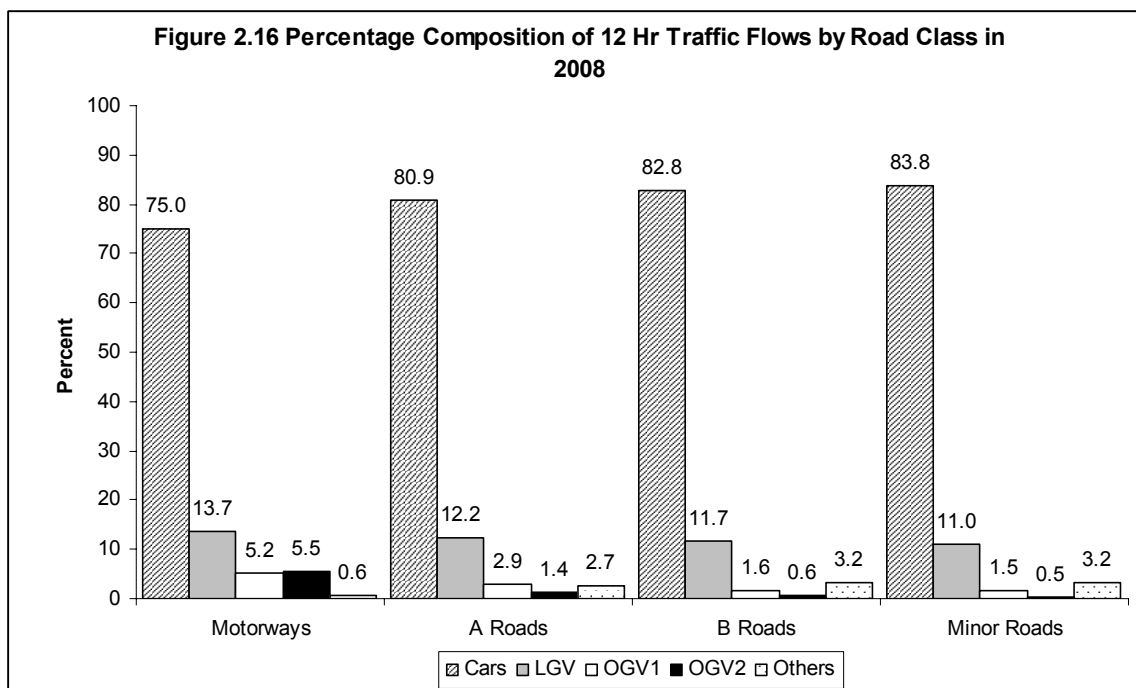
OGV1 = Medium Goods Vehicles with 2 axles and Heavy Goods Vehicles with 3 axles

OGV2 = Heavy Goods Vehicles with 4+ axles

Figures in parentheses are the percentage splits between OGV1 and OGV2.

OGV1 and OGV2 split is used in the DfT's cost benefit analysis program (COBA) and the Transport Economics Note (TEN).

Figures may not add to 100% due to rounding.

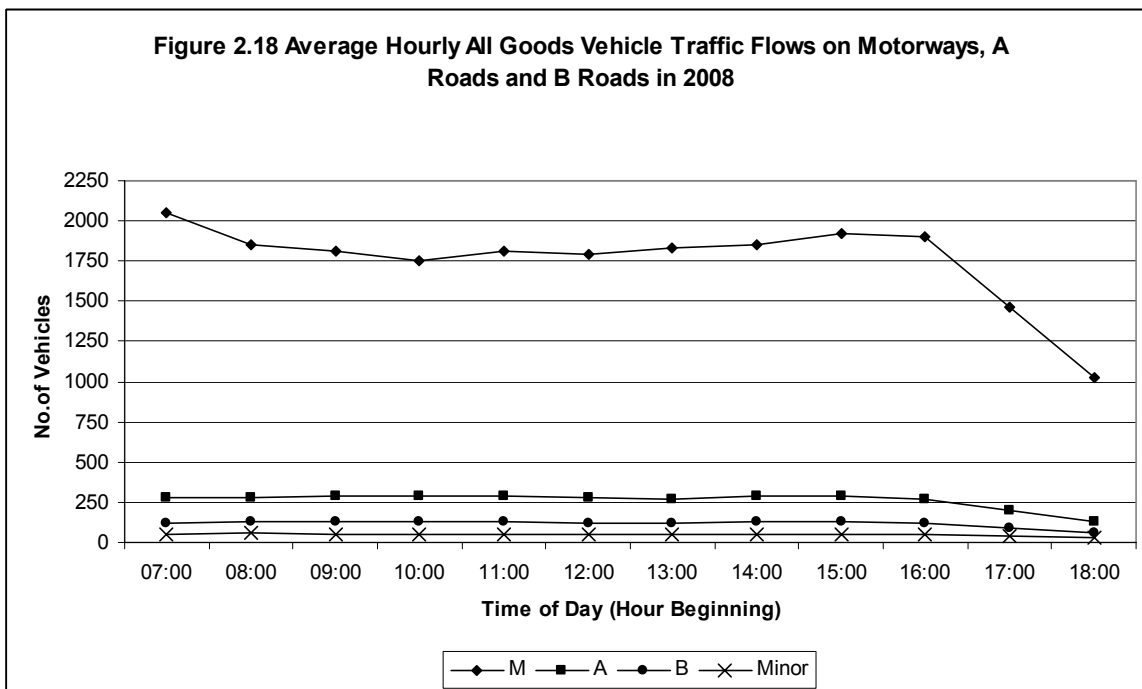
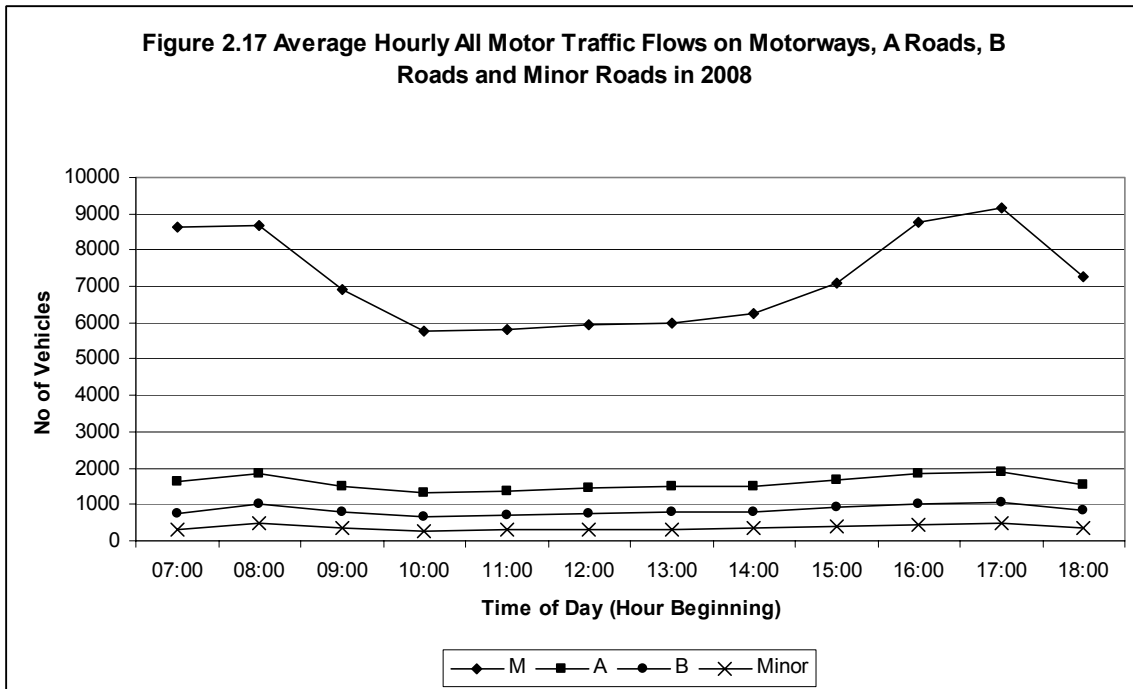


Average Hourly Flows on Motorways, A, B and Minor Roads in 2008

2.24 Table 2.22 shows average hourly flows in 2008 on 24 motorway, 198 A road, 124 B and 144 minor road links that were unaffected by roadworks. Table 2.23 shows the hourly traffic flows as a percentage of the 12-hour flow. All motors and all goods flows are illustrated in Figure 2.17 and 2.18.

Start Hour	Motorways			A Roads			B Roads			Minor Roads		
	Cars	Goods	All Motors	Cars	Goods	All Motors	Cars	Goods	All Motors	Cars	Goods	All Motors
07:00	6516	2050	8616	1293	278	1610	623	121	766	265	48	321
08:00	6800	1852	8696	1539	281	1860	857	131	1010	402	56	467
09:00	5049	1808	6901	1170	292	1495	629	133	781	280	53	341
10:00	3985	1755	5778	992	289	1311	521	130	669	224	48	279
11:00	3970	1815	5816	1026	291	1346	552	129	698	235	49	290
12:00	4116	1791	5939	1138	276	1443	613	120	750	262	48	317
13:00	4136	1834	6005	1173	272	1477	631	124	774	265	47	320
14:00	4366	1848	6250	1189	285	1508	646	128	795	275	48	332
15:00	5114	1925	7085	1339	285	1661	758	129	910	348	52	411
16:00	6792	1901	8748	1551	270	1862	856	123	1002	387	54	451
17:00	7657	1459	9173	1660	195	1893	928	91	1041	433	43	485
18:00	6196	1023	7265	1397	134	1561	751	55	823	322	26	355
Total	64696	21061	86271	15468	3148	19028	8365	1415	10018	3698	572	4370

Start Hour	Motorways			A Roads			B Roads			Minor Roads		
	Cars	Goods	All Motors	Cars	Goods	All Motors	Cars	Goods	All Motors	Cars	Goods	All Motors
07:00	10.1	9.7	10.0	8.4	8.8	8.5	7.4	8.6	7.6	7.2	8.4	7.3
08:00	10.5	8.8	10.1	9.9	8.9	9.8	10.2	9.3	10.1	10.9	9.8	10.7
09:00	7.8	8.6	8.0	7.6	9.3	7.9	7.5	9.4	7.8	7.6	9.3	7.8
10:00	6.2	8.3	6.7	6.4	9.2	6.9	6.2	9.2	6.7	6.1	8.4	6.4
11:00	6.1	8.6	6.7	6.6	9.2	7.1	6.6	9.1	7.0	6.4	8.6	6.6
12:00	6.4	8.5	6.9	7.4	8.8	7.6	7.3	8.5	7.5	7.1	8.4	7.3
13:00	6.4	8.7	7.0	7.6	8.6	7.8	7.5	8.8	7.7	7.2	8.2	7.3
14:00	6.7	8.8	7.2	7.7	9.1	7.9	7.7	9.0	7.9	7.4	8.4	7.6
15:00	7.9	9.1	8.2	8.7	9.1	8.7	9.1	9.1	9.1	9.4	9.1	9.4
16:00	10.5	9.0	10.1	10.0	8.6	9.8	10.2	8.7	10.0	10.5	9.4	10.3
17:00	11.8	6.9	10.6	10.7	6.2	9.9	11.1	6.4	10.4	11.7	7.5	11.1
18:00	9.6	4.9	8.4	9.0	4.3	8.2	9.0	3.9	8.2	8.7	4.5	8.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0



Traffic Growth on A Roads and B Roads Combined 2007-2008

2.25 Table 2.24 shows the average traffic flows for cars, light goods, other goods and all motors in 2007 and 2008 for different time periods. The flows are based on a sample of 166 A and B road links throughout the county. The percentage changes between years are also shown.

Table 2.24 Percentage Changes in Average Flows on 166 A and B Road Links Between 2007 and 2008										
Time Period	2007				2008					
	Cars	LGV	OGV	All Motors	Cars	LGV	OGV	All Motors		
07:00-10:00	3164	506	140	3903	3093 (-2)	491 (-3)	138 (-1)	3815 (-2)		
10:00-16:00	5394	990	298	6839	5352 (-1)	969 (-2)	290 (-3)	6766 (-1)		
16:00-19:00	3697	386	56	4229	3635 (-2)	380 (-2)	54 (-4)	4158 (-2)		
07:00-19:00	12255	1883	494	14971	12080 (-1)	1841 (-2)	483 (-2)	14739 (-2)		
08:00-09:00	1227	165	46	1470	1205 (-2)	162 (-2)	46 (0)	1445 (-2)		
17:00-18:00	1348	128	16	1524	1318 (-2)	127 (-1)	16 (0)	1492 (-2)		

Note: Percentage changes between 2007 and 2008 are shown in parentheses.

Traffic Growth on A Roads and B Roads by District 2007-2008

2.26 Average traffic flows by district on A and B roads combined are shown in Table 2.25.

Table 2.25 12-Hour Average Traffic Flows in 2007 and 2008 on A Roads and B Roads by District										
District and No. of Links Counted	2007				2008					
	Cars	LGV	OGV	All Motors	Cars	LGV	OGV	All Motors		
Bolton 19	14748	2422	620	18121	14347 (-3)	2271 (-6)	614 (-1)	17559 (-3)		
Bury 11	13564	1842	349	16092	13067 (-4)	1804 (-2)	329 (-6)	15517 (-4)		
Manchester 22	13459	1867	468	16379	13253 (-2)	1850 (-1)	445 (-5)	16125 (-2)		
Oldham 17	9658	1584	441	11986	9626 (-0)	1603 (1)	400 (-9)	11930 (-0)		
Rochdale 15	10121	1565	395	12340	10099 (-0)	1502 (-4)	399 (1)	12300 (-0)		
Salford 17	13141	2150	614	16178	13077 (0)	2051 (-5)	659 (7)	16077 (-1)		
Stockport 16	13552	1967	530	16352	13724 (1)	1939 (-1)	537 (1)	16513 (1)		
Tameside 18	11470	2009	596	14351	11159 (-3)	2006 (-0)	562 (-6)	14002 (-2)		
Trafford 14	9893	1331	322	11771	9768 (-1)	1313 (-1)	310 (-4)	11580 (-2)		
Wigan 17	9153	1470	400	11343	8861 (-3)	1459 (-1)	370 (-8)	10990 (-3)		
GM Ave 166	12255	1883	494	14971	12080 (-1)	1841 (-2)	483 (-2)	14739 (-2)		

Note: Percentage changes between 2007 and 2008 are shown in parentheses.

Annual Vehicle Kilometres on Motorways, A Roads and B Roads in 2008

2.27 Table 2.26 and Figure 2.19 show annual vehicle kilometres in Greater Manchester in 2008 by road class and vehicle type.

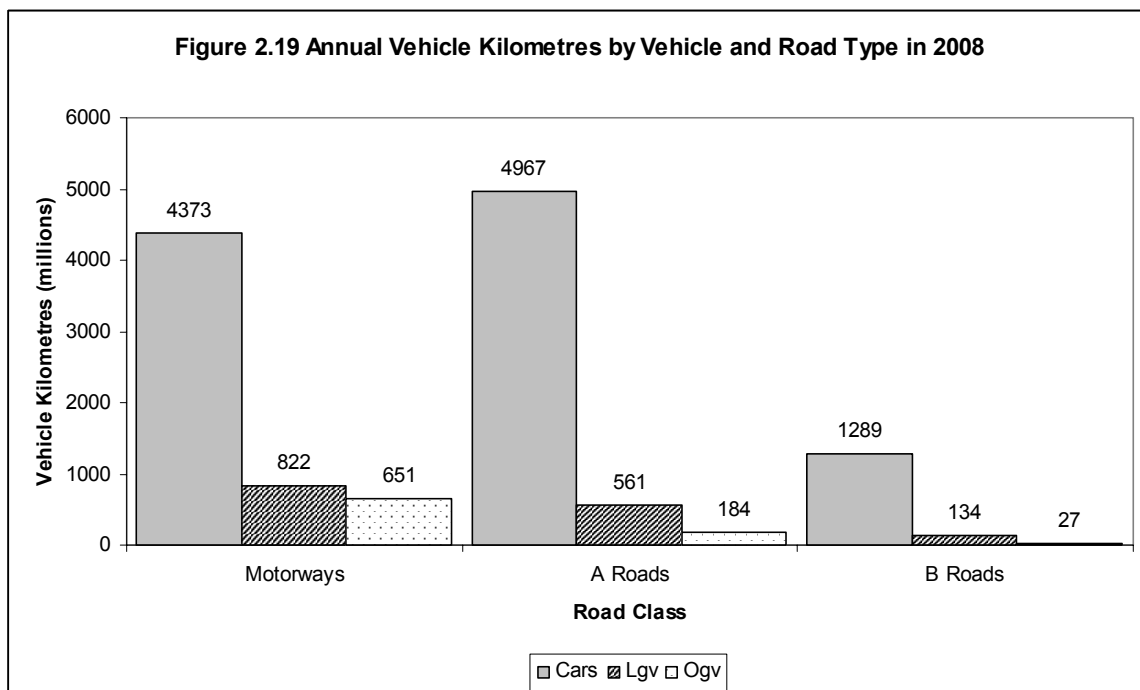
Table 2.26 Annual Vehicle Kilometres in 2008							
Road Type	Length	Vehicle Kilometres (Millions)					Annual Flow/Km (Millions)
		Car	LGV	OGV	All Goods	All Motors	
Motorway (incl A627(M))	171	4373	822	651	1472	5882	34.4
A Roads	863	4967	561	184	745	5819	6.7
B Roads	375	1289	134	27	160	1479	3.9
Motorways and A Roads	1034	9340	1383	835	2217	11701	11.3
Motorways, A and B Roads	1409	10629	1517	862	2377	13180	9.4

Notes:

These figures are based on manual classified link counts undertaken on each link of the network, factored to the current year (2008) where appropriate.

Road lengths are based on the link lengths of a model road network and may differ slightly from other sources, e.g. Greater Manchester Network Information System (GMNIS) and as quoted by DfT form R199b.

Minor roads are not included.



Annual Vehicle Kilometres on A Roads and B Roads by District in 2008

2.28 Tables 2.27 and 2.28 show annual vehicle kilometres and average daily flows per link on the A and B road network by district.

Table 2.27 Vehicle Kilometres on A Roads by District in 2008							
District	Length	Vehicle Kilometres (Millions)					Average Annual Daily Flow/Km
		Car	LGV	OGV	All Goods	All Motors	
Bolton	101	608	71	20	91	709	19200
Bury	55	312	32	8	40	359	17900
Manchester	116	862	87	27	114	1000	23600
Oldham	98	390	48	15	63	461	12900
Rochdale	80	381	44	12	56	446	15300
Salford	87	587	69	27	96	694	21900
Stockport	84	560	55	19	74	644	21000
Tameside	66	312	40	13	53	372	15400
Trafford	58	373	39	14	53	432	20400
Wigan	117	583	77	29	106	702	16400
GM	863	4967	561	184	745	5819	18500

Note: The vehicle kilometres are based on 12-hour manual classified traffic counts that have been factored to give annual average daily flows on each link of the network. Figures for Oldham and Rochdale exclude A627(M).

Table 2.28 Vehicle Kilometres on B Roads by District in 2008							
District	Length	Vehicle Kilometres (Millions)					Average Daily Flow/Km (7 day 24-hour)
		Car	LGV	OGV	All Goods	All Motors	
Bolton	46	148	16	3	19	170	10100
Bury	33	91	9	2	11	104	8600
Manchester	36	148	14	2	16	170	12900
Oldham	30	80	10	2	12	93	8500
Rochdale	24	86	9	2	11	98	11200
Salford	29	100	10	2	12	114	10800
Stockport	36	149	15	3	18	170	12900
Tameside	32	102	12	3	15	119	10200
Trafford	52	185	16	4	20	209	11000
Wigan	56	200	22	5	27	232	11400
GM	375	1289	134	27	160	1479	10800

Trends in Greater Manchester Vehicle Kilometres on Motorways, A and B Roads 1993-2008

2.29 Table 2.29 shows trends in vehicle kilometres between 1993 and 2008

Table 2.29 Trends in Vehicle Kilometres (millions) 1993-2008 by Vehicle Type and Road Class											
Year	All					Motorways					
	Car	LGV	OGV	All	Index	Year	Car	LGV	OGV	All	Index
1993	8784	1009	1016	10994	100	1993	2843	418	637	3925	100
1994	8904	1028	1052	11162	102	1994	2900	433	673	4025	103
1995	9160	1049	1038	11432	104	1995	3076	463	677	4245	108
1996	9362	1075	1013	11632	106	1996	3164	488	654	4335	110
1997	9482	1087	1038	11777	107	1997	3293	503	685	4510	115
1998	9554	1111	1002	11840	108	1998	3394	528	668	4620	118
1999	9720	1203	887	11997	109	1999	3449	577	611	4672	119
2000	9723	1270	857	12043	110	2000	3473	611	595	4716	120
2001	10104	1313	864	12482	114	2001	3909	678	621	5246	134
2002	10332	1364	853	12747	116	2002	4096	720	628	5482	140
2003	10409	1372	834	12807	116	2003	4133	721	612	5505	140
2004	10489	1434	867	12978	118	2004	4231	763	633	5665	144
2005	10662	1437	823	13113	119	2005	4361	759	604	5763	147
2006	10615	1515	827	13144	120	2006	4322	820	613	5795	148
2007	10733	1559	818	13282	121	2007	4409	844	612	5899	150
2008	10629	1517	862	13180	120	2008	4373	822	651	5882	150
	A Roads					B Roads					
1993	4695	475	321	5618	100	1993	1246	116	58	1451	100
1994	4730	477	321	5655	101	1994	1274	118	58	1482	102
1995	4788	471	306	5687	101	1995	1296	115	55	1500	103
1996	4882	474	305	5780	103	1996	1316	113	54	1517	105
1997	4873	469	300	5751	102	1997	1316	115	53	1516	104
1998	4853	468	283	5715	102	1998	1307	115	51	1505	104
1999	4949	505	233	5804	103	1999	1322	121	43	1521	105
2000	4941	536	220	5819	104	2000	1309	123	42	1508	104
2001	4927	519	206	5779	103	2001	1268	116	37	1457	100
2002	4958	526	191	5800	103	2002	1279	118	34	1465	101
2003	4993	530	191	5834	104	2003	1282	121	32	1468	101
2004	4972	546	201	5834	104	2004	1287	126	33	1479	102
2005	5002	550	188	5858	104	2005	1299	128	31	1492	103
2006	5003	565	184	5867	104	2006	1290	130	30	1482	102
2007	5022	580	179	5890	105	2007	1302	134	27	1494	103
2008	4967	561	184	5819	104	2008	1289	134	27	1479	102

National and Local Vehicle Kilometres 1993 – 2008

2.30 Table 2.30 and Figure 2.20 show national and local vehicle kilometres by road class from 1993 to 2008

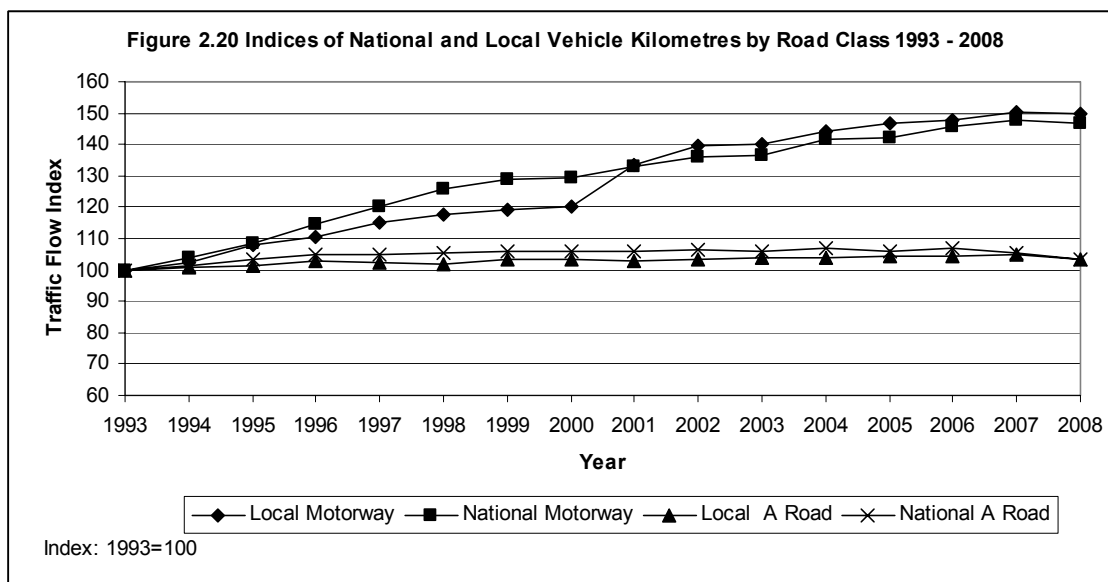
Table 2.30 National and Local Vehicle Kilometres (millions) by Road Class 1993-2008								
	National Motorways	Index	National Major Urban Roads	Index	GM Motorways	Index	GM A Roads	Index
1993	68200	100	77300	100	3925	100	5618	100
1994	70700	104	78500	102	4025	103	5655	101
1995	73900	108	80100	104	4245	108	5687	101
1996	78300	115	80900	105	4335	110	5780	103
1997	82100	120	80900	105	4510	115	5751	102
1998	85700	126	81300	105	4620	118	5715	102
1999	87800	129	81900	106	4672	119	5804	103
2000	88400	130	81700	106	4716	120	5819	104
2001	90800	133	81800	106	5246	134	5779	103
2002	92600	136	82200	106	5482	140	5796	103
2003	93000	136	81700	106	5505	140	5834	104
2004	96600	142	82800	107	5665	144	5834	104
2005	97000	142	81700	106	5763	147	5858	104
2006	99400	146	82500	107	5795	148	5867	104
2007	100600	148	81300	105	5899	150	5890	105
2008	100100	147	80100	104	5882	150	5819	104

Notes:

DfT 1993-2008 National Data based on Table 1.2b Road Statistics 2007, Traffic, Speeds and Congestion.

The indices in this table differ from traffic flow indices quoted elsewhere due to:

1. Different measurement methods i.e. local traffic flow indices are derived from a sample of 12-hour average weekday counts whereas local vehicle kilometre estimates are based on 24-hour AADT estimates on all links.
2. Increases in road length due to road building, which affects motorways in particular.



Congestion Monitoring: Average Journey Time Rates 2004/05 – 2007/08

2.31 Table 2.31 shows average journey time rates and average speeds on motorways and on A and B roads with 30 mph speed limits in Greater Manchester for 2007/08. Rates are given separately for Motorways and A & B roads and are given for six time periods. Data is from Trafficmaster GPS. Figures are the average for the 12-month period running from September 2007 to August 2008.

Table 2.31 Average Journey Time Rates Greater Manchester 2007/08				
Time Period	Motorways		A & Roads (30 mph)	
	mins/mile	(mph)	mins/mile	(mph)
0700-1000	1.54	(38)	3.37	(18)
0800-0900	1.73	(34)	3.84	(15)
1000-1600	1.20	(49)	3.10	(19)
1700-1800	1.63	(36)	3.67	(16)
1600-1900	1.51	(39)	3.46	(17)
0700-1900	1.38	(43)	3.28	(18)

2.32 Figures 2.21 – 2.22 present a historical trend of this journey time data from 2004/05 – 2007/08 for motorways and A & B roads respectively. Data from 2004/05 to 2006/07 is derived from the Mott MacDonald CJAMS System based on vehicle tracker data used under licence from ITIS Holdings. Adjustments have been made to historical data based on the differences between ITIS and Trafficmaster data in 2006/07 where data is available from both sources. Trafficmaster data tends to have lower speeds than IT IS data due to the more detailed nature of the network.

2.33 Figure 2.23 shows a daily (07:00-19:00) profile of average journey time rates by motorway and A & B roads for 2005/06, 2006/07 and 2007/08.

