

West Bromwich Cordon Survey

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West Bromwich Cordon Report 2008

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West Bromwich Cordon Survey

1.1 Introduction

This report contains the results and analysis of the traffic cordon surveys undertaken by Mott MacDonald Ltd and Sandwell Borough Council, as a part of the Local Transport Plan monitoring programme.

The objectives of the study were to observe, compare and monitor vehicular traffic levels in the West Bromwich Town Centre, so that the effects of physical engineering measures and transport policies can be assessed. The manual traffic counts have been undertaken by Sandwell Borough Council, and public transport passenger counts have been undertaken by Centro. The Automatic Traffic Counts and the overall analysis have been undertaken by Mott MacDonald Ltd.

1.2 Methodology

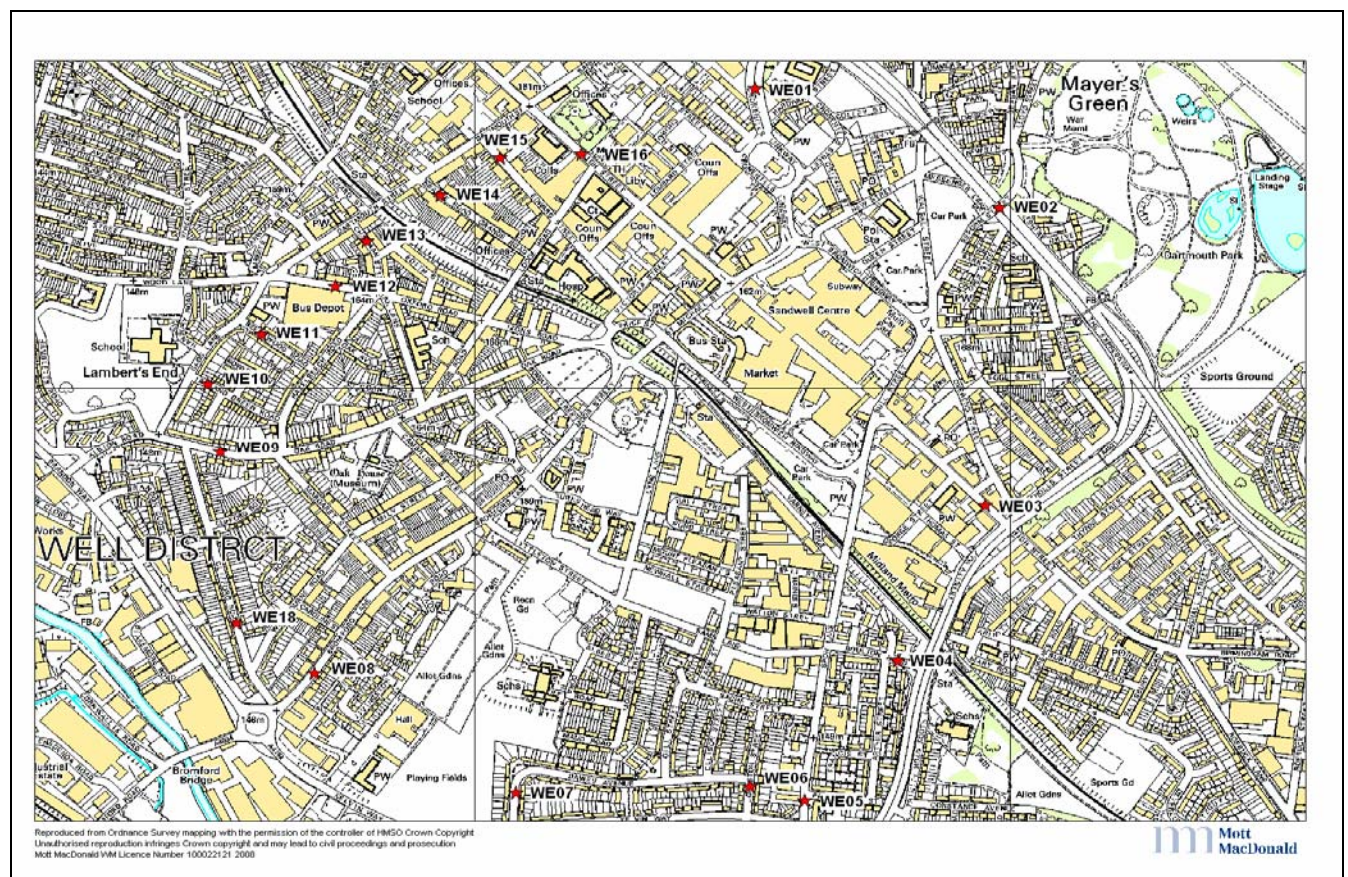
The most effective method of obtaining the necessary data is to monitor traffic flows crossing a cordon around the town centre. Sites are positioned on all the main roads, with further sites on some of the minor roads so as to obtain a 'closed' cordon. The principle is to capture all vehicles entering and leaving the town centre. These sites are shown in Figure 1. Automatic Traffic Counters were installed on these roads for a full week, capturing 24 hour average weekday traffic flows for analysis.

Four sites (WE03, WE05, WE08 and WE16) are also surveyed manually by Sandwell Borough Council staff. This data is used to estimate the modal split of the automatic data and also to estimate the number of people travelling into the centre by private vehicle.

A supplementary bus cordon survey has been undertaken by Centro, the results of which are summarised in this report.

Collection of the data took place during week beginning Monday 10th March 2008. The same sites are monitored during the same weeks biennially to maintain consistency in the data.

Figure 1: Location of Automatic Traffic Count Sites



West Bromwich Cordon Survey

Automatic Traffic Count Results

Table 1: Number of vehicles crossing the cordon in the morning peak (07.30 - 09.30)

	1998	2000	2002	2004	2006	2008
Inbound Total	9277	9356	7777	7780	7541	7520
Outbound Total	6785	6862	5831	5714	5399	5518

Inbound, traffic has decreased from 2006 to 2008 by less than 1%. Outbound, the numbers of vehicles increased by 2.2%. Between 2000 and 2002 traffic decreased by almost 17%. During this time the road layout of West Bromwich town centre was changed which has probably had an effect on travel patterns. This drop in traffic levels is seen throughout all time periods and has been consistent in subsequent years since then.

Table 2: Number of vehicles crossing the cordon in the morning peak (07.00 – 10.00)

	1998	2000	2002	2004	2006	2008
Inbound Total	12419	12538	10548	10445	10142	10136
Outbound Total	9435	9565	8213	8008	7526	7678

The Department for Transport's 'congestion monitoring policy' now defines the 'Morning Peak' period as 07.00 - 10.00, expanding the peak beyond the traditional 07.30 – 09.30.

Inbound traffic has remained almost the same between 2006 and 2008. Outbound traffic has slightly increased by 2% between 2006 and 2008.

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Figure 2: Inbound Vehicles by Quarter Hour (07.00-10.00)

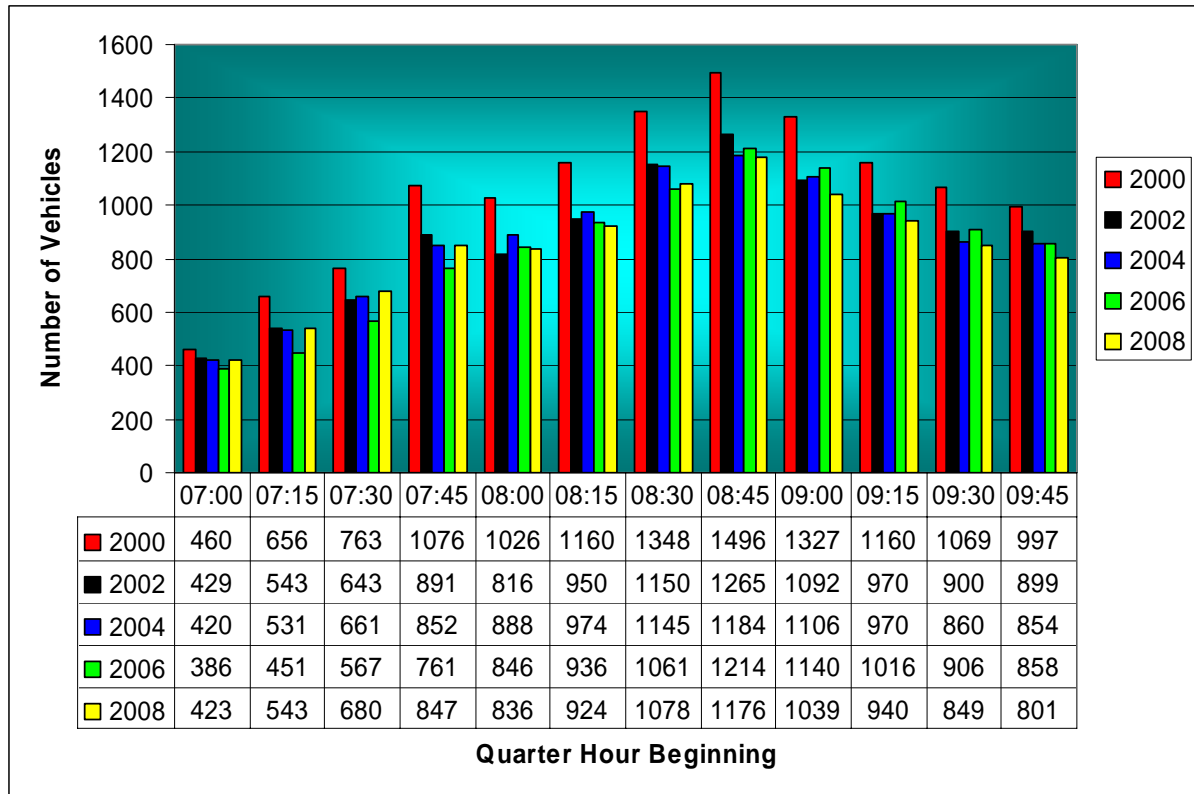


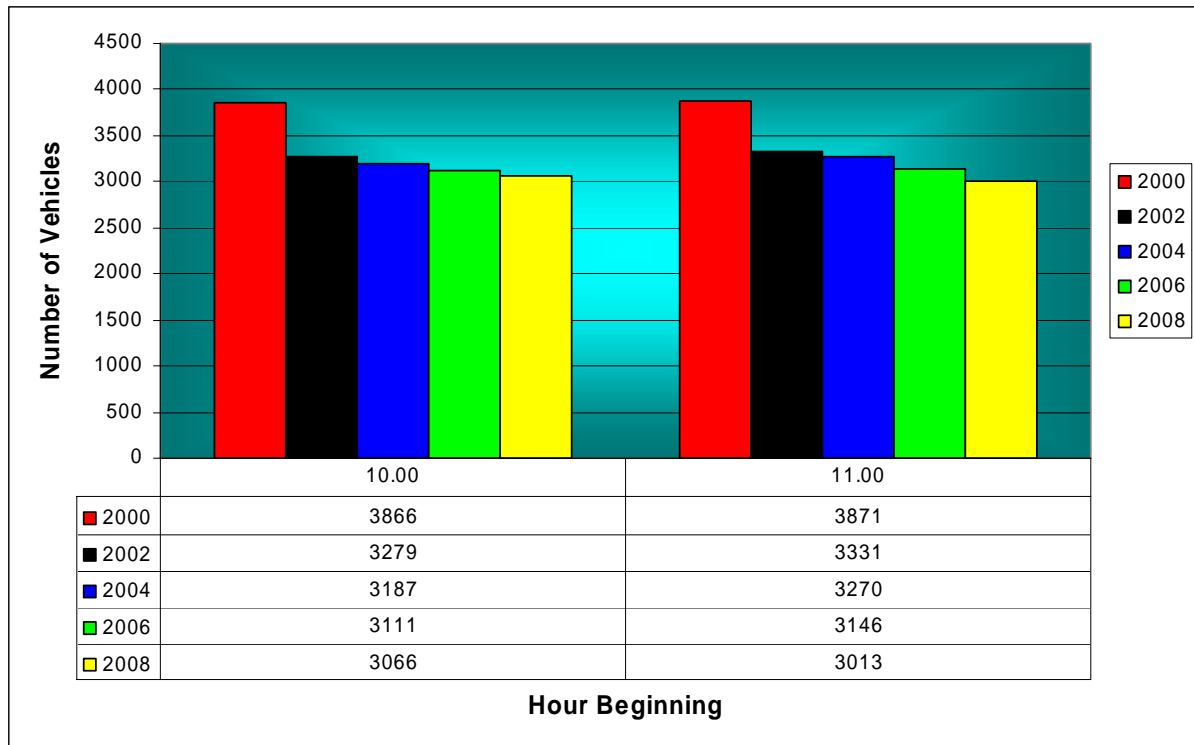
Figure 2 shows slight decreases in traffic throughout most of the morning peak during 2008. However, increases occurred during the early morning peak period from 07.00 - 08.00.

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Table 3: Number of vehicles crossing the cordon in the morning inter-peak period (10.00-12.00)

	1998	2000	2002	2004	2006	2008
Inbound Total	7601	7737	6610	6457	6257	6079
Outbound Total	7258	7401	6479	6345	5851	5837

Figure 3: Inter-Peak Inbound Vehicles by Hour (10.00-12.00)



Traffic during the off-peak period decreased by 2.8% inbound compared with 2006. Outbound, traffic fell by around 0.24%. Traffic has been declining slightly during this time period year on year since 2000.

West Bromwich Cordon Survey

Table 4: Number of vehicles crossing the cordon in the evening peak (16.00-18.00)

	1998	2000	2002	2004	2006	2008
Inbound Total	7,830	7,869	7130	7041	6959	6718
Outbound Total	10,035	10,046	9077	8626	8558	8308

Figure 4: Outbound Evening Peak Hour Flows (16.00-19.00)

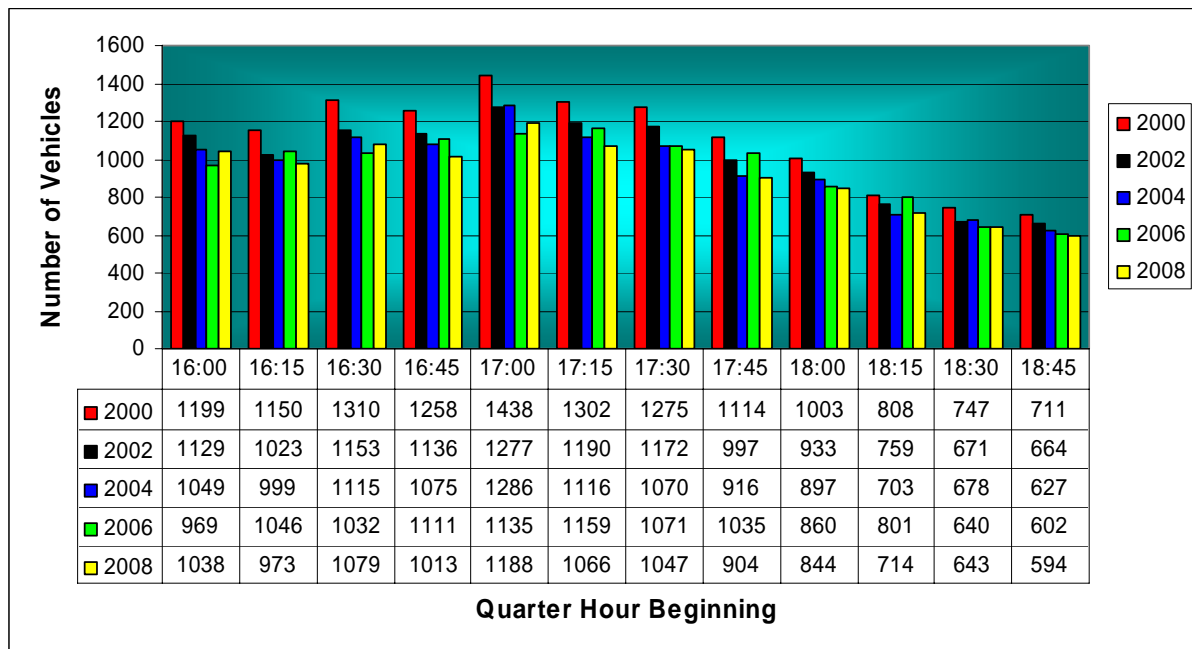


Figure 4 shows fluctuating changes in quarter hour periods in 2008 compared with 2006. Some quarter hours have increased while others have decreased. Table 4 shows that during 2008, inbound traffic decreased by 3.5%, continuing the trend seen in previous years. Overall, traffic also decreased by 2.9% in the outbound direction.

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Table 5: Total Vehicles by Time Period on an Average Day

	AM PEAK 07.30 - 09.30	INTER PEAK 10.00 - 12.00	PM PEAK 16.00 - 18.00	12 HOUR 07.00 - 19.00 (12 hour)	DAILY 00.00 - 24.00 (24 hour)
2002					
Inbound	7777	6610	7130	41047	48966
% of 24hr	15.9	13.5	14.6	83.8	100
Outbound	5831	6479	9077	42097	50553
% of 24hr	11.5	12.8	17.9	83.3	100
NET	1946	131	-1946	1050	1587
2004					
Inbound	7780	6457	7041	40351	48939
% of 24hr	15.9	13.2	14.4	82.4	100
Outbound	5714	6345	8626	40446	49135
% of 24hr	11.6	12.9	17.5	82.6	100
NET	2066	112	-1585	95	196
2006					
Inbound	7541	6257	6959	39540	47639
% of 24hr	15.8	13.1	14.6	83.0	100
Outbound	5399	5851	8558	38959	47180
% of 24hr	11.4	12.4	18.1	82.6	100
NET	2142	406	-1589	581	459
2008					
Inbound	7520	6079	6718	38341	46472
% of 24hr	16.2	13.1	14.5	82.5	100
Outbound	5518	5837	8308	38285	46642
% of 24hr	11.8	12.5	17.8	82.1	100
NET	2002	242	-1590	56	-170

In 2008, 16.2% of traffic flowing into the town centre on a typical weekday crossed the cordon line between the hours of 7.30a.m - 9.30a.m. 17.8% of outbound traffic crossed the cordon line between 1600-1800. 13.1% of the daily traffic into the town centre occurred during the off peak time period (1000-1200). Around 82.5% of average daily inbound traffic crossed the cordon during the main 12hr day (0700-1900). 82.1% of outbound traffic crossed the cordon within the same period. The number of vehicles counted on an average weekday in 2008 were less than those counted in 2006. Inbound traffic flows were 2.4% lower and outbound 1.1% lower.

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Figure 5: 24 Hour Flows Inbound

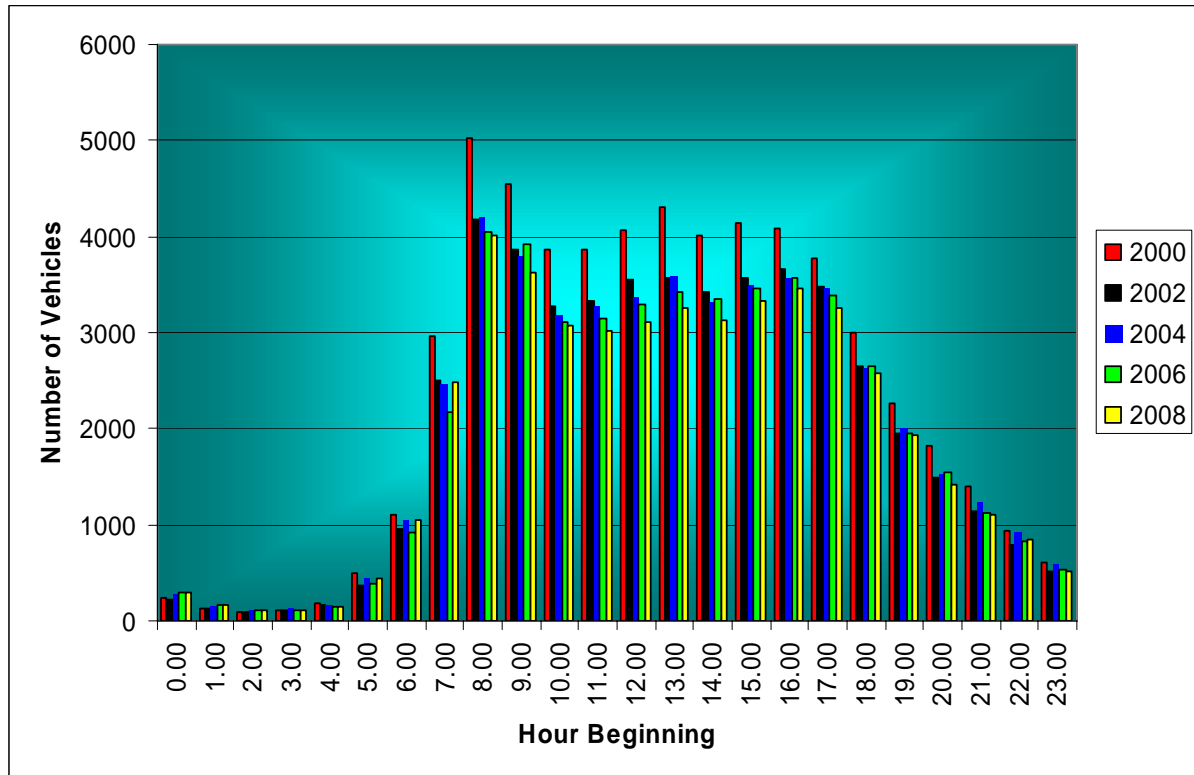


Figure 5 shows the distribution of vehicles entering West Bromwich town centre by hour over the 24 hour period. Most hourly periods showed decreases in traffic compared with 2006. The exceptions to this were in the 0500-0800 period and the late evening period.

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Figure 6: 24 Hour Flows Outbound

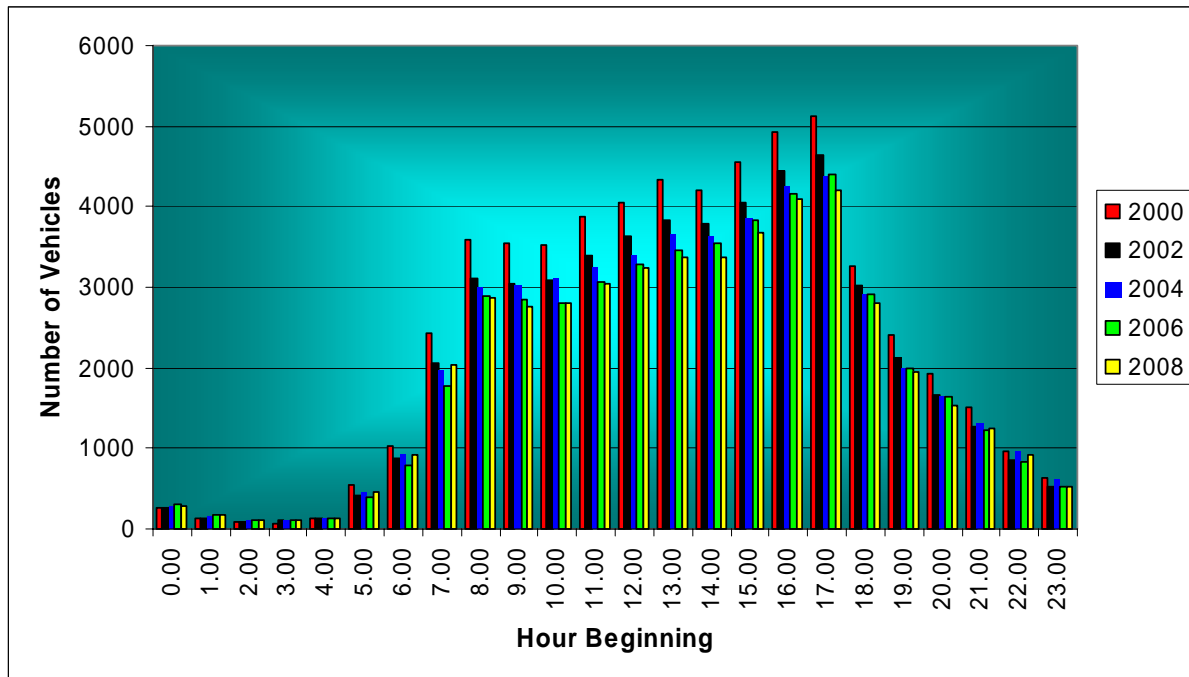


Figure 6 shows the corresponding outbound flow by hour over the 24 hour period. Similar to the inbound direction, most hourly periods showed a decrease compared with 2006. However, there were very slight increases in some of the early morning periods just as in the inbound direction.

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Figure 7: Net Loss/Gain in Vehicles Over 24 hour Period

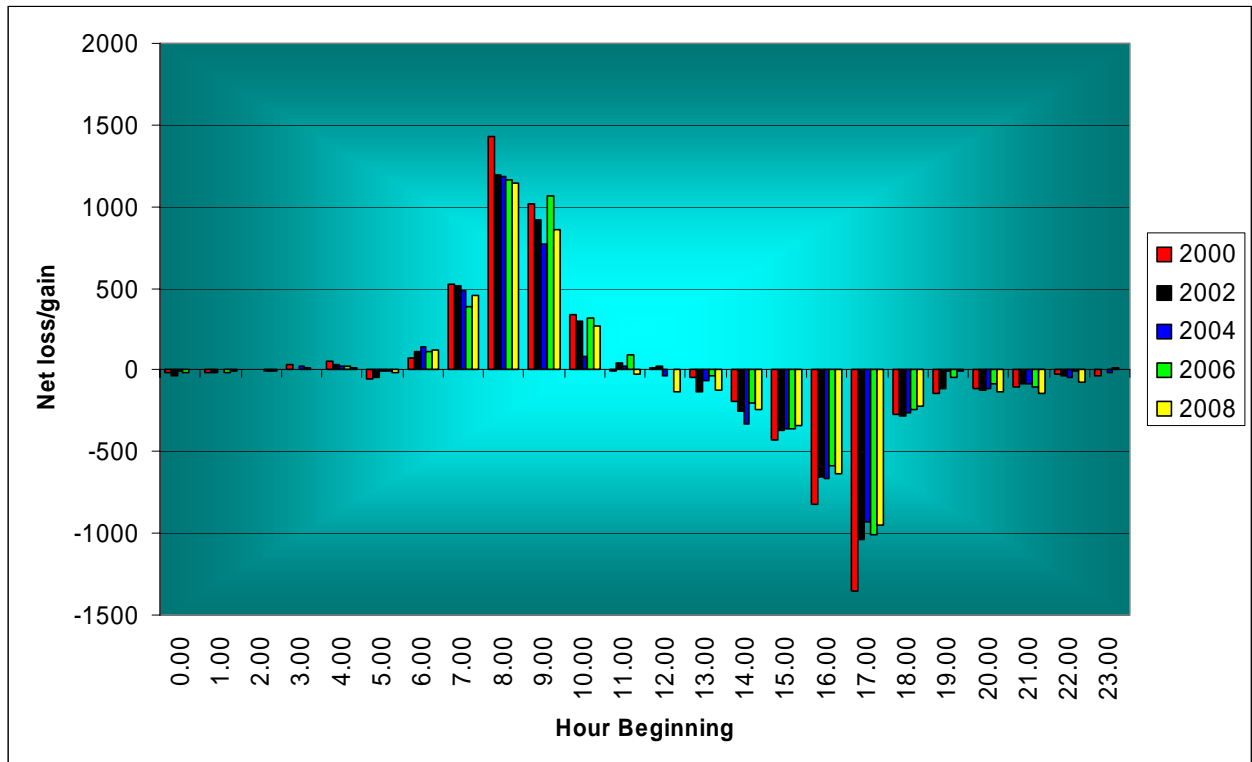


Figure 7 shows the net gain in vehicles to the cordon by hour from 2000 to 2008. In 2008, the highest single hour was 08.00-09.00 when 2,004 more vehicles entered the town centre than left it. Correspondingly, the highest hour in the evening was 17.00-18.00 when 1,172 more vehicles left the town centre than entered it.

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Figure 8: Accumulation of Vehicles in West Bromwich Town Centre Cordon 2000-2008

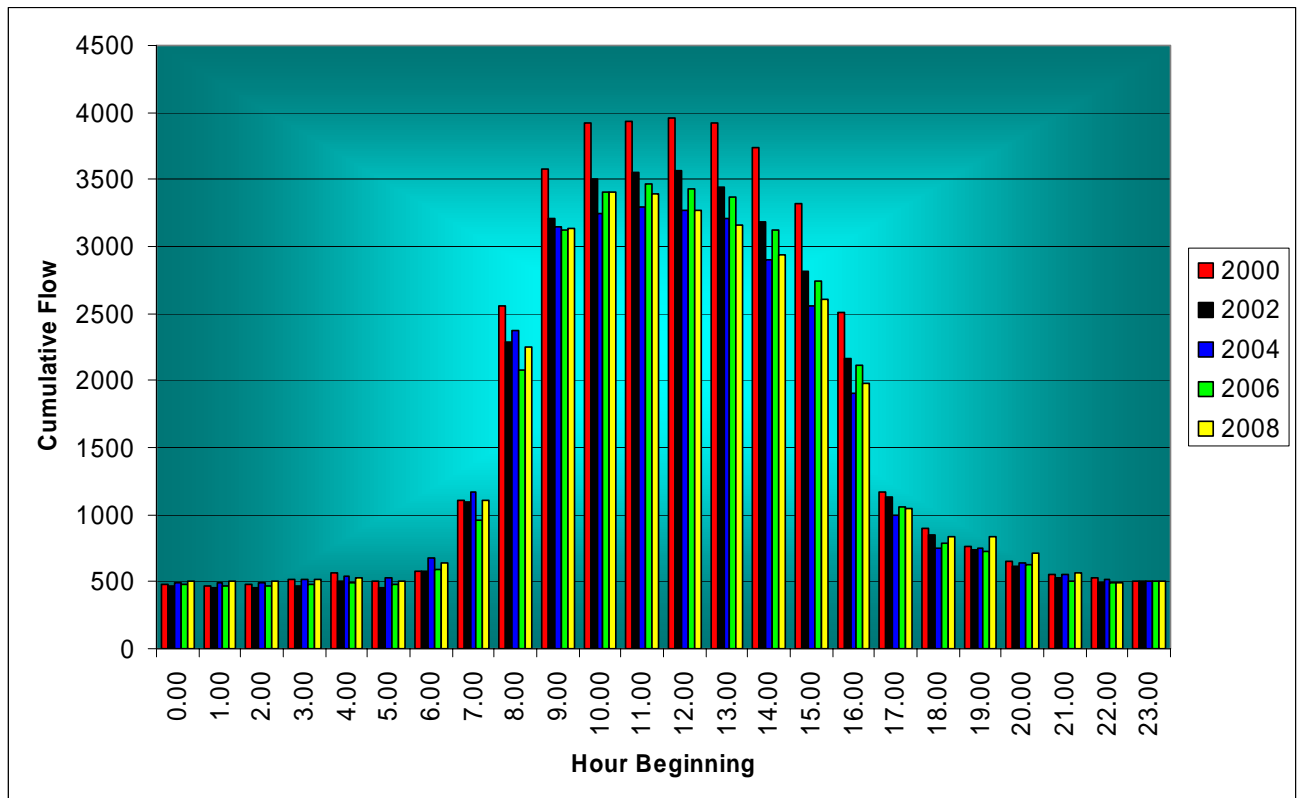


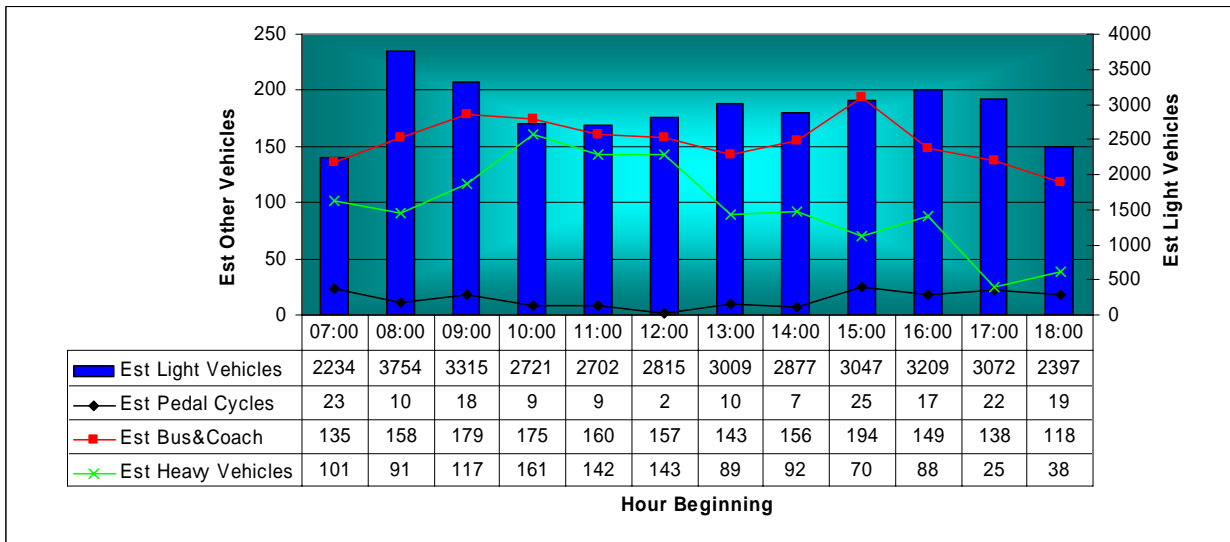
Figure 8 shows the accumulation of vehicles during the 24 hour period in West Bromwich town centre. The highest number of vehicles remaining inside the town centre occurs during 10.00-11.00 when there were an estimated 3,408 vehicles within the cordon.

* N.B. In calculating accumulation of vehicles, the ratio of inbound to outbound vehicles was balanced and a nominal 500 vehicles were added in as an estimate of vehicles remaining inside the cordon overnight.

West Bromwich Cordon Survey

Mode of Travel

Figure 9: Estimated Inbound Vehicles by Mode 2008.



The manual surveys give us an indication of mode of travel. For the purpose of Figure 9, 'light vehicles' includes motorcycles, cars, taxis and light vans less than 1.5T. The heavy goods category includes all vehicles over 1.5T. The vehicle mode is estimated by multiplying the percentage vehicle type taken from the manual surveys and the number of vehicles taken from the automatic traffic count survey.

West Bromwich Cordon Survey

Table 6: Estimates of Persons from Occupancy Data 2008

Totals from Sample Occupancy Counts				Estimated vehicles and persons (proportion derived from manual counts)								Biennial Comparison				
Time Period	Total Vehicles	Total Persons	Average Occupancy	Automatically Counted Vehicles	Estimated Number of Buses	Estimated Pedal Cycles	Estimated Light Vehicles	Estimated Persons Light Vehicles	Estimated Persons by Light Vehicles and	Estimated Heavy Vehicles	Estimated Persons by Heavy Vehicles	Estimated Persons by Light and Heavy Vehicles				
												2008	2006	2004	2002	2000
07.00	214	254	1.19	423	34	2	375	445	446	13	15	461	437	455	482	503
07.15	263	340	1.29	543	30	11	481	622	634	21	21	654	520	587	664	713
07.30	320	377	1.18	680	43	6	597	703	709	35	40	749	623	734	754	891
07.45	413	540	1.31	847	28	4	782	1022	1026	33	39	1065	869	975	1026	1148
08.00	476	589	1.24	836	42	3	766	948	952	24	28	979	948	947	957	1092
08.15	482	590	1.22	924	41	0	855	1046	1046	28	28	1074	1113	1127	1098	1360
08.30	596	736	1.23	1078	39	3	1013	1251	1254	22	25	1279	1262	1390	1480	1651
08.45	651	801	1.23	1176	36	3	1120	1378	1381	17	17	1398	1437	1347	1521	1753
09.00	514	646	1.26	1039	39	8	964	1212	1219	28	28	1247	1370	1310	1426	1494
09.15	499	662	1.33	940	49	3	867	1150	1153	21	31	1185	1260	1200	1251	1275
07:30-09:30	3951	4941	1.25	7520	338	25	6935	8710	8741	167	742	8977	8882	9030	9511	10664
09:30	447	582	1.30	849	40	2	768	1000	1002	40	54	1056	1129	999	1171	1197
09:45	445	555	1.25	801	50	5	718	895	900	28	34	934	1136	1065	1131	1294
07:00-10:00	5320	6672	1.25	10136	506	45	9265	11673	11723	248	1132	12084	12103	12136	12960	14370

The figures represented in Table 6 are shown in Figure 10.

West Bromwich Cordon Survey

Figure 10: Estimates of Persons Travelling Inbound by Private Transport 07.00-10.00

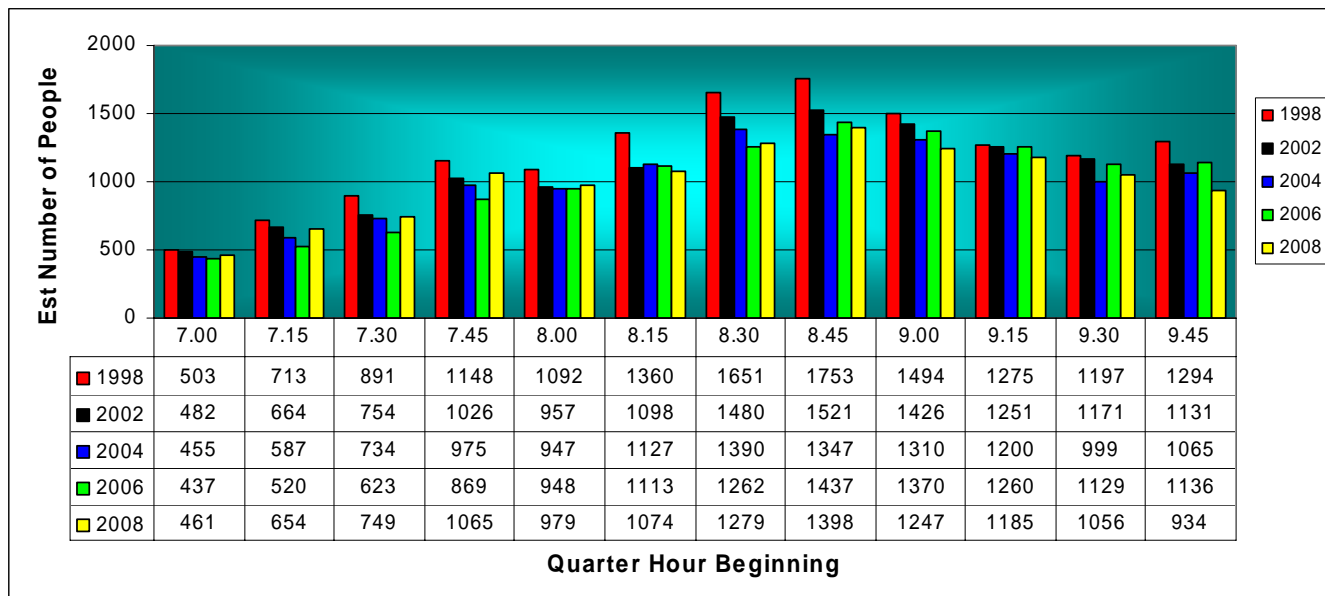
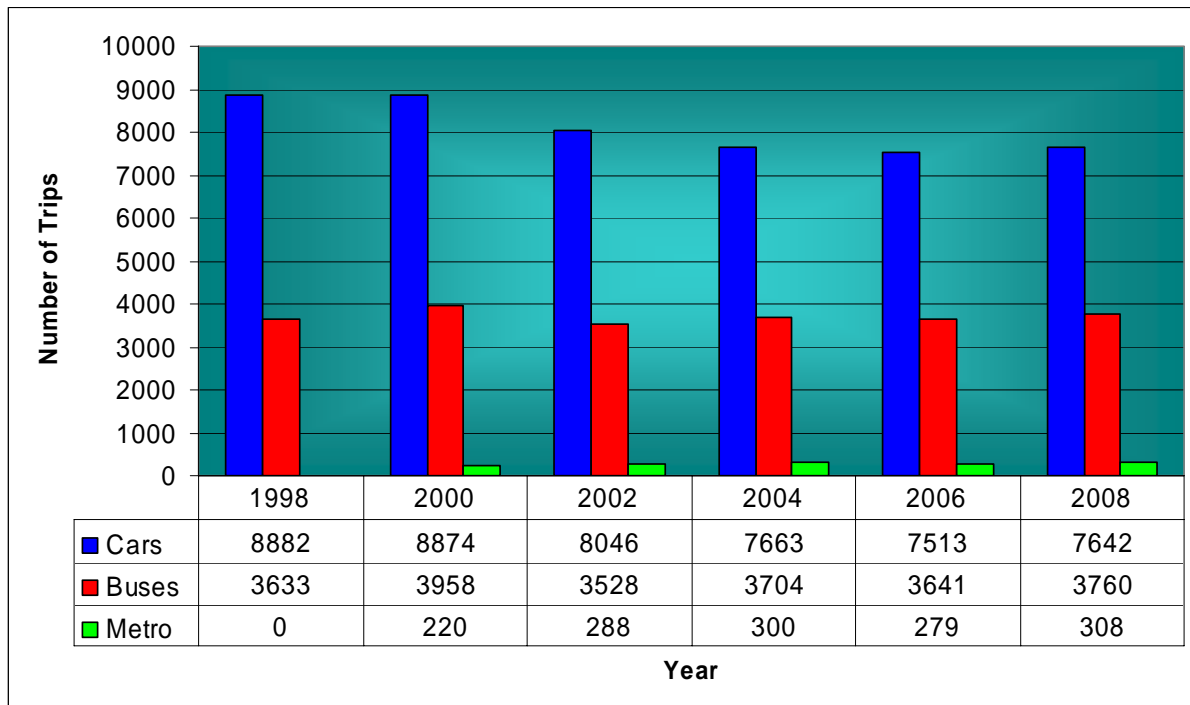


Figure 10 illustrates the estimated number of people travelling into West Bromwich town centre by means of private transport. This includes drivers and passengers of all vehicles except buses. The largest increases in passengers were seen during the early morning period from 07.00-07.45. Decreases were seen during the late morning period.

West Bromwich Cordon Survey

Figure 11: Total Inbound Person Trips 0730-0930



In a change to trends of previous years, 2008 saw an increase in total person trips of 277. Although this is a slight increase, trips are still lower than those seen previous to 2004. Since 1998, the number of persons entering the town centre during the morning peak period by car has fallen by over 1,200. The greatest fall occurred between 2000 and 2002 with over 800 fewer trips. Car trips have increased in 2008 but only slightly at just 1.7%. Bus patronage also fell sharply during 2002 compared with 2000. After recovering in 2004, numbers of passengers fell slightly in 2006 by 1.7%. Metro passengers have remained fairly constant for the past four years but account for only 2.6% of total trips during the morning peak period. All public transport modes accounted for 34.7% of person trips into West Bromwich in 2008; again just a slight increase from previous years.