



# West Bromwich Cordon Report 2010

Sandwell MBC



# West Bromwich Cordon Report 2010

December 2010

Sandwell MBC

Council House  
PO Box 18  
PO Box 42, Lombard Street, West Bromwich B70 8RU



# Issue and revision record

<b>Revision</b>	<b>Date</b>	<b>Originator</b>	<b>Checker</b>	<b>Approver</b>	<b>Description</b>
A	13/12/10	Deb King	Simon Sadler	Simon Sadler	Final

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.



# Content

<b>Chapter</b>	<b>Title</b>	<b>Page</b>
1.	West Bromwich Cordon Survey	8
1.1	Introduction	8
1.2	Methodology	8
2.	Automatic Survey Results	10
2.1	Vehicle counts	10
2.2	Mode of travel	19

## Tables

Table 2.1:	Number of vehicles crossing the cordon in the Morning Peak Period (07.30 - 09.30)	10
Table 2.2:	Number of vehicles crossing the cordon in the Morning Peak (07.00 – 10.00)	10
Table 2.3:	Number of vehicles crossing the cordon in the Morning Inter-Peak Period (10.00-12.00)	11
Table 2.4:	Number of vehicles crossing the cordon in the Evening Peak (16.00-18.00)	12
Table 2.5:	Total Vehicles by Time Period on an Average Day	14
Table 2.6:	Estimates of Persons from Occupancy Data 2010	20

## Figures

Figure 1.1:	Location of Automatic Traffic Count sites	9
Figure 2.1:	Inbound Vehicles by Quarter Hour (07.00-10.00)	11
Figure 2.2:	Inter-Peak Inbound Vehicles by Hour (10.00-12.00)	12
Figure 2.3:	Outbound Evening Peak Hour Flows (16.00-19.00)	13
Figure 2.4:	24 Hour Flows Inbound	15
Figure 2.5:	24 Hour Flows Outbound	16
Figure 2.6:	Net Loss/Gain in Vehicles Over 24 hour Period	17
Figure 2.7:	Accumulation of Vehicles in West Bromwich Town Centre 2002-2010	18
Figure 2.8:	Estimates of Persons Travelling Inbound by Private Transport 07.00-10.00	21
Figure 2.9:	Total Inbound Person Trips by Mode 07.30-09.30	22

# 1. 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 are to observe, compare and monitor vehicular traffic levels in 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, while the Automatic Traffic Counts and the overall analysis have been undertaken by Mott MacDonald Ltd.

## **1.2 Methodology**

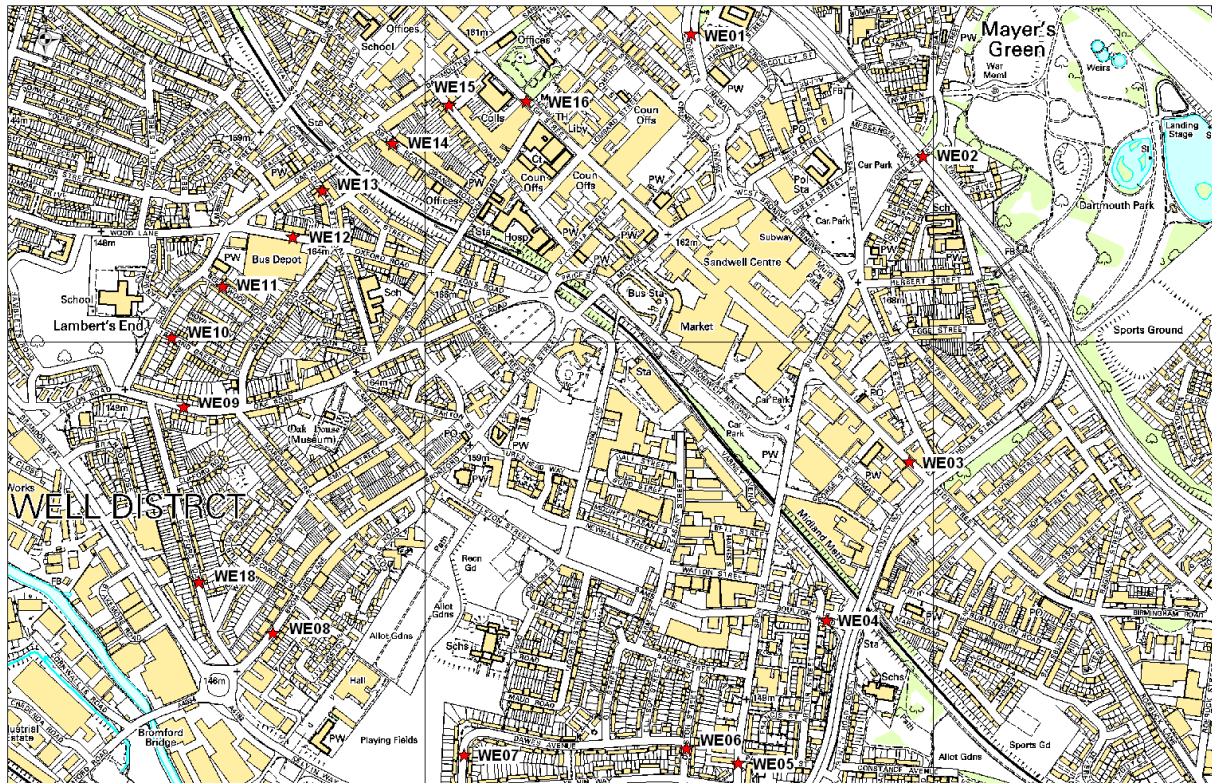
In order to obtain data on current traffic flow levels, a cordon shown in Figure 1.1 was marked around all major and minor roads entering into West Bromwich Town Centre. Automatic Traffic Counts were installed on all those roads to measure 24 hour traffic flows for a full week, enabling 24 hour average weekday data to be presented.

Four sites were 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 town centre by private vehicle. Additionally a supplementary bus cordon survey was undertaken by Centro. Bus trips during the morning peak are contained in Figure 2.9.

The data collection is normally conducted at the same sites biennially during the same week in March in order to avoid any bias due to seasonal variations. In 2010, the surveys were carried out during week beginning Monday 7<sup>th</sup> March.



Figure 1.1: Location of Automatic Traffic Count sites



Reproduced from Ordnance Survey mapping with the permission of the controller of HMSO Crown Copyright  
Unauthorized reproduction infringes Crown copyright and may lead to civil proceedings and prosecution  
Mott MacDonald VM Licence Number 100022121 2010

## 2. Automatic Survey Results

### 2.1 Vehicle counts

Table 2.1: Number of vehicles crossing the cordon in the Morning Peak Period (07.30 - 09.30)

	2002	2004	2006	2008	2010
Inbound Total	7777	7780	7541	7520	7605
Outbound Total	5831	5714	5399	5518	5602

Between the hours of 07.30 and 09.30 both inbound and outbound traffic levels have remained relatively consistent throughout between 2006 and 2010. Inbound and outbound traffic levels have increased by 1.1% and 1.5% respectively between 2008 and 2010.

Table 2.2: Number of vehicles crossing the cordon in the Morning Peak (07.00 – 10.00)

	2002	2004	2006	2008	2010
Inbound Total	10548	10445	10142	10136	10123
Outbound Total	8213	8008	7526	7678	7695

When analysing the number of vehicles entering the cordon between 07.00 and 10.00, again there has been very little change since 2006. There was a slight decrease in inbound traffic of 0.1% from 2008 and a slight increase of 0.2% outbound.

Figure 2.1: Inbound Vehicles by Quarter Hour (07.00-10.00)

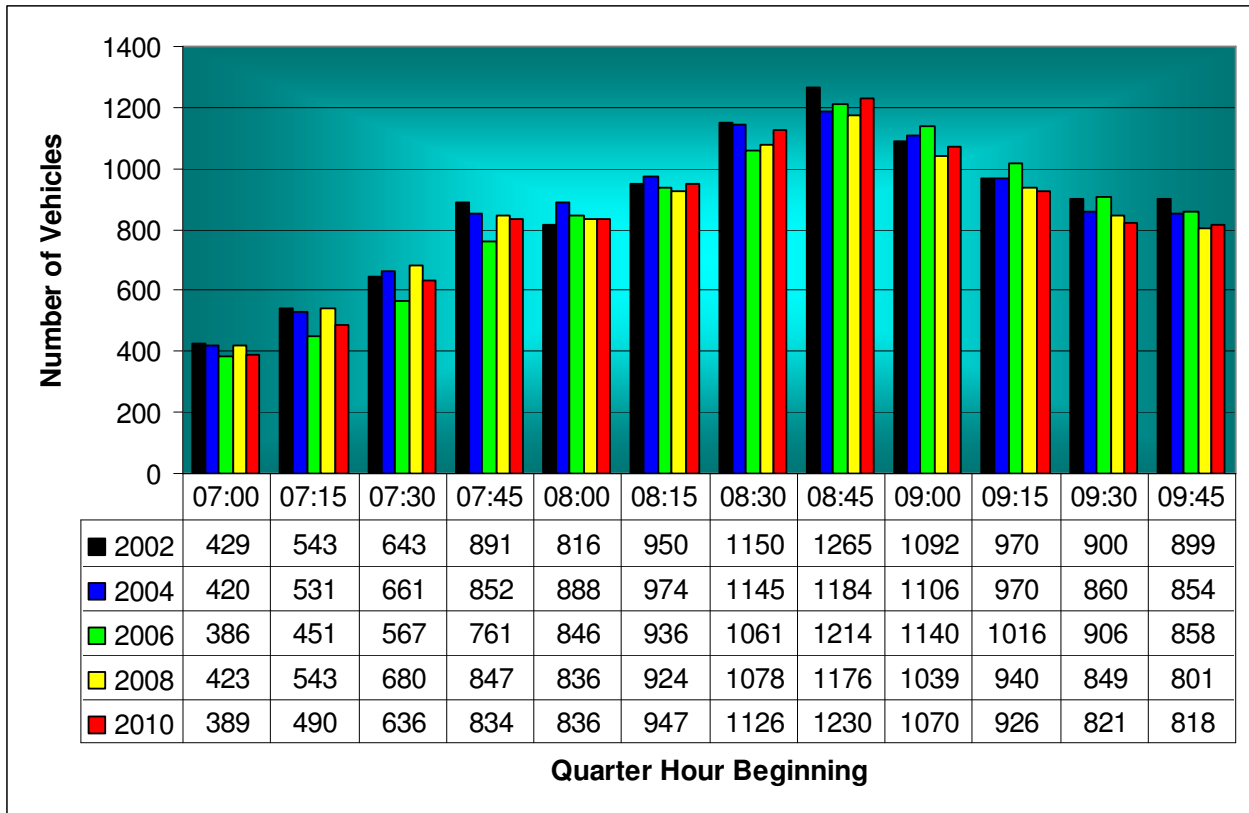


Figure 2.1 shows that there has been an increase in traffic in the morning peak hours between the periods of 08.15 and 09.15. Between 07.00 and 08.00 and 09.15 and 09.45, however there has been a decrease in traffic numbers. These figures reverse the early A.M. trend of the previous cordon where flows showed an increase on previous years.

Table 2.3: Number of vehicles crossing the cordon in the Morning Inter-Peak Period (10.00-12.00)

	2002	2004	2006	2008	2010
Inbound Total	6610	6457	6257	6076	6249
Outbound Total	6479	6345	5851	5837	5853

Figure 2.2: Inter-Peak Inbound Vehicles by Hour (10.00-12.00)

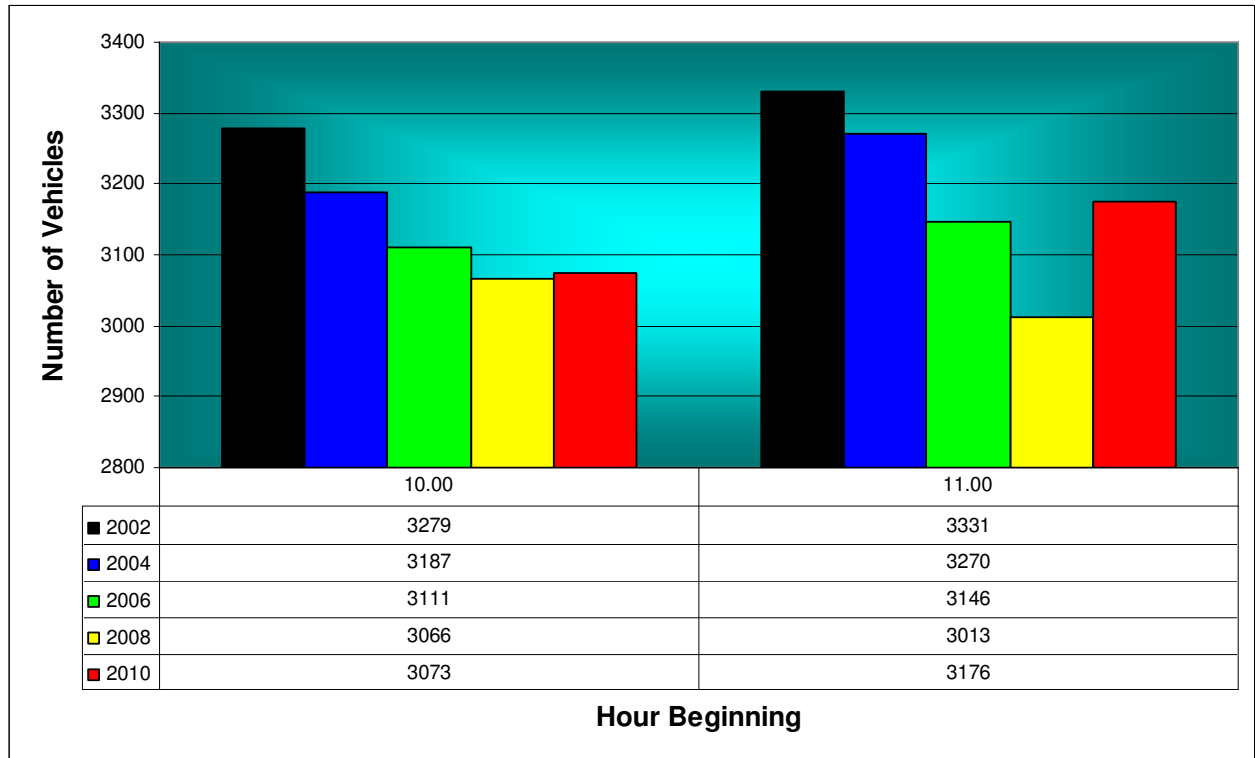


Figure 2.2 shows very little change in the amount of traffic in the inter-peak period for inbound traffic during 10.00 and 11.00. However, following a decrease of 4.2% between 2006 and 2008 during 11.00 and 12.00 there has been an increase of 5.4% in 2010 compared with 2008 figures.

Table 2.4: Number of vehicles crossing the cordon in the Evening Peak (16.00-18.00)

	2002	2004	2006	2008	2010
Inbound Total	7130	7041	6959	6718	6987
Outbound Total	9077	8626	8558	8308	8496

Figure 2.3: Outbound Evening Peak Hour Flows (16.00-19.00)

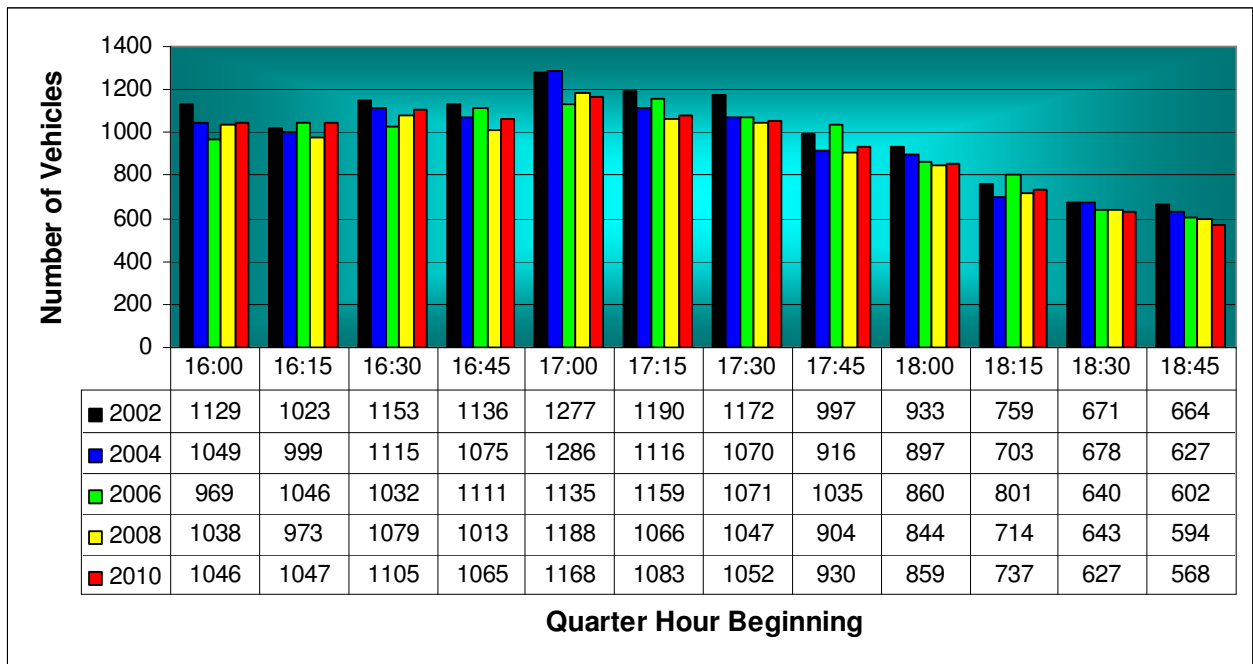


Table 2.4 above shows that following a decrease in inbound traffic between 2006 and 2008 of 3.5% in the evening peak, traffic levels in 2010 have now returned to those seen in 2006.

Outbound, although 2010 traffic has almost recovered to 2006 levels, it is still 0.7% lower than that seen in this year.

Figure 2.3 also shows an increasing trend of traffic in the early evening period of 16.00 to 17.15 while in the later evening from 17.15 to 19.00 the trend compared with 2002-2006 is generally downward. The periods showing the greatest reduction in peak hour flows are between 18.30 and 19.00.

Table 2.5: 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)
<b>2004</b>					
Inbound	7,780	6,457	7,041	40,351	48,939
% of 24hr	15.9	13.2	14.4	82.4	100
Outbound	5,714	6,345	8,626	40,446	49,135
% of 24hr	11.6	12.9	17.5	82.6	100
NET	2,066	112	-1,585	95	196
<b>2006</b>					
Inbound	7,541	6,257	6,959	39,540	47,639
% of 24hr	15.8	13.1	14.6	83.0	100
Outbound	5,399	5,851	8,558	38,959	47,180
% of 24hr	11.4	12.4	18.1	82.6	100
NET	2,142	406	-1,589	581	459
<b>2008</b>					
Inbound	7,520	6,079	6,718	38,341	46,472
% of 24hr	16.2	13.1	14.5	82.5	100
Outbound	5,518	5,837	8,308	38,285	46,642
% of 24hr	11.8	12.5	17.8	82.1	100
NET	2,002	242	-1,590	56	-170
<b>2010</b>					
Inbound	7,605	6,249	6,987	39,196	47,048
% of 24hr	16.2	13.3	13.4	83.3	100
Outbound	5,602	5,853	8,496	38,873	46,827
% of 24hr	12.0	12.5	18.1	83.0	100
NET	2,003	396	-1,509	323	221

The 2010 figures for inbound traffic flow have remained consistent with flows from 2008. There has been little change since 2006. In 2010, 16.2% of all traffic entering the cordon did so between 07.30 and 09.30 on a typical weekday, the same as in 2008. For the hours between 16.00 and 18.00, the corresponding outbound flow constituted 18.1% of journeys on a typical weekday, an increase of 0.3% on 2008. There was a slight increase in the inbound inter-peak period between 10.00 and 12.00 from 13.1% to 13.3%.

Between the hours of 07.00 and 19.00, 83.3% of all inbound traffic crossed the cordon compared to 83.0% for outbound traffic. The proportion of traffic entering the cordon has increased slightly since 2008, but is fairly similar to 2006.

Figure 2.4: 24 Hour Flows Inbound

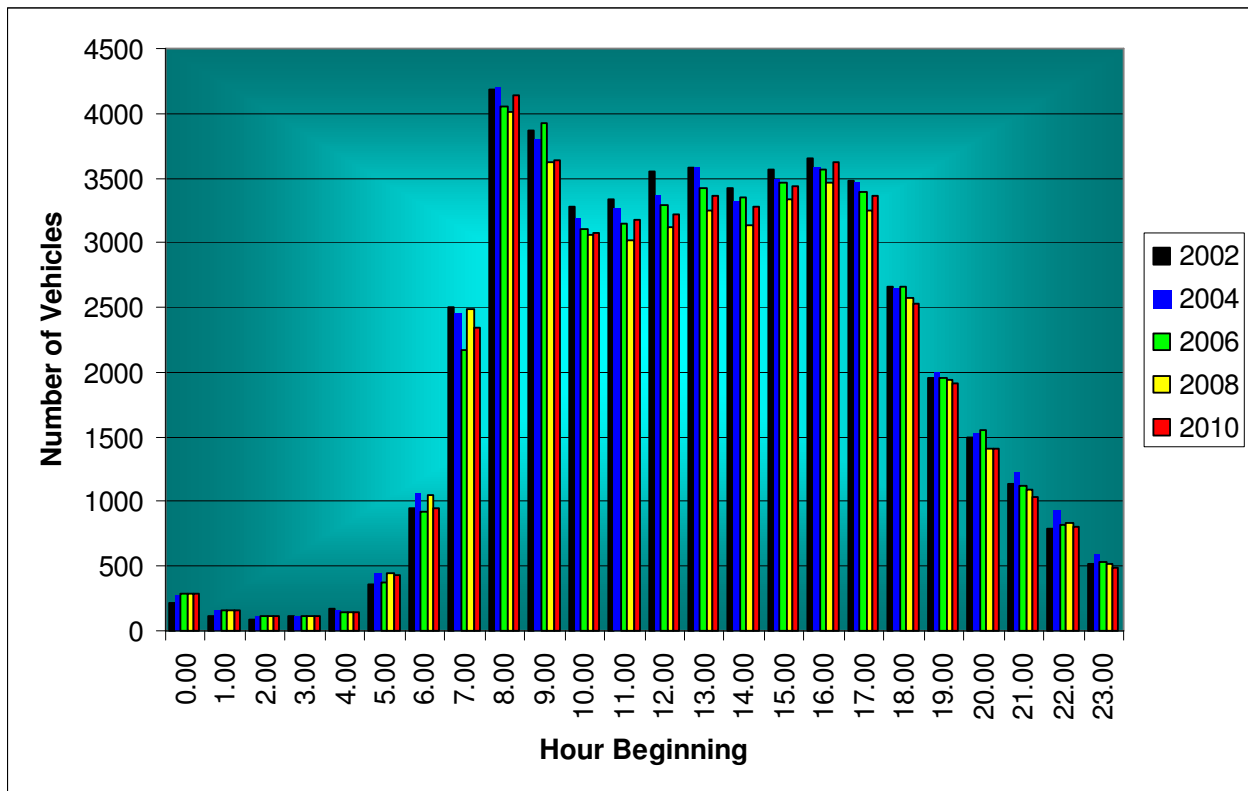


Figure 2.4 shows the distribution of weekday average vehicles entering West Bromwich town centre by hour over the day. All hourly periods between 08.00 and 18.00 show increases in traffic volume over 2008 whereas most hourly periods outside these hours show decreases. The hours between 08.00 and 09.00, 11.00 and 12.00 and 16.00 and 17.00 are the only hours to show increases when compared with 2006 and 2008 flow data. Conversely it shows traffic declining in the evening – a continuing trend since a peak of evening activity in 2004.

Figure 2.5: 24 Hour Flows Outbound

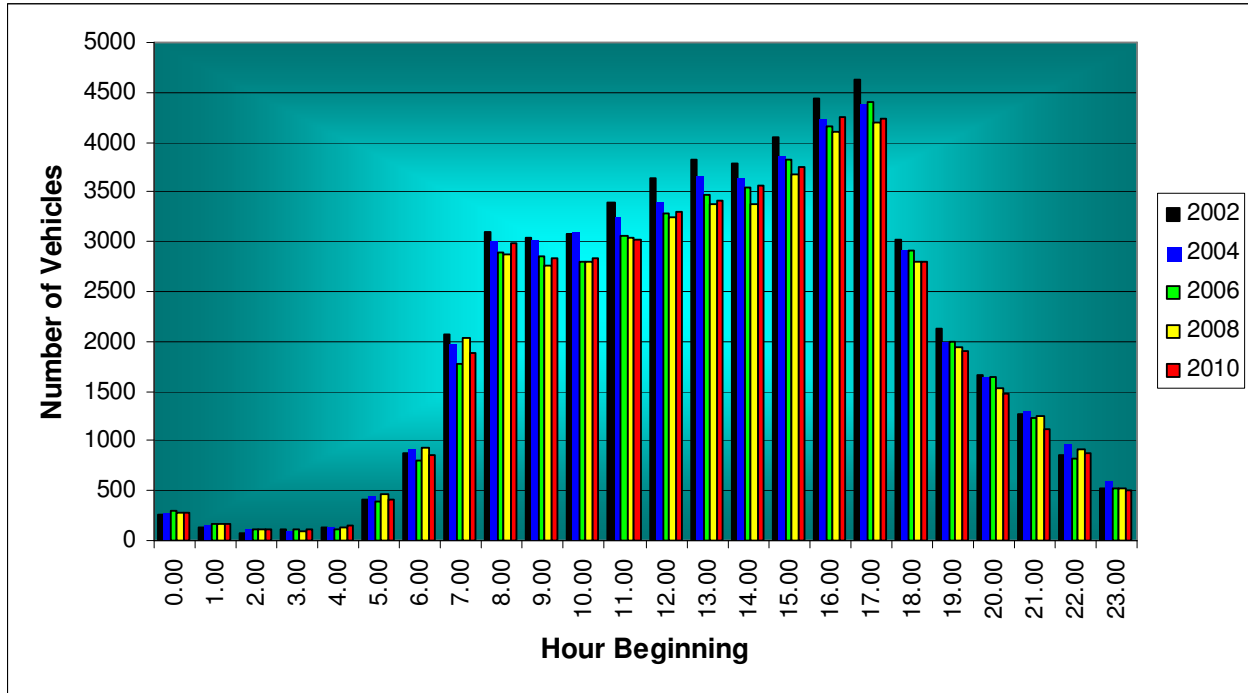


Figure 2.5 shows increases in most outbound hourly traffic flow periods from West Bromwich cordon compared with 2008 data. However, there have been fewer increases when compared with 2006. These are mainly seen in the early morning period and between 16.00 and 17.00. The largest reductions in traffic flow are in the late evening between the hours of 19.00 and 21.00.



Figure 2.6: Net Loss/Gain in Vehicles Over 24 hour Period

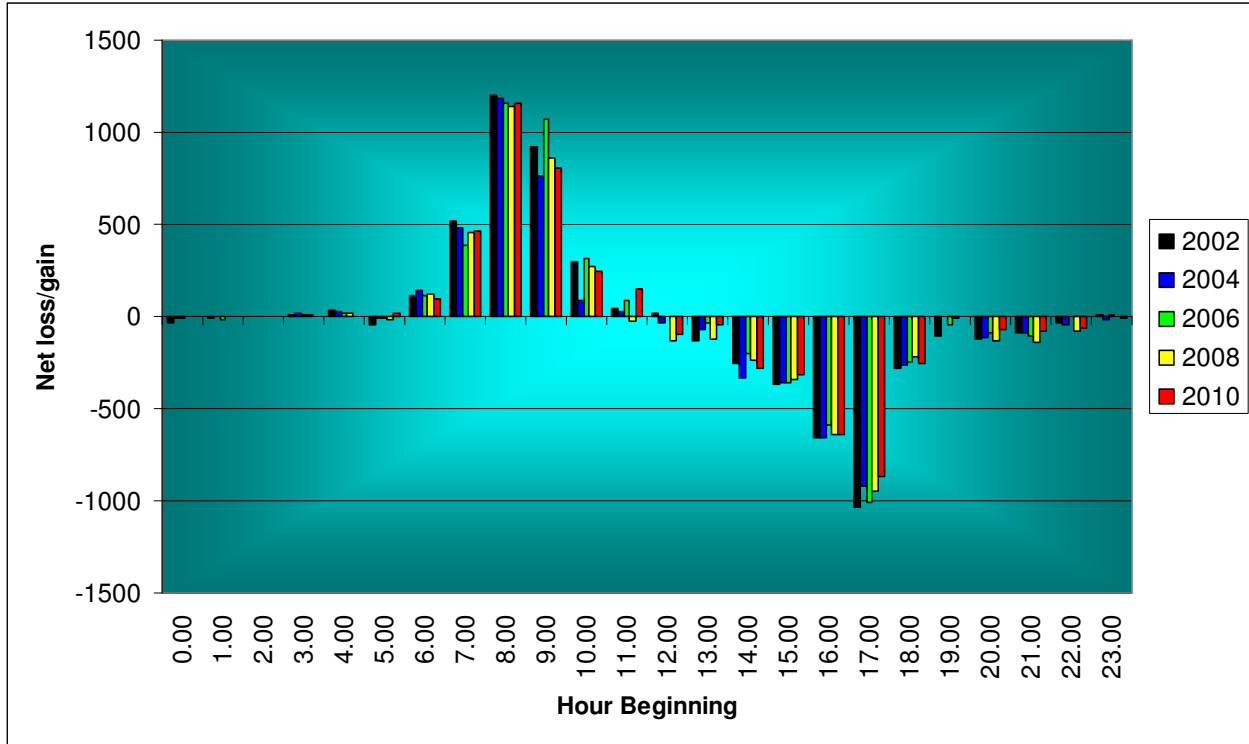


Figure 2.6 shows the net loss/gain in the number of vehicles within the cordon from 2002 to 2010. In 2010 there were increases in the net gain of vehicles in West Bromwich between the hours of 07.00 and 09.00. Between this period 1,627 more vehicles entered the cordon than exited. The highest hourly period when more vehicles exited than entered the cordon was between 17.00 and 18.00 when a net loss of 867 vehicles occurred.

Figure 2.7: Accumulation of Vehicles in West Bromwich Town Centre 2002-2010

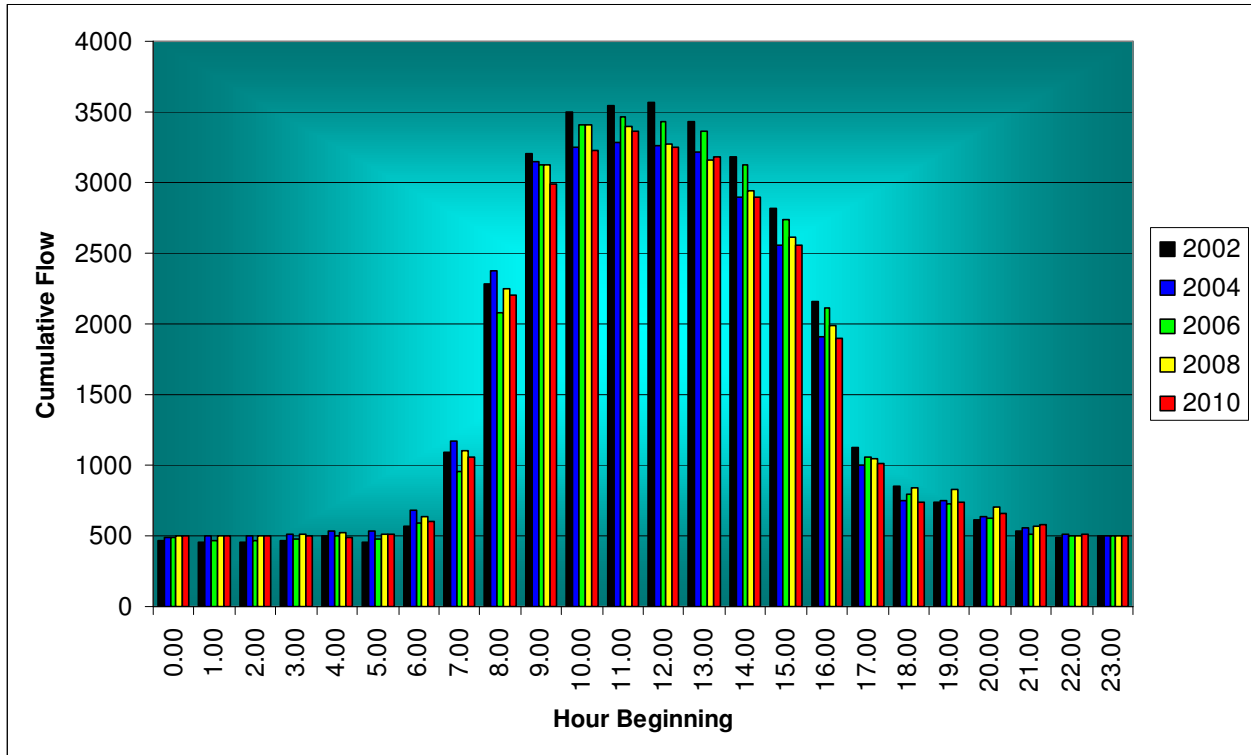


Figure 2.7 shows the accumulation of vehicles during the 24 hour period in West Bromwich town centre. The highest number of vehicles remaining inside the town centre occurs between 11.00 and 12.00 when there were 3,360 vehicles within the cordon. In general the number of vehicles in the town centre is less than in 2008 – continuing the general trend of decline over the years.

Note: 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.

## 2.2 Mode of travel

Figure 2.8: Estimated Inbound Vehicles by Mode 2010

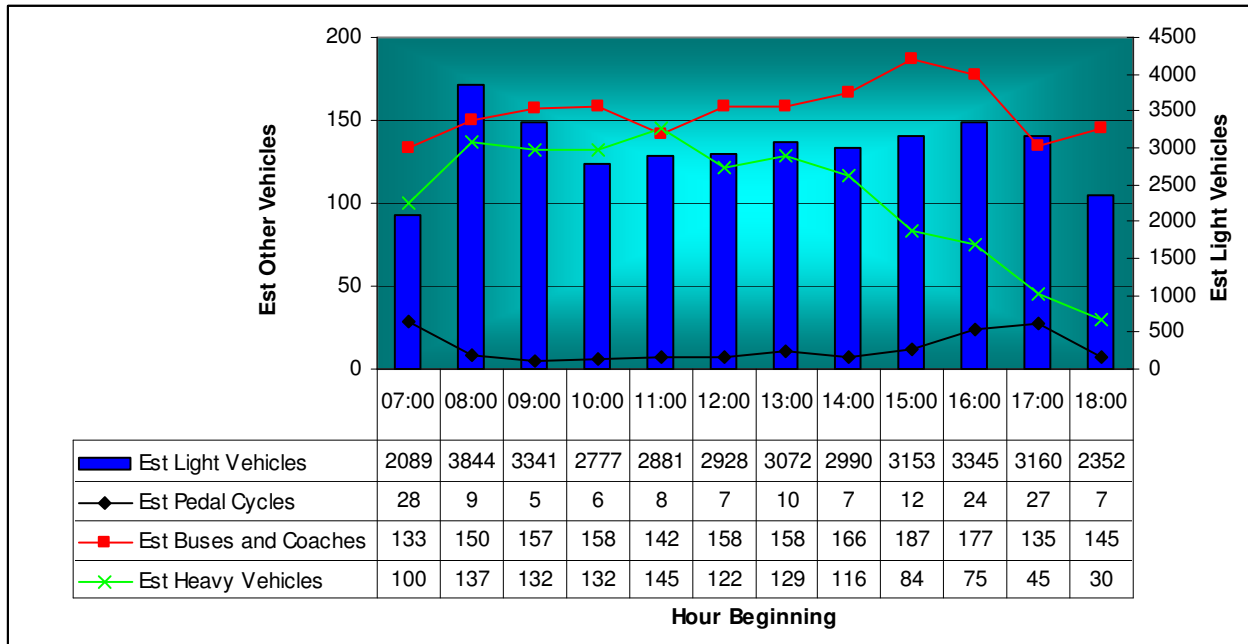


Figure 2.8 shows the estimated number of vehicles by type calculated from data taken from the four manual surveys conducted at the same time as the automatic traffic counts. This data provides information on mode of travel and is a key tool when estimating modal share between public and private transport.

The peak period for light vehicles entering the cordon was between the hours of 08:00 and 09:00 (estimated as 3,844 vehicles). The period between 15.00 and 18.00 shows a fairly consistent level of light vehicles entering the cordon.

The period at which most heavy vehicles travel into the cordon is between 11.00 and 12.00 (estimated 145 vehicles), Levels of HGV's dropped sharply after 14.00.

The use of pedal cycles peaked in the hours between 07.00 and 08.00 and 16.00 and 18.00 (total of 28 and 51 pedal cycles respectively).

Bus numbers were fairly consistent during the day but peaked during 15.00 and 17.00.

Table 2.6: Estimates of Persons from Occupancy Data 2010

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 Pedal Cycle	Estimated Heavy Vehicles	Estimated Persons by Heavy Vehicles	Estimated Persons by Light and Heavy Vehicles					
												2010	2008	2006	2004	2002	
07:00	183	217	1.19	389	29	0	337	400	400	23	41	441	461	437	455	482	
07:15	274	322	1.18	490	26	5	441	518	523	18	25	548	654	520	587	664	
07:30	314	368	1.17	636	36	6	572	670	676	23	29	705	749	623	734	754	
07:45	419	485	1.16	834	43	18	738	854	872	35	42	914	1065	869	975	1026	
08:00	430	487	1.13	836	37	2	755	855	857	42	52	909	979	948	947	957	
08:15	483	554	1.15	947	33	2	884	1014	1016	28	34	1050	1074	1113	1127	1098	
08:30	616	748	1.21	1126	34	3	1057	1283	1287	32	40	1327	1279	1262	1390	1480	
08:45	653	773	1.18	1230	46	2	1147	1358	1360	35	44	1404	1398	1437	1347	1521	
09:00	586	698	1.19	1070	32	2	1003	1195	1197	32	47	1244	1247	1370	1310	1426	
09:15	502	613	1.22	926	38	2	862	1052	1054	24	33	1087	1185	1260	1200	1251	
09:30	452	571	1.22	821	38	2	755	917	919	27	38	957	1056	1129	999	1171	
09:45	422	530	1.23	818	48	0	722	887	887	48	67	955	934	1136	1065	1131	
<b>07:30-09:30</b>	<b>4003</b>	<b>4726</b>	<b>1.18</b>	<b>7605</b>	<b>299</b>	<b>36</b>	<b>7019</b>	<b>8287</b>	<b>8322</b>	<b>252</b>	<b>320</b>	<b>8639</b>	<b>8977</b>	<b>8882</b>	<b>9030</b>	<b>9511</b>	
<b>07:00-10:00</b>	<b>5334</b>	<b>6366</b>	<b>1.19</b>	<b>10123</b>	<b>439</b>	<b>42</b>	<b>9273</b>	<b>11068</b>	<b>11048</b>	<b>368</b>	<b>491</b>	<b>11540</b>	<b>12084</b>	<b>12103</b>	<b>12136</b>	<b>12960</b>	

Table 2.6 shows the estimates of vehicles by type for each of the quarter hour periods from 07.00 – 10.00. Using the estimated numbers of light and heavy vehicles and the average occupancies from these vehicle groups, an estimate of the number of persons travelling by private transport is derived. These figures are shown in the Biennial Comparison column of Table 2.6. The figures show that compared with 2008, persons travelling by private transport have decreased by 3.8% during 07.30-09.30 and 4.5% during 07.00-10.00. The figures represented in Table 2.6 are shown in Figure 2.8.

Figure 2.8: Estimates of Persons Travelling Inbound by Private Transport 07.00-10.00

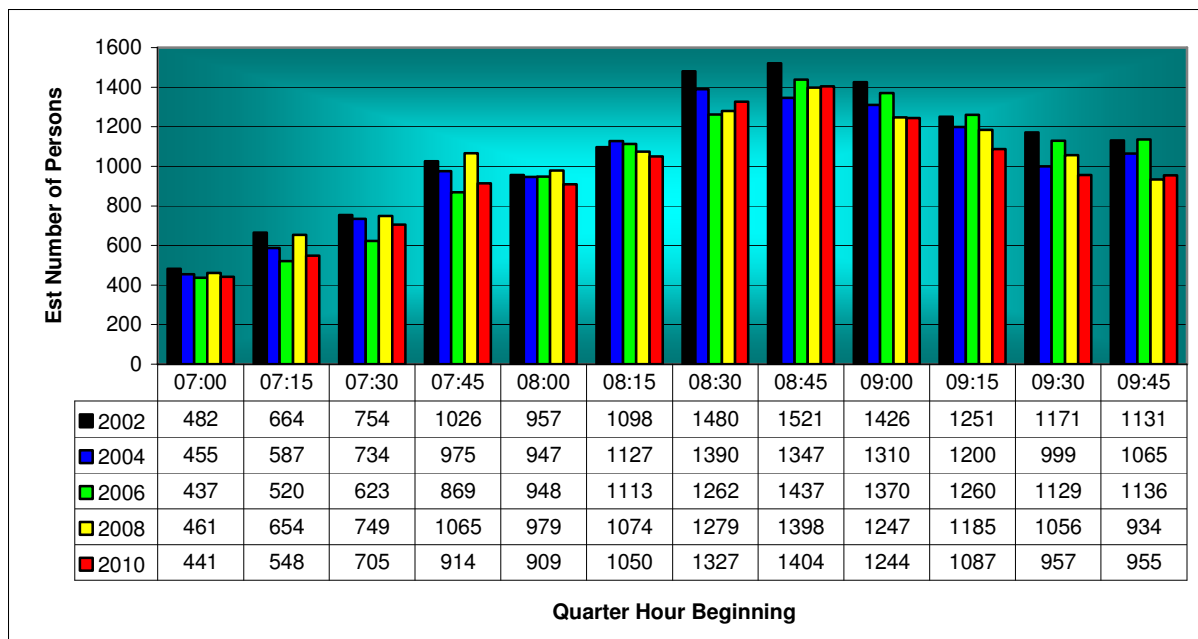
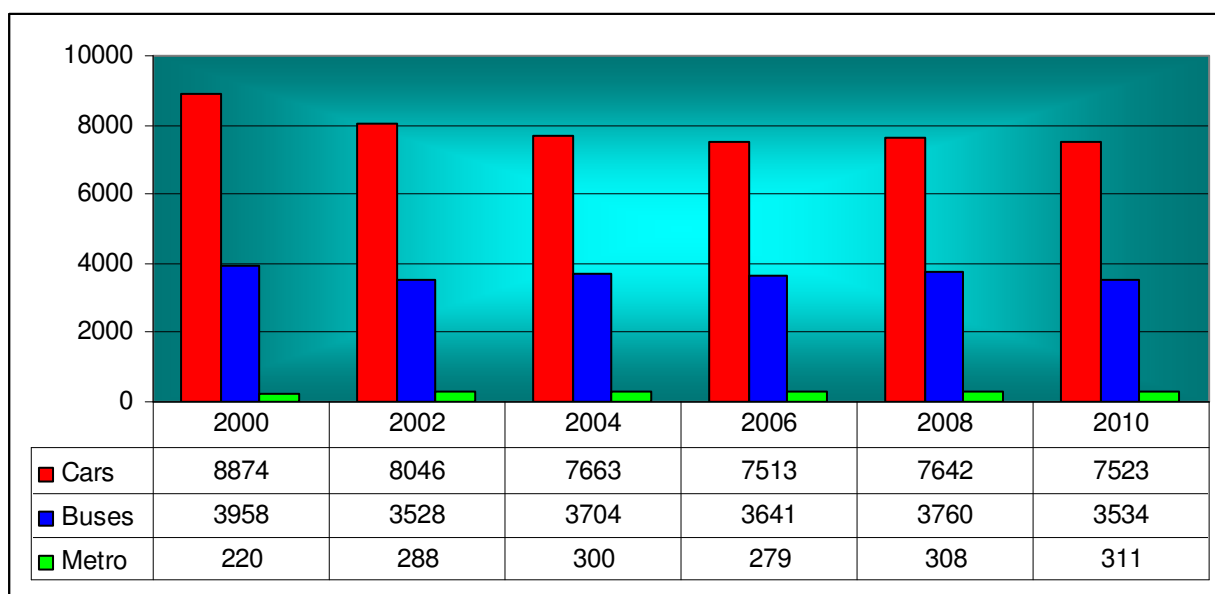


Figure 2.8 illustrates the estimated number of people travelling into West Bromwich town centre by means of private transport. This includes drivers and passengers of all vehicles except buses.

Most time periods during the early part of the morning peak show decreases in the number of persons travelling into the cordon by means of private transport, compared to 2008 although 08.30 to 09.00 showed a slight increase.

Figure 2.9: Total Inbound Person Trips by Mode 07.30-09.30



Overall, total trips by car and public transport fell by 2.9% from 11,710 in 2008 to 11,368 in 2010. Bus trips decreased by 6.0% while car trips declined by 1.6%. Metro trips increased slightly by 1%.

Overall, the bus modal share decreased slightly from 32.1% to 31.1% and metro modal share increased by 0.1% to 2.7%.

Cars still remain by far the most popular mode of transport into West Bromwich town centre during the morning peak increasing its share of modal split by 0.9% during 2010 to 66.2%.