

Walsall Cordon Survey

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Walsall Cordon Report 2007

June 2007

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Issue and Revision Record

Rev	Date	Originator	Checker	Approver	Description
1	30/05/07	Majid Adeeb	Deb King	Barry Storey	Initial Submission
2	12/06/07	Majid Adeeb	Deb King	Barry Storey	Final

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1.1 Introduction

This report contains the results and analysis of the traffic cordon surveys undertaken by Mott MacDonald Ltd and Walsall Borough Council, as a part of the Local Transport monitoring programme. The objectives of the study are to observe, compare and monitor vehicular traffic levels in the Walsall Town Centre, so that the effects of physical engineering measures and transport policies can be assessed. The Manual Traffic Counts have been undertaken by Walsall Borough Council, while the Automatic Traffic Counts and the overall analysis have been undertaken by Mott MacDonald Ltd.

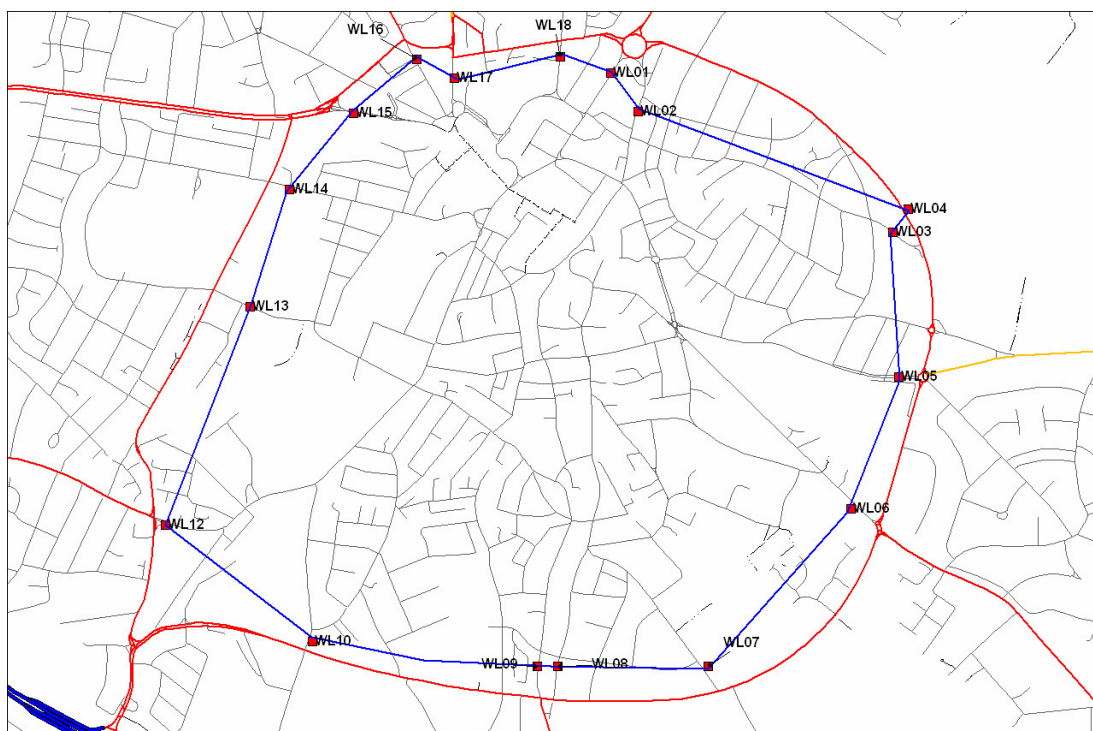
1.2 Methodology

In order to obtain data on current traffic flow levels, a cordon shown in Fig1, was marked around most major and some minor roads entering into Walsall Town Centre. Automatic Traffic Counts were installed on all those roads to measure 24 hours traffic flows for a full week, enabling 24 hour average weekday data to be presented.

Four sites are also surveyed manually by Walsall 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, which also feeds into this report.

The data collection is normally conducted at the same sites biennially during the week beginning Monday 14th March in order to avoid any bias due to seasonal variations. However during this year's scheduled programme, road works were being undertaken at sites WL13 and WL14, and as a result counts locations were instead moved further towards town centre, to west of Corporation Street and east of Navigation Street respectively.

Figure 1: Location of Automatic Traffic Count Sites



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Automatic Traffic Count Results

Table 1: Number of vehicles crossing the cordon in the Morning Peak (07.30 - 09.30)

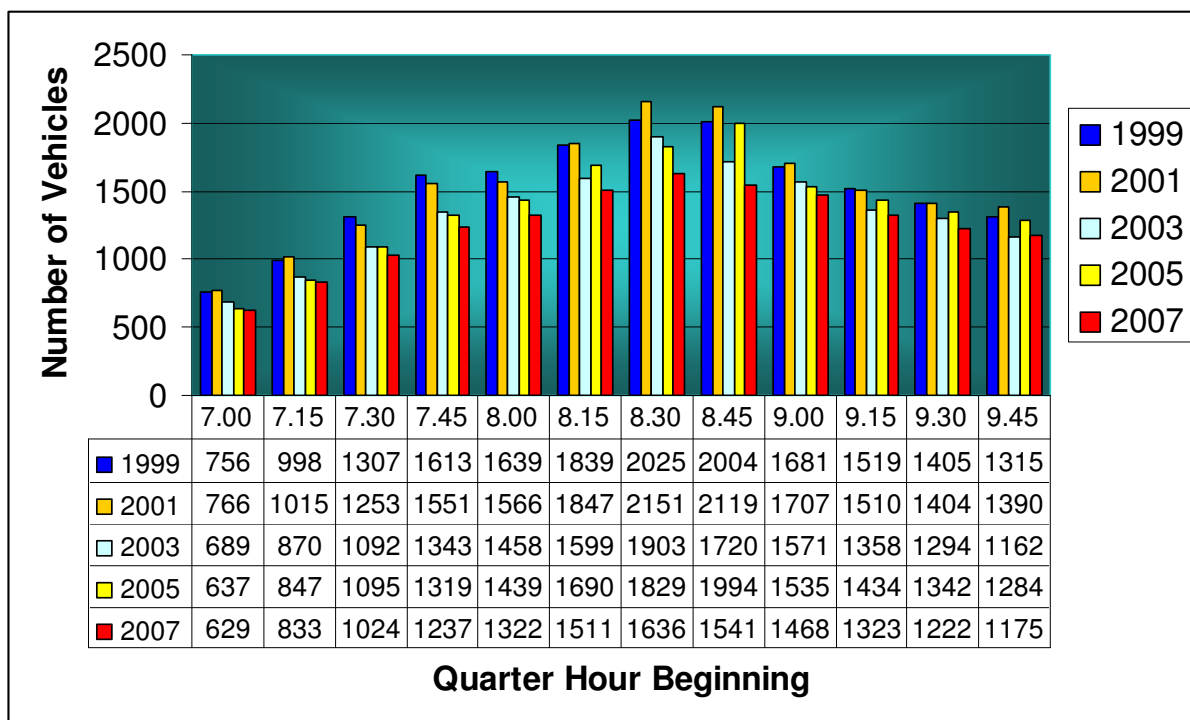
	1997	1999	2001	2003	2005	2007	2007 (0700 – 10.00)
Inbound	13,865	13,627	13,704	12,044	12,135	11,062	14,921
Total							
Outbound	9,090	9,244	9,410	7,935	7,956	7,986	10,971
Total							

- Between 2005 and 2007 inbound traffic has decreased by 9%, whereas outbound traffic has stayed about the same levels.

The decrease noted in the year 2007 should be treated cautiously, as there is a room for some potential

bias due the road works at locations WL13 and WL14 during survey period. These two locations carry major traffic flows to and from other conurbations and therefore any loss or gain in the traffic on these roads may affect the aggregated flows crossing the cordon.

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



- Since 1999, there has been a fall in the number of vehicles entering the cordon, and the 2007 figures continue to show this downward trend. The fall

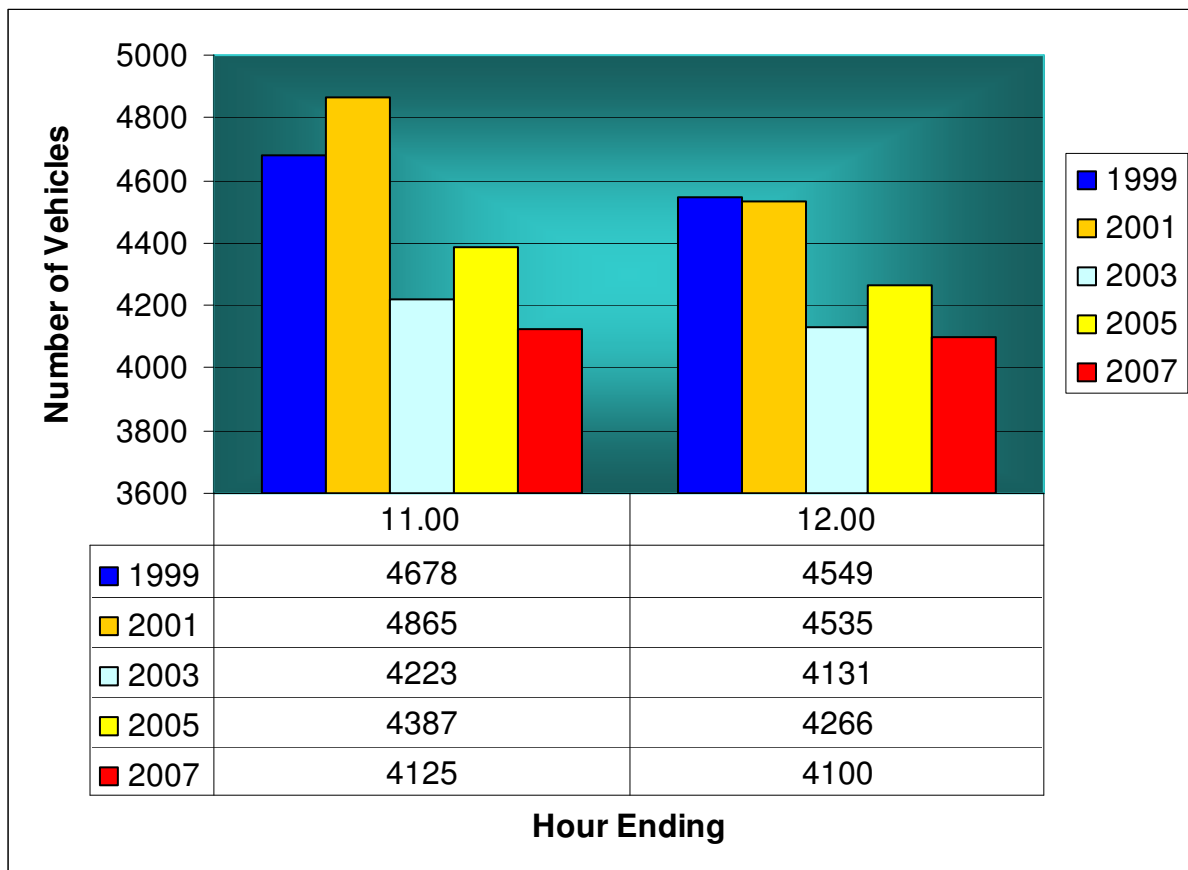
is particularly marked between 0800 and 0900.

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Table 2: Number of vehicles crossing the cordon in the Morning Off-Peak Period (10.00-12.00)

	1997	1999	2001	2003	2005	2007
Inbound Total	9,090	9,227	9,400	8,354	8,653	8,225
Outbound Total	8,815	8,744	8,823	7,831	7,984	7,718

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



- The downward trend in vehicles entering the cordon during the am-peak period in 2007, is reflected in the off-peak with around 400 fewer vehicles being recorded between 10.00 and 12.00.

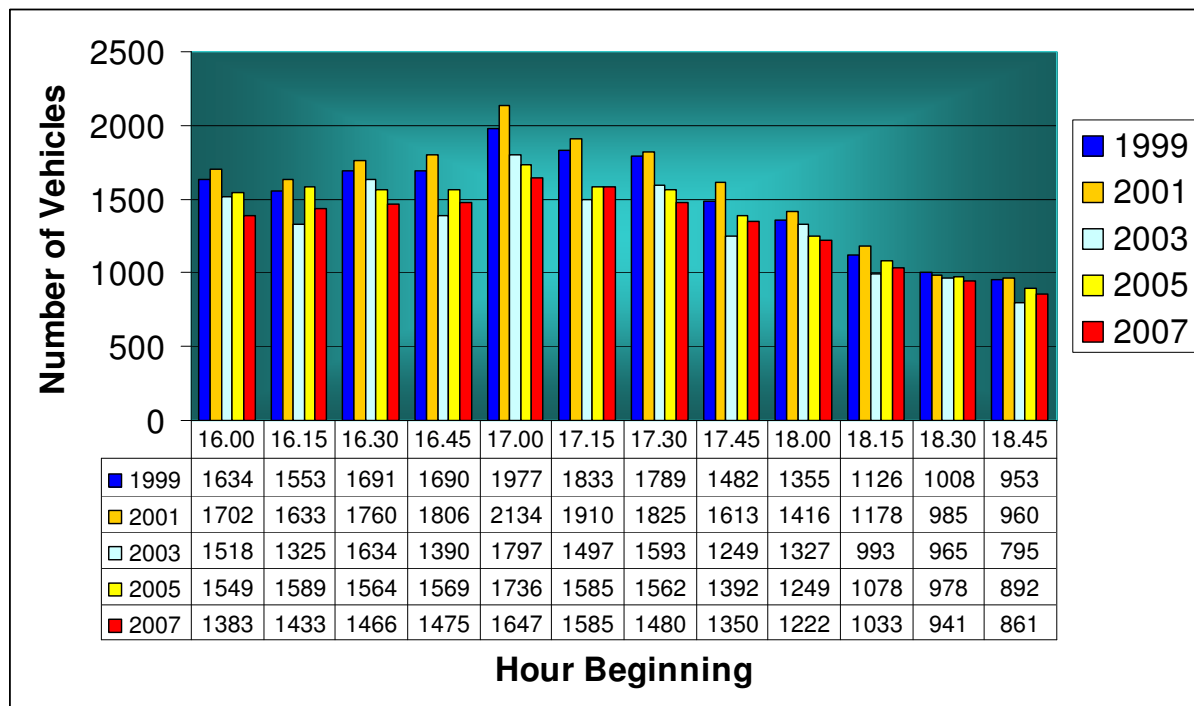
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Table 3: Number of vehicles crossing the cordon in the Evening Peak (16.00-18.00)

	1997	1999	2001	2003	2005	2007
Inbound Total	9,864	9,940	9,424	9,265	9,676	9,526
Outbound Total	13,611	13,649	14,383	12,003	12,546	11,819

- Table 3 shows that during 2005 and 2007 traffic during 1600-1800 hrs has decreased, both in inbound and outbound directions, by 2% and 6 % respectively.

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



- Figure 4 shows a consistent decline between 2005 and 2007, in outbound traffic during the evening peak periods.
- Compared with the traffic levels of 2005, the outbound evening peak

traffic shows a consistent decrease of about 10% during every quarter hour between 1600 – 1730 hrs, diminishing to 5% during later periods.

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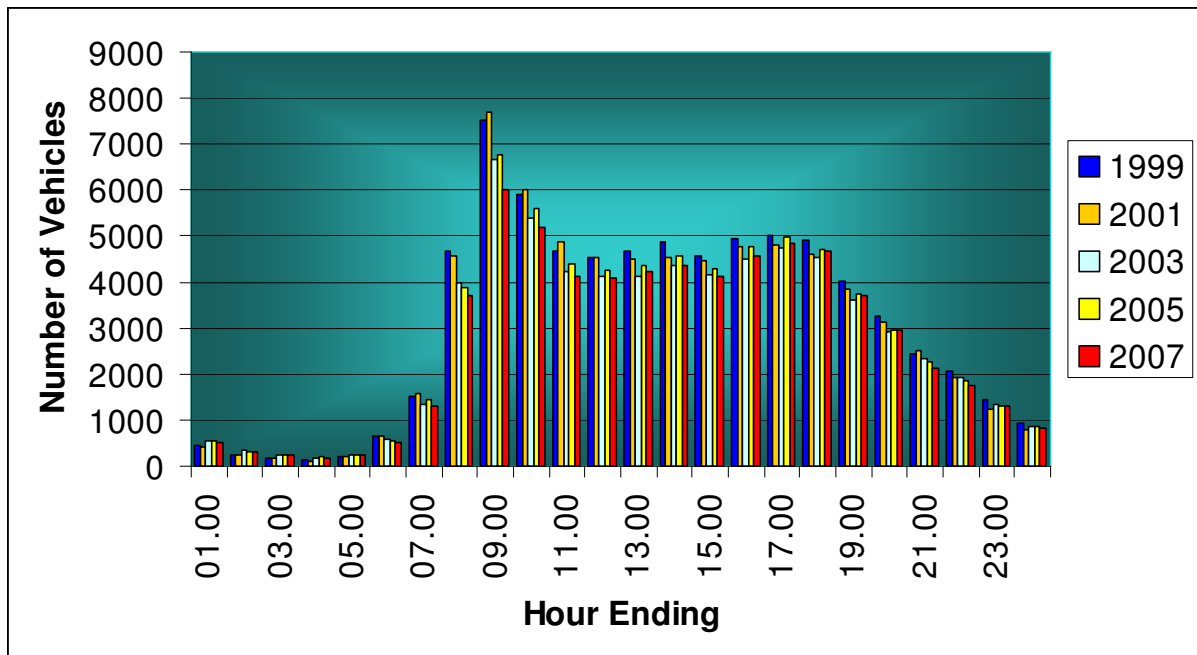
Table 4: Total Vehicles by Time Period on an Average Day

	07.30 - 09.30	10.00 - 12.00	16.00 - 18.00	07.00 – 1900 (12 hour)	00.00 – 24.00 (24 hour)
2001					
Inbound	13,704	9,400	9,424	59,212	72,190
% of 24hr	19.0	13.0	13.1	82.0	100
Outbound	9,410	8,823	14,383	61,319	75,068
% of 24hr	12.5	11.8	19.2	81.7	100
NET	4,294	577	-4,959	-2,107	-2,878
2003					
Inbound	12,044	8,354	9,265	54,438	67,271
% of 24hr	17.9	12.4	13.8	80.9	100
Outbound	7,935	7,831	12,003	53,404	66,556
% of 24hr	11.9	11.8	18.0	80.2	100
NET	4,109	523	-2,738	1,034	715
2005					
Inbound	12,135	8,653	9,676	56,255	69,019
% of 24hr	17.6	12.5	14.0	81.5	100
Outbound	7,956	7,984	12,546	54,954	68,060
% of 24hr	11.7	11.7	18.4	80.7	100
NET	4,179	669	-2,870	1,301	959
2007					
Inbound	11062	8,225	9,526	53680	65936
% of 24 hr	16.7	12.5	14.4	81.4	100
Outbound	7986	7,718	11,819	52930	65633
% of 24 hr	14.2	11.8	18	80.6	100
NET	3,076	507	-2,293	17	303

- In 2007, 17% of traffic flowing into the town centre on a typical weekday crossed the cordon line between the hours of 7.30a.m. and 9.30a.m.
- 18% of outbound traffic crossed the cordon line between 1600-1800hrs.
- 12% of the daily traffic into the town centre occurred during the off peak time period (1000-1200hrs).
- Around 81% of average daily inbound traffic crossed the cordon during the main 12hr day (0700-1900hrs).
- 81% of outbound traffic crossed the cordon within the same period.
- The number of vehicles counted in 2007 were slightly less inbound and outbound than those counted in 2005 (5%), and (4%) respectively.

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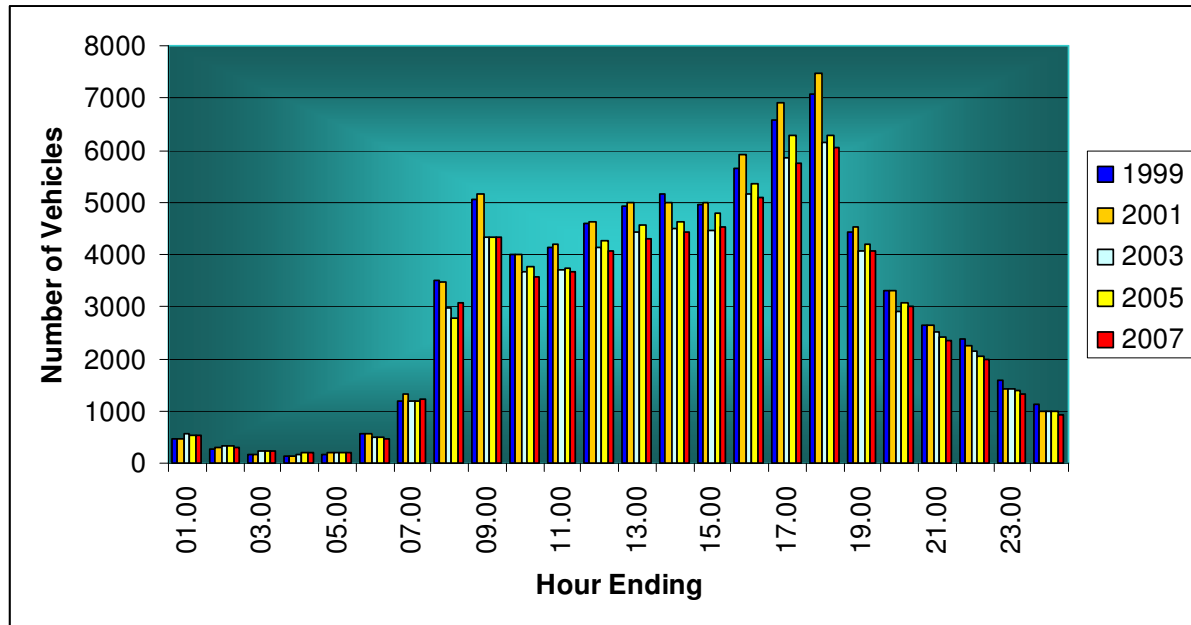
Figure 5: 24 Hour Flows Inbound



- Figure 5 shows the distribution of vehicles entering Walsall town centre by hour over the 24 hour period.
- Traffic has decreased slightly during most hours of the day compared with 2005.

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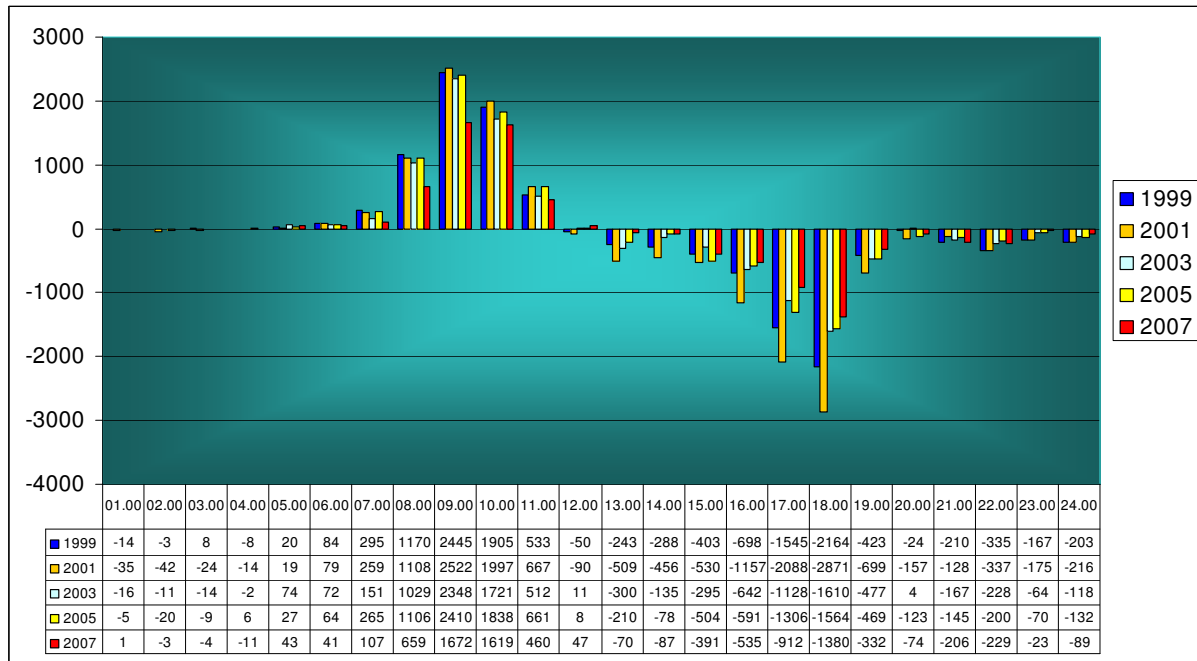
Figure 6: 24 Hour Flows - Outbound



- Figure 6 shows the corresponding outbound flow by hour over the 24 hour period.
- Outbound traffic followed a similar pattern to the inbound direction with slight decreases in traffic during most hours of the day.

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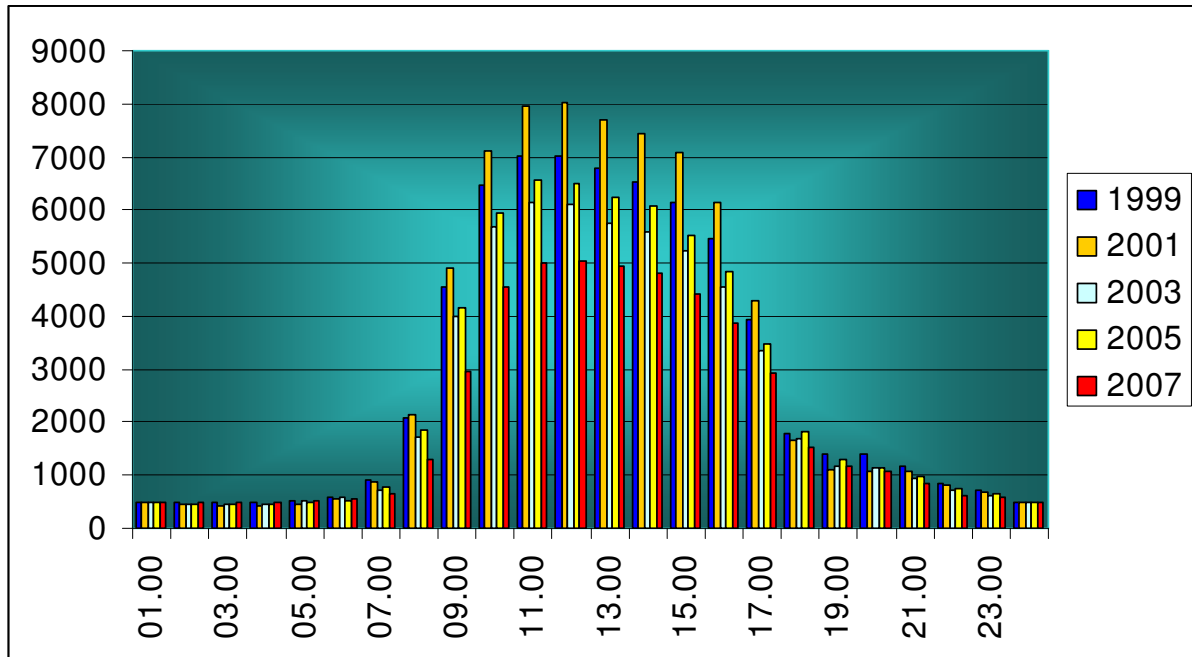
Figure 7: Net Loss/Gain in Vehicles over 24 hour Period



- Figure 7 shows the net gain in vehicles to the cordon by hour from 1997 to 2007.
- In 2007, the highest hours were 08.00-09.00 and 09.00 – 10.00 when 1672 and 1619 more vehicles (respectively) entered the town centre than left.
- Correspondingly, the highest hour in the evening was 17.00-18.00 when 1380 more vehicles left the town centre than entered.

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Figure 8: Accumulation of Vehicles in Walsall Town Centre 1997-2005



- The highest number of vehicles remaining inside the town centre occurs during 11.00-12.00 when there were an estimated 5020 vehicles within the cordon, 1315 fewer vehicles than the figure of 2005. One of the possible explanations could be that during this year's survey, because of the road works the Cordon locations WL13 and WL14 were moved further towards the town centre, and this shift of locations

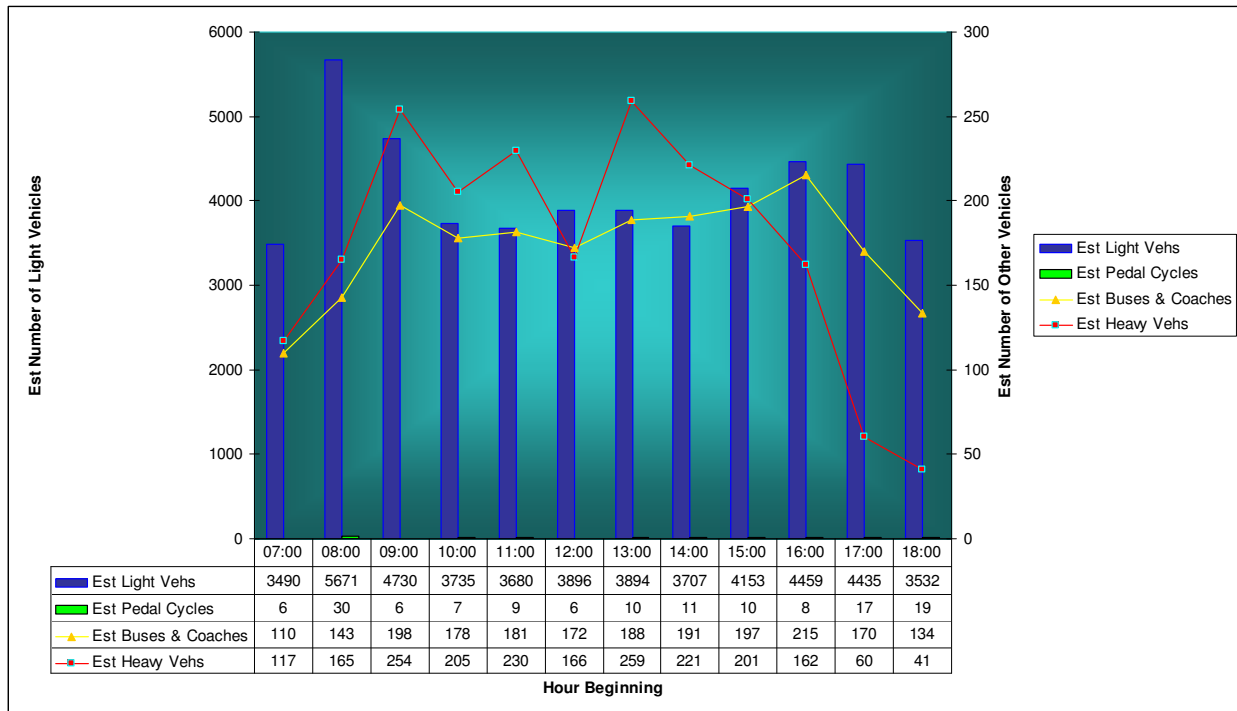
isolated certain areas which offers free on/off street parking spaces.

* 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

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1.4 Mode of Travel

Figure 9: Estimated Inbound Vehicles by Mode 2007.



- The manual surveys give an indication of mode of travel data.
- 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.

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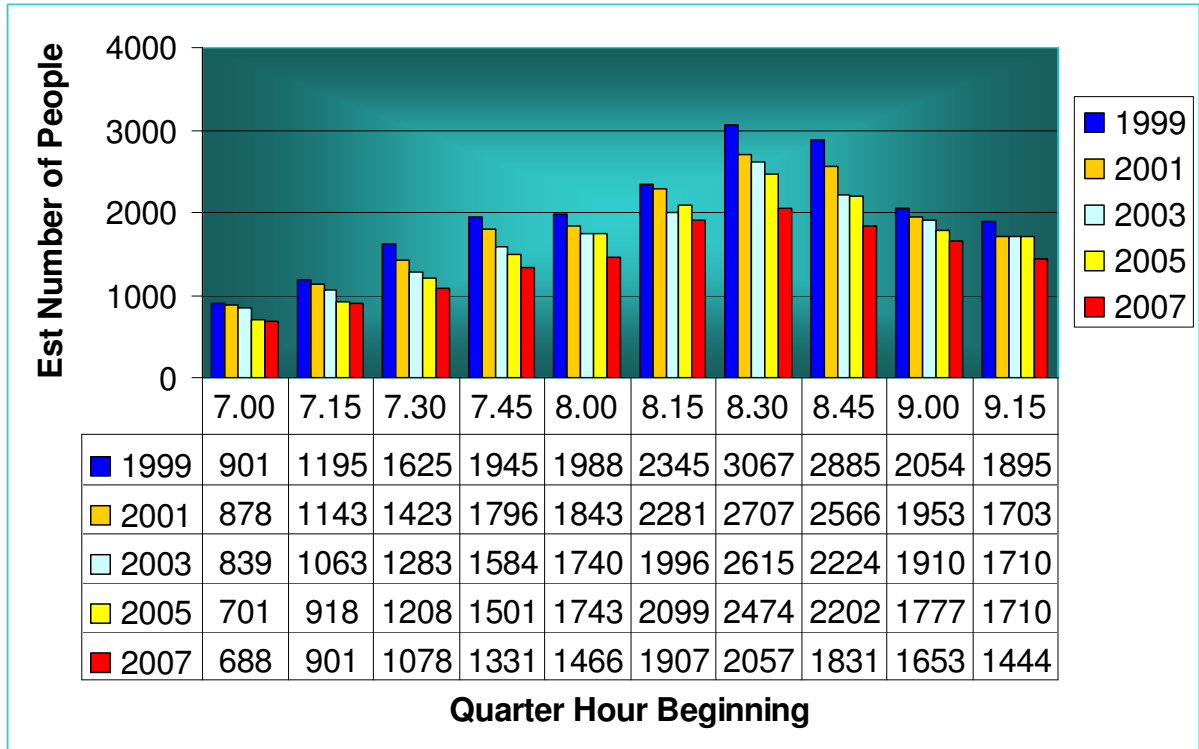
Table 5: Estimates of Persons from Occupancy Data 2007 (0700 – 0930)

				A	B	C	D	E	F	G		Estimated People- Light and Heavy Vehicles				
Total Vehs	Total Pass	Ave Occup	Start Time	Automatically Counted Vehicles	Estimtaed Number of Buses	Estimated Pedal Cycles	Est. Light Vehs	Est.Ave Occ	Estimated People(Light Veh + Ped Cycle	Estimated Heavy Vehs	Est People Light Vehicles	2007	2005	2003	2001	1999
494	559	1.13	07.00	629	21	0	585	662	662	23	26	688	701	839	878	901
608	677	1.11	07.15	833	24	3	780	869	871	26	30	901	918	1063	1143	1195
686	739	1.08	07.30	1024	25	2	965	1040	1042	32	36	1078	1208	1283	1423	1625
676	751	1.11	07.45	1237	40	2	1161	1290	1292	34	39	1331	1501	1584	1796	1945
762	869	1.14	08.00	1322	34	10	1243	1418	1428	34	38	1466	1743	1740	1843	1988
700	911	1.30	08.15	1511	36	8	1431	1863	1870	30	37	1907	2099	1996	2281	2345
710	913	1.29	08.30	1636	59	6	1552	1996	2002	41	55	2057	2474	2615	2707	3067
706	863	1.22	08.45	1541	42	6	1422	1738	1743	59	70	1813	2202	2224	2566	2885
639	743	1.16	09.00	1468	53	2	1375	1599	1600	48	53	1653	1777	1910	1953	2054
644	736	1.14	09.15	1323	58	2	1196	1367	1369	69	75	1444	1710	1710	1703	1895
6625	7761	1.17	Total	12524	391	39	11711	13840	13880	397	459	14339	16333	16964	18293	19900

The figures represented in Table 5 are shown in Figure 10.

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Figure 10: Estimates of Persons Travelling Inbound by Private Transport 07.00-09.30



- Figure 10 illustrates the estimated number of people travelling into Walsall town centre by means of private transport. This includes drivers and passengers of all vehicles except buses.

into the town by means of private transport compared to the figures of 2003 and 2005. The 2007 results continue to show a downward trend since 1999.

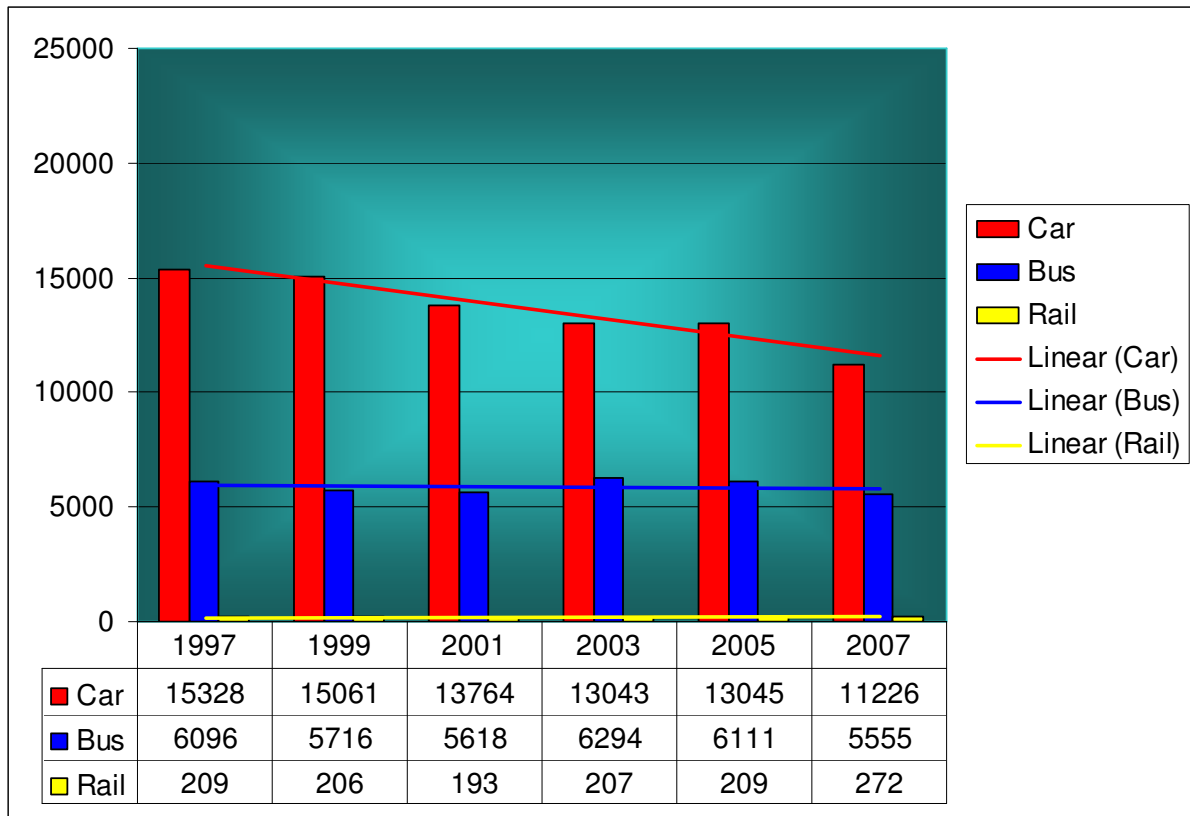
- All time periods show decreases in the number of persons travelling

Figure 11: Walsall Bus Station



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Figure 12: Total Inbound Person Trips 0730-0930



- During 2003 and 2005, car and rail persons' morning peak period trips remained almost at the same levels with a slight decrease in bus trips.
- Compared with the previous 3 years' figures, during 2007, a decline of 14% and 9% has been noted in car person trips and bus person trips respectively.
- An increase of 30% in rail person trips has been noted during the 2007 surveys.
- Despite a sharp fall in the number of car-borne persons since 1997, the numbers arriving by bus and train have remained very constant and now represent around 34% of persons travelling to the town centre compared with 29% in 1997.