

Walsall Cordon Survey

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Walsall Cordon Report 2005

July 2005

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1.1 Introduction

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This report is being undertaken as part of the Local Transport Plan monitoring process. The purpose of the report is to give an indication of the level of vehicular activity in Walsall town centre, to indicate existing and future levels of transport demand and to monitor the effects of transport policy. The manual surveys have been undertaken by Walsall Borough Council, while the automatic surveys and analysis have been undertaken by Mott MacDonald.

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 idea is to capture all vehicles entering the town centre.

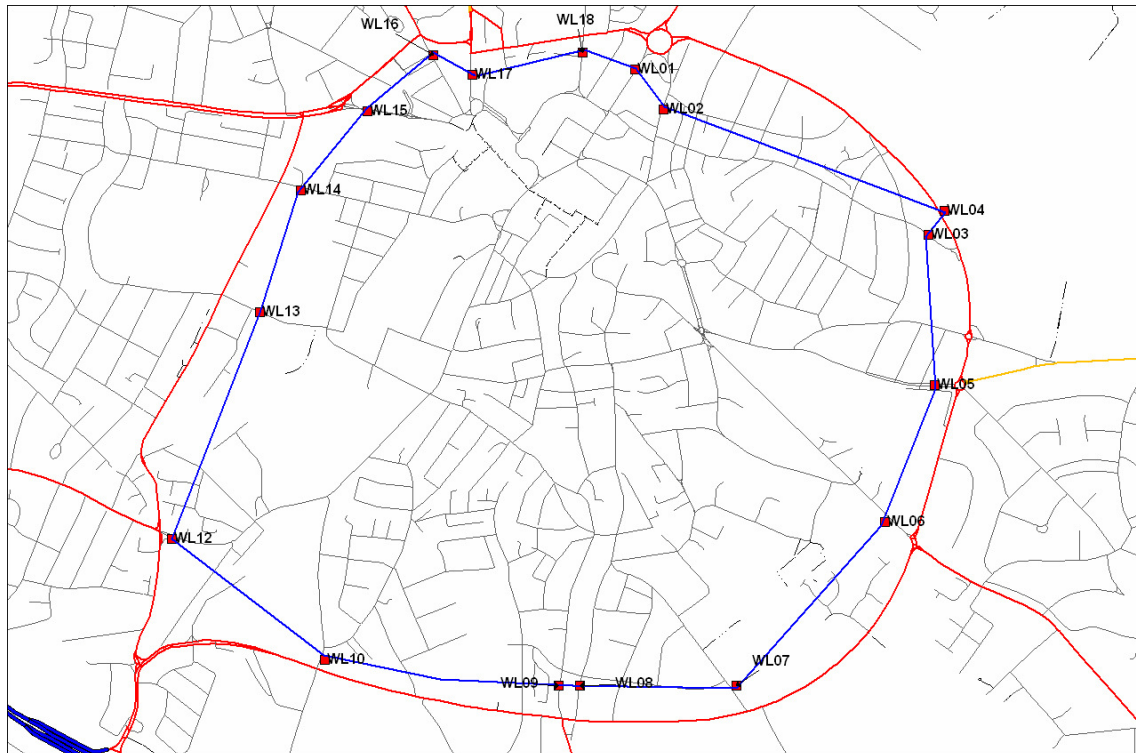
Counters are used that record the vehicles automatically (ATC's). In this way, data for a full week is collected, enabling 24 hour average weekday data to be presented.

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.

A complementary bus cordon survey has been undertaken by Mott MacDonald on behalf of Centro, which feeds into this report.

Collection of the data took place during week beginning Monday 14th March 2005. The same sites are monitored during the same weeks biennially to maintain consistency in the data.

Figure 1: Location of Automatic Traffic Count Sites



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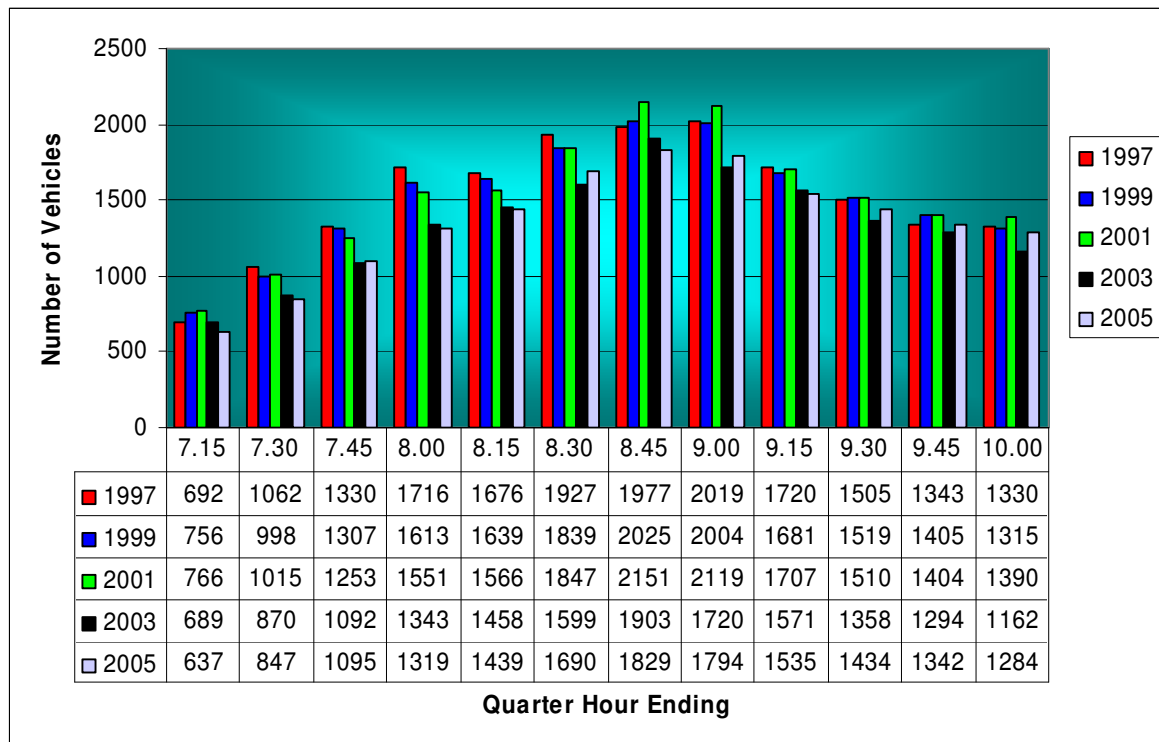
Automatic Traffic Count Results

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

	1997	1999	2001	2003	2005
Inbound	13,865	13,627	13,704	12,044	12,135
Total					
Outbound	9,090	9,244	9,410	7,935	7,956
Total					

- Inbound, traffic has increased slightly between 2003 and 2005 by 0.7%. Outbound, the number of vehicles remained virtually the same.
- Traffic declined sharply during 2003, when it fell by 12% compared with 2001. In 2003 this decrease was explained by flow reductions at two sites; WL02 Lower Rushall St and WL12 Wednesbury Rd. This year WL02 has remained at the same level but WL12 has returned to 2001 levels. Instead, an adjacent road, WL13 Rollingmill St has decreased sharply, presumably as vehicles returned to Wednesbury Road.

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



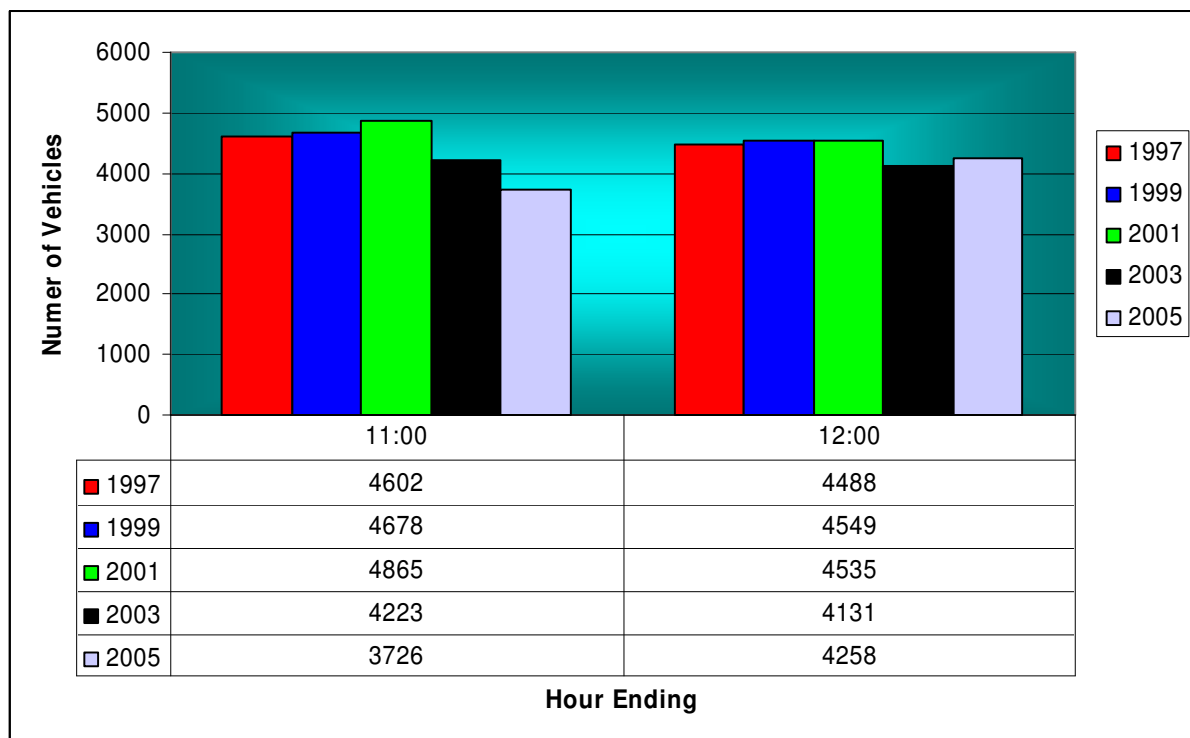
- Figure 2 clearly shows this sharp fall in traffic during 2003. Although certain traffic periods have recovered slightly, especially late morning, other periods have continued to decline.

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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
Inbound Total	9,090	9,227	9,400	8,354	8,653
Outbound Total	8,815	8,744	8,823	7,831	7,984

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



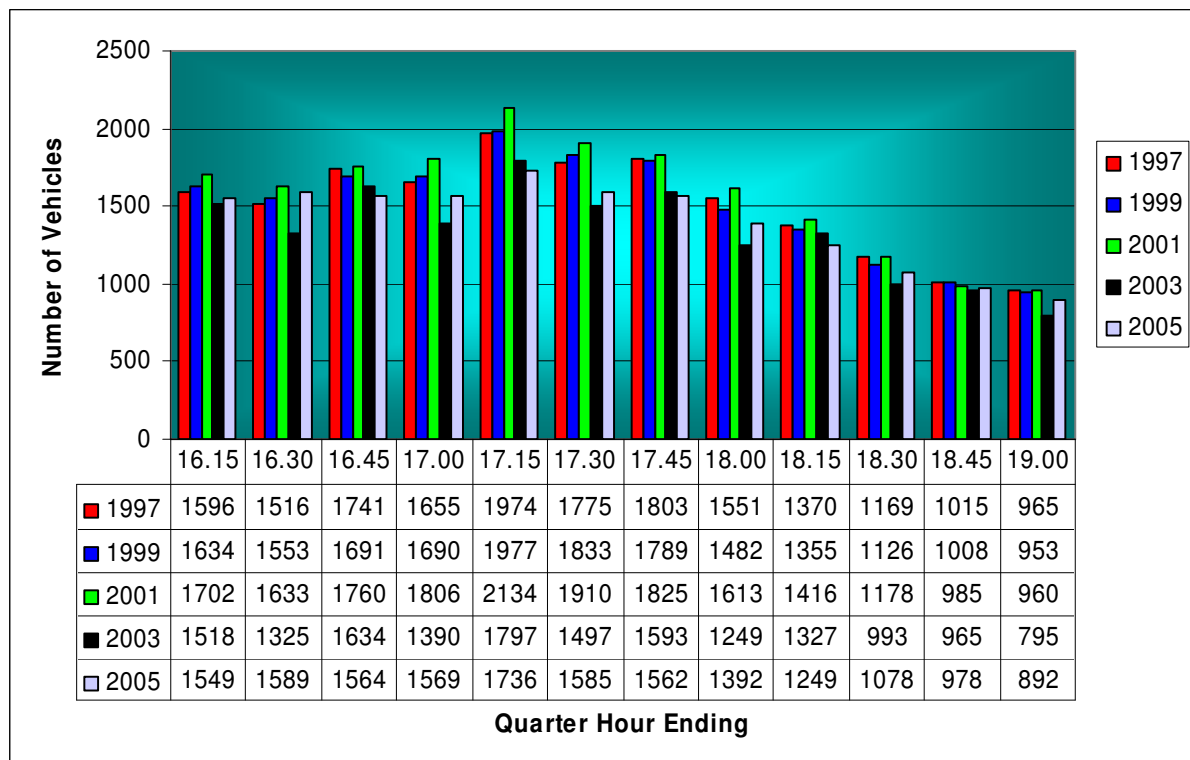
- Traffic during the off-peak period has increased slightly by 3.6% compared with 2003. However, levels are still 7.9% lower than in 2001.
- Outbound traffic rose by around 2%, but levels were still nearly 10% below those seen in 2001.

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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
Inbound Total	9864	9940	9424	9265	9676
Outbound Total	13611	13649	14383	12003	12546

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



- Figure 3 shows the evening peak following similar patterns to the morning peak. While some periods have recovered slightly, others have decreased again.

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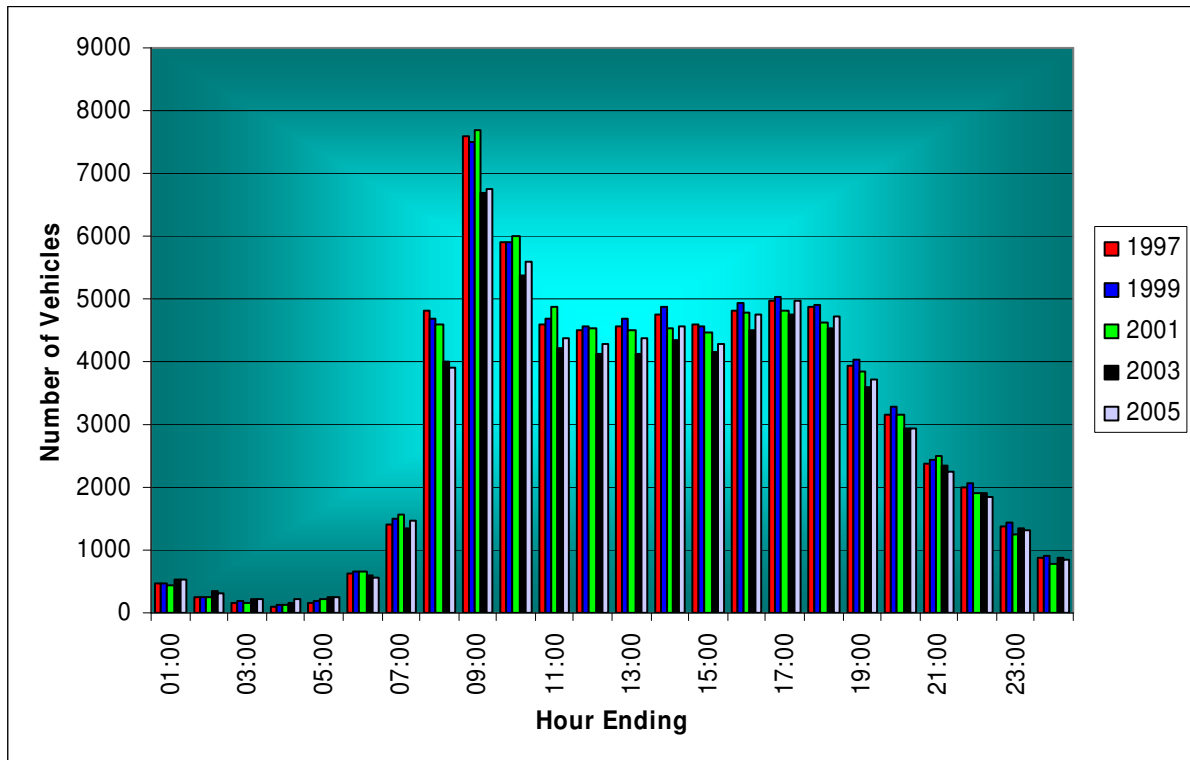
Table 4: Total Vehicles by Time Period on an Average Day

	07.30 - 09.30	10.00 - 12.00	16.00 - 18.00	07.00 – 1900 (12 hour)	00.00 – 24.00 (24 hour)
1999					
Inbound	13,627	9,227	9,940	60,363	73,819
% of 24 hr	18.5	12.5	13.5	81.8	100
Outbound	9,244	8,744	13,649	60,124	74,137
% of 24 hr	12.5	11.8	18.4	81.1	100
NET	4,383	483	-3,709	116	-318
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

- In 2005, 17.6% 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.
- 18.4% of outbound traffic crossed the cordon line between 1600-1800.
- 12.5% of the daily traffic into the city centre occurred during the off peak time period (1000-1200).
- Around 81% of average daily inbound traffic crossed the cordon during the main 12hr day (0700-1900).
- 81% of outbound traffic crossed the cordon within the same period.
- The number of vehicles counted in 2005 were slightly more inbound and outbound than those counted in 2003 (2.6%), and (2.2%) respectively.

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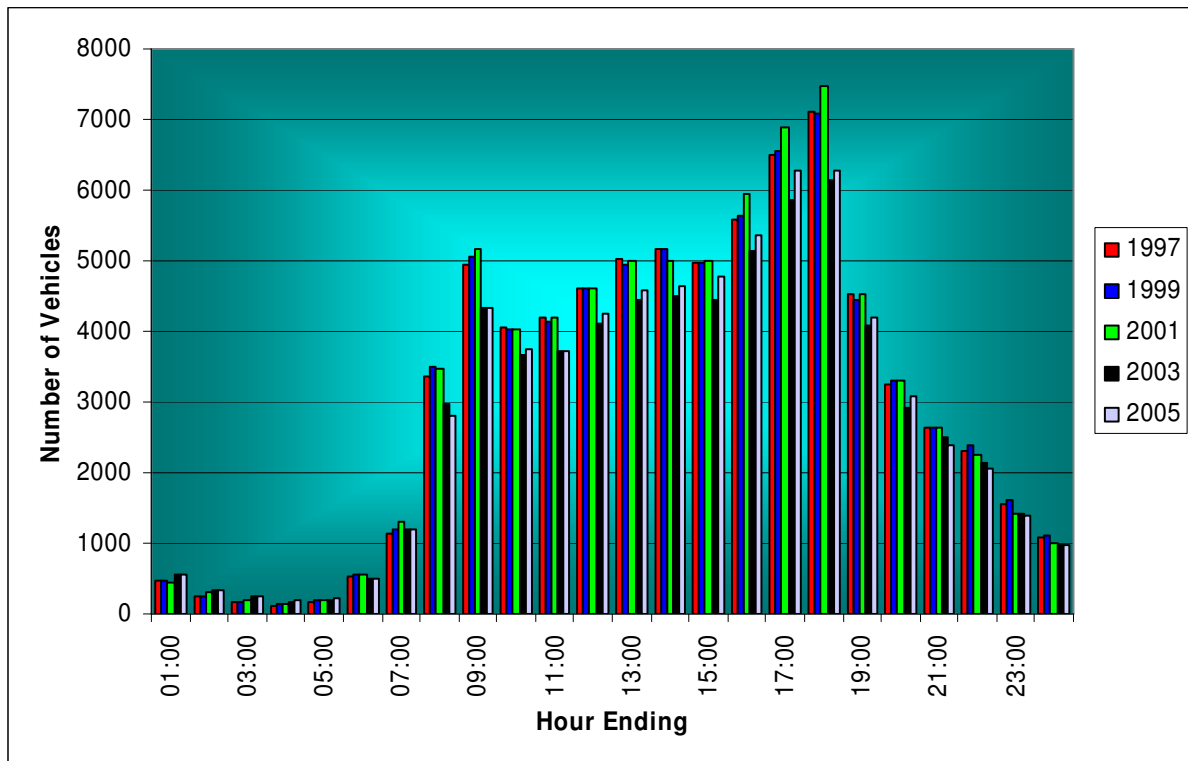
Figure 5: 24 Hour Flows Inbound



- Figure 5 shows the distribution of vehicles entering Walsall town centre by hour over the 24 hour period.
- Traffic has increased slightly during most hours of the day compared with 2003.

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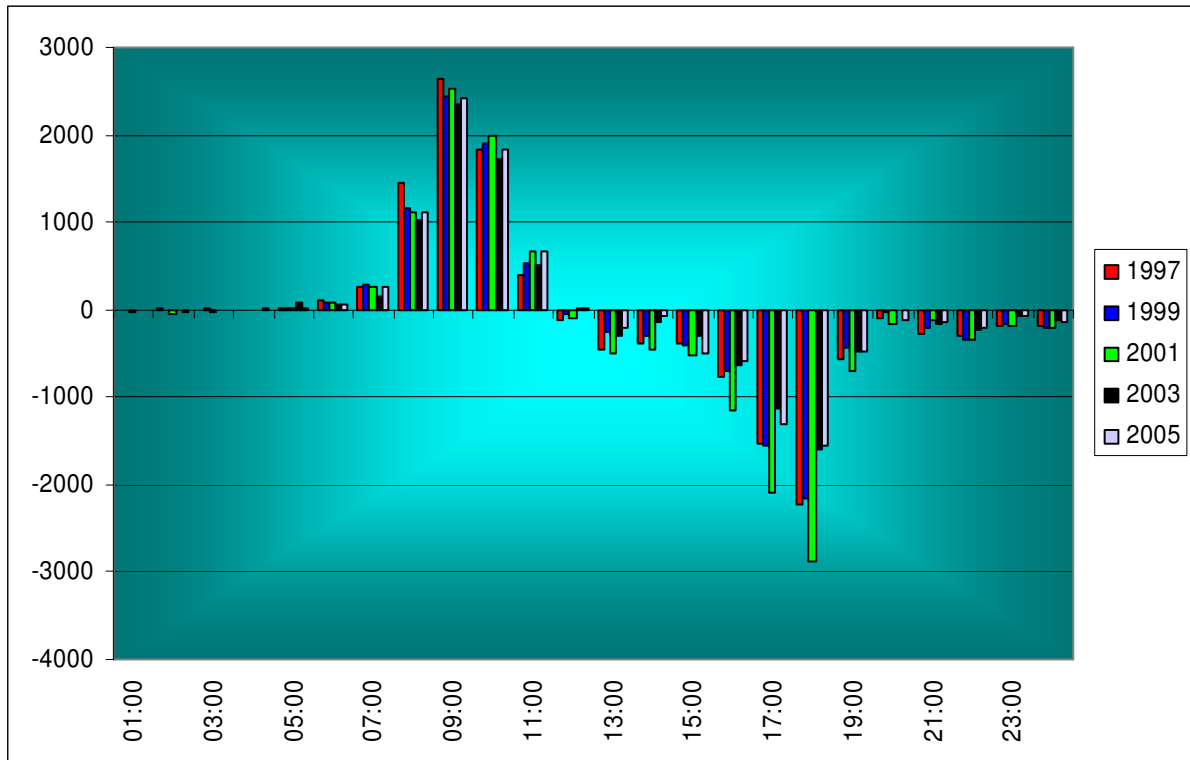
Figure 6: 24 Hour Flows Outbound



- 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 increases in traffic during most hours of the day.

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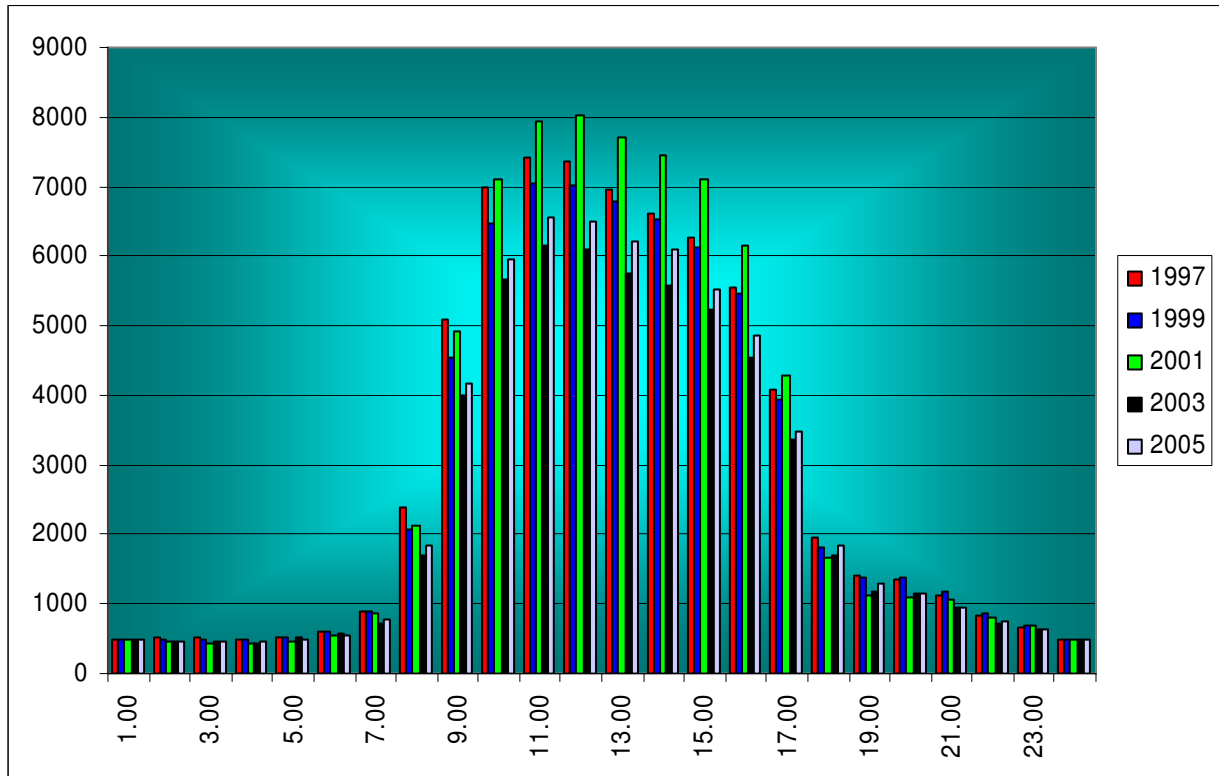
Figure 7: Net Loss/Gain in Vehicles Over 24 hour Period



- Figure 7 shows the net gain in vehicles to the cordon by hour from 1997 to 2005.
- In 2005, the highest single hour was 08.00-09.00 when 2,410 more vehicles entered the town centre than left it.
- Correspondingly, the highest hour in the evening was 17.00-18.00 when 1,564 more vehicles left the town centre than entered it.

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



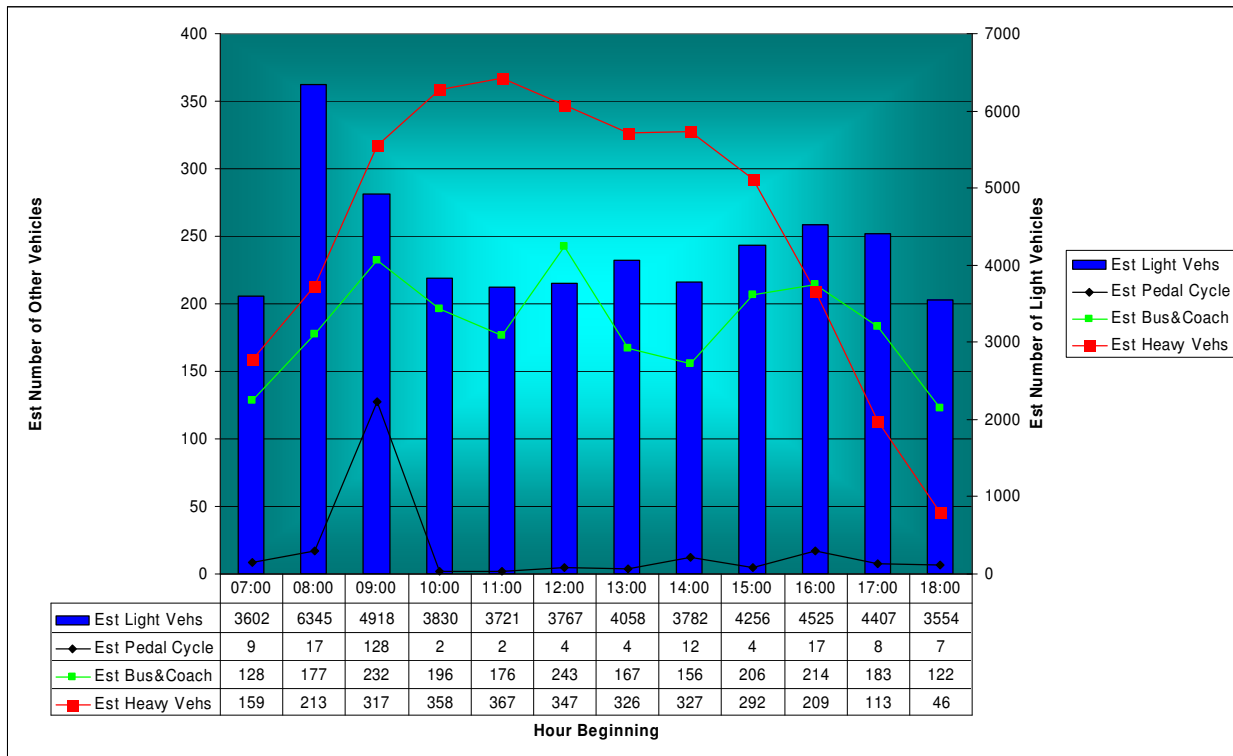
- Figure 8 shows the accumulation of vehicles during the 24 hour period in Walsall town centre.
- The highest number of vehicles remaining inside the town centre occurs during 11.00-12.00 when there were an estimated 6,351 vehicles within the cordon.

* 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

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1.4 Mode of Travel

Figure 9: Estimated Inbound Vehicles by Mode 2005.



- The manual surveys give us 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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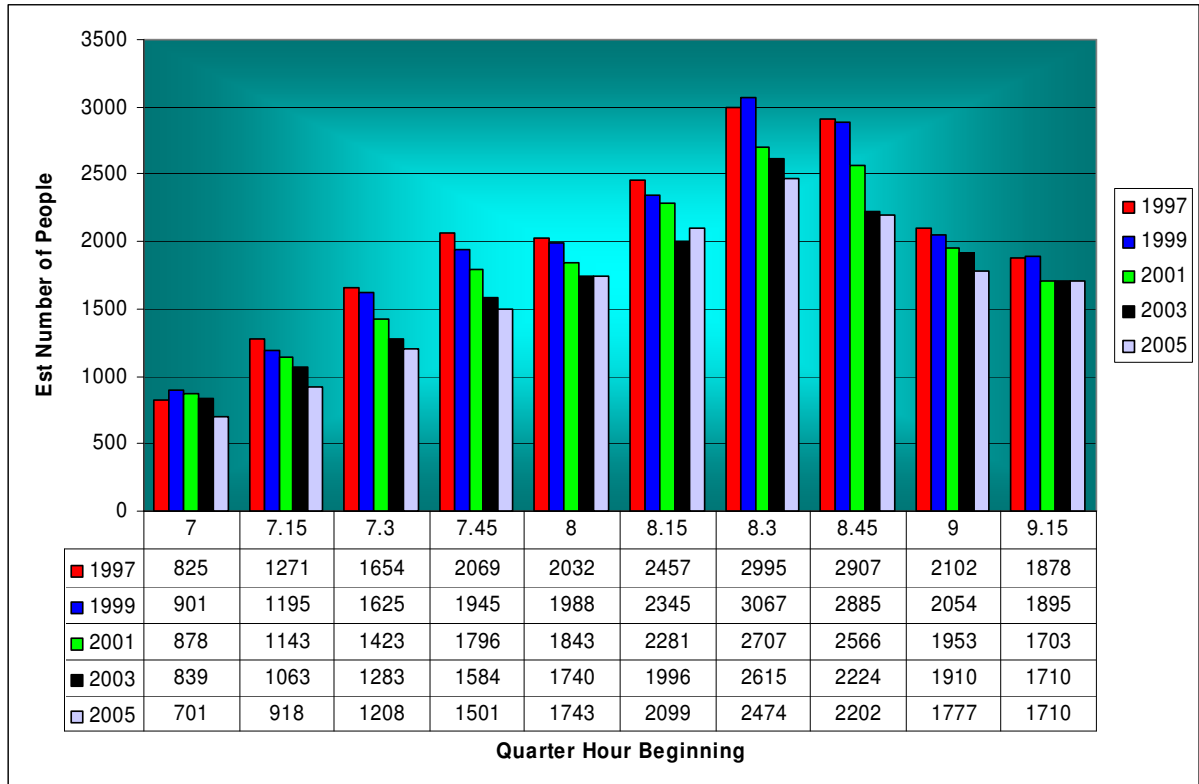
Table 5: Estimates of Persons from Occupancy Data 2005

Total Veh	Total Pass	Ave Occup	Start Time	A	B	C	D	E	F	G	Est People					
											Automatically Counted Vehicles	Estimated Number of Buses	Estimated Pedal Cycles	Est. Light Vehs.	Est.Ave Occ	Est People Light Vehs + Ped Cyc
388	447	1.15	7	637	26	0	573	660	660	38	41	701	839	878	901	825
490	554	1.13	7.15	847	34	2	776	877	879	36	40	918	1063	1143	1195	1271
566	639	1.13	7.3	1095	26	4	1036	1169	1173	30	36	1208	1283	1423	1625	1654
642	759	1.18	7.45	1319	41	4	1222	1445	1449	52	52	1501	1584	1796	1945	2069
630	787	1.25	8	1439	36	2	1331	1662	1664	70	78	1743	1740	1843	1988	2032
735	942	1.28	8.15	1690	66	6	1581	2027	2033	36	66	2099	1996	2281	2345	2457
819	1135	1.39	8.3	1829	37	6	1729	2396	2402	57	71	2474	2615	2707	3067	2995
734	923	1.26	8.45	1794	39	2	1702	2140	2142	52	60	2202	2224	2566	2885	2907
646	783	1.21	9	1535	60	2	1402	1699	1701	71	76	1777	1910	1953	2054	2102
643	814	1.27	9.15	1434	65	0	1282	1623	1623	87	87	1710	1710	1703	1895	1878

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.

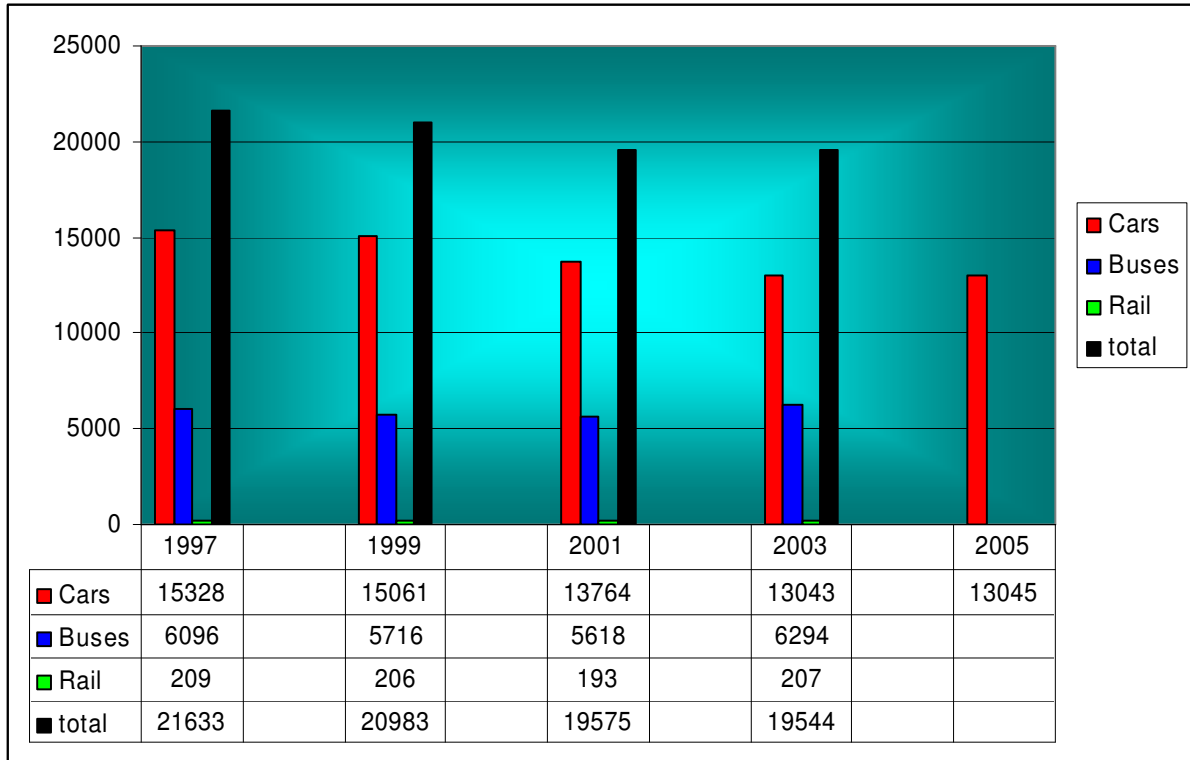
- Most time periods generally show slight decreases in the number of persons travelling into the town centre by means of private transport, compared to 2003. The only exception to this was a short time between 8.00-8.30.



Figure 11. Walsall Bus Station

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Figure 12: Total Inbound Person Trips 0730-0930



- Awaiting results of Walsall bus and rail cordon data
- 2005 saw the number of cars entering Walsall Town Centre remaining at the same level as in 2003, halting the decline in vehicles seen in previous years.