17. Traffic

17.1 Introduction

This chapter reviews the data about changes in traffic levels in the three towns. This is based upon three types of data:

- Manual counts on major and minor roads commissioned by the Department for Transport in order to generate the National Road Traffic Estimates (referred to throughout this chapter as the NRTE data)[1];
- Additional manual counts undertaken by one of the local authorities, Peterborough (which were not available for the other towns);
- Automatic traffic count data collected by all three local authorities.

It should be noted that none of this information was originally collected to assess the effects of the Sustainable Travel Town work[2].

More detail about the data sets is given in each of the sections below. Full details of the NRTE data have already been discussed in Chapter 10. There has been a substantial volume of correspondence, to ensure that the data provided were accurate, and to understand counter location, changes in counter location and gaps in data for individual counters. Inevitably, analysis has been limited by the nature of the information available. One issue is the type of road where the counters are located. Major roads typically carry a substantial proportion of through traffic, which means that it may be more difficult to detect changes from the Sustainable Travel Town work. Conversely, minor roads carry a smaller volume of traffic, and are more susceptible to random variation.

Missing values (gaps) in the data series have been interpolated by assuming a linear trend between the values on either side of the data gap. For automatic traffic counter data, gaps of up to three months have been interpolated[3]. For NRTE manual counts, which are roughly annual, the maximum gap for which data have been interpolated is two years. Both Darlington and Peterborough had their own interpolation processes for missing data. We have replaced these values using our own process of linear interpolation, in order to ensure consistency of treatment, and to avoid the risk that the interpolation processes used by the councils might artificially generate a semblance of stability where interpolated values had been generated for long time gaps.

[1] Raw manual count data was used, rather than Department for Transport's adjusted data set which utilises data from automatic traffic counters. This was done to avoid the possibility that these adjustments – based on national trends – would obscure what had happened in the towns.

[2] In particular, the NRTE data is predominantly used to generate trends at county or government office region level. However, it was presumed that these 12 hour counts would be as reliable as any other 12 hour manual count, and would be helpful in at least corroborating or contradicting other evidence sources. In addition, these data were often available for a longer period that some of the other data sets, and at least provided some data where other data sources were lacking.

[3] The one exception is for the A44 Whittington counter in Worcester, in 2005, where a four-month gap has been interpolated, in order to generate a relatively complete data set.

The automatic traffic counter data for all three towns is for all motor vehicles. Meanwhile, we have used data about 'cars and taxis' when analysing the NRTE information, and the Peterborough manual counts, since this is the traffic segment which has been most directly targeted in the Sustainable Travel Town work. Some limited testing using data for all motor vehicles, as reported in each section, suggests that this would not significantly alter the conclusions.

During analysis of the traffic data, it became clear that there had been more substantial reductions in traffic in the inner parts of the three towns (i.e. the central area and the area immediately surrounding it), whilst changes around the peripheries of the towns were often different, including traffic increases. Consequently, substantial additional analysis was undertaken, to clarify the changes in 'inner' and 'outer' areas[4], as well as generating overall estimates of traffic changes in the towns. Here, we aim to present the findings as clearly as possible – however, it is perhaps worth noting that we did not begin by assuming that this would be an important distinction, and it emerged as the analysis took place.

In this chapter, information about Darlington is presented first, followed by information about Peterborough and Worcester. The tables and graphics that inform the analysis are given at the end of the relevant section. The approach has involved looking both at overall changes, and changes recorded at individual sites. Both year-on-year changes, and changes in relation to a 2004/5 baseline, have been calculated. (There is a case for using 2003/4 as the baseline year, rather than 2004/5, since some activity began in 2004/5. However, there were a number of data sets where information was not available for 2003/4, and so 2004/5 was adopted to ensure consistency throughout.) Where possible, changes since 2004/5 have been placed in the context of longer-term, historic trends. Key headline results have been tested for statistical significance. To enable comparison with the NRTE manual counts, special subsets of the automatic traffic counter data have been generated, as described in the relevant sections.

The results from the count data have then been carefully compared with the national benchmark data described in Chapter 10. In many cases, specific analysis has been carried out for changes prior to Quarter 4, 2008, in order to assess how far any traffic reductions should be attributed to the changing economic situation.

Given the prominence of personal travel planning in the towns' programmes, analysis has been undertaken to try to discern specific effects from this work. This has involved geographical plotting of the data in relation to the relevant phases of personal travel planning, and examination of both changes over time (before/after personal travel planning) and relative to changes elsewhere. Inevitably, this is an imperfect process, not least since traffic counters were not put in place to detect the effects of personal travel planning activity.

[4] There is, of course, no clear distinction of either 'inner' or 'outer' area, and analysis was inevitably led by the nature of the data available – and, in particular, the location of the count sites. Hence, in Darlington, the 'outer' area was defined as sites around the periphery, together with the use of an 'other' area category (between inner and outer). In Peterborough, the term 'outer area' was used more generally, to mean the area outside the inner area. (This is because the reliance on manual counts in Peterborough would have meant that defining a small subset of these that were peripheral would potentially have generated misleading values.) In Worcester, other than one central automatic counter, seven automatic counters were all located around the periphery, and these peripheral sites were used to generate the 'outer' area values.

The results from the count data are compared briefly with the results from the household travel surveys (as already discussed in Chapter 13). It should be noted that the results given in the household travel survey tables in this chapter include trips up to 100km, in order to ensure consistency with analysis of interim household surveys reported by Socialdata & Sustrans and reproduced here. However, data for trips up to 50km (the main focus of our analysis in Chapter 13) are also given. Section 17.5 draws together our conclusions about changes in traffic levels in all three towns.

17.2 Evidence from Darlington traffic count data

17.2.1 Introduction

This section reports on two main sources of data: information collected from automatic traffic counters relevant to the Darlington urban area, and the NRTE data. In addition, information from the Tees Valley multi-modal model gives some indication of the proportion of traffic within Darlington which consists of intra-urban trips.

17.2.2 Nature of the data

Data from Darlington council
The main source of traffic data for Darlington comes from a number of permanent traffic counters. We have chosen to use the data that gives an average 24-hour figure for each month for seven-day, two-way flows[5].

There were no automatic traffic counter data available prior to May 2004. Hence, when calculating annual averages, we have used the period May-April, rather than our usual convention of April-March. This is to avoid any bias caused by artificially generating an April 2004 figure for all sites.

There were 51 automatic traffic counters in operation during the Sustainable Travel Town period, though some only became operational towards the end[6]. Data from six of these counters (4, 6, 9, 49, 51 and 53) were not used on the grounds that their sites were too peripheral, and data from a further four (29, 31, 32 and 33) were not used on the basis that the data series was too short to be of use.

After undertaking analysis with various different configurations, the remaining 41 counters were divided into three sets – 'inner sites[7]' (eight counters), 'outer sites' (nine counters) and 'other sites' (24 counters). Those included as 'inner' or 'outer' sites had largely complete data sets, whilst 'other sites' were either less easy to classify geographically and/or had only partial data records. The three sets are shown in Figure 17.1. During the analysis, it became evident that flows recorded at individual counters had often changed substantially (both up and down), due to roadworks, not least

[5] Alternatively, for example, it would have been possible to look at 15 hour or 12 hour or peak period flows. However, one of the prime objectives of the study was to analyse overall traffic impacts, and 24-7 flows provide the best indicator of these.
[6] The council numbers these one to 66, though with some gaps in the series. We have used the council's identifier numbers.
[7] The subset used is similar to a group of counters that the council uses to generate an 'inner cordon' total, but includes sites 38 and 47, and excludes sites 12 and 34.

those located close to the construction of the eastern relief road (marked on Figure 17.16). It was not possible to adjust the data to compensate for this. Hence, in the following analysis, we have used all counters with available data wherever possible. We judge that the reasonably large number of counters should give a fair indication of overall trends, even if this consists of quite large changes at individual counters.

As described in section 17.1, missing values for periods of up to three months were interpolated from surrounding values, using our process (linear interpolation from surrounding values), rather than the council's own process (which partially relied on happenings in other years to generate values). Occasionally, one month of data has been generated at the beginning or end of a data series. Where this has been done, it is based on the average value for the three preceding months[8]. Technical problems with the counters meant that there were some erroneously low values in the dataset – usually where a counter had been non-functional for part of the month, but averaged the available data as though it had been functional for the whole month. The data used here have been extensively checked with the council, to ensure that apparently anomalous values are real (e.g. due to roadworks), as opposed to resulting from counter error. For the counters with only partial data, only those values with apparently anomalous data that were used have been checked.

Some of the maps (Figures 17.3, 17.13, 17.14, 17.15 and 17.16) include data from both the automatic traffic counters and the manual counts. For these maps, the automatic traffic counter data is for the period May to October, in order to broadly match the period over which the minor road manual counts in Darlington were collected. (Using the period March-October would have made it impossible to use data for 2004.)

To assess the effects of the personal travel planning work, quarterly data (i.e. average daily values for each three-month period) were generated, in order to produce Tables 17.14 and 17.15. For the target areas, all sites with relevant and available data were used. For the control areas, in order to simplify the analyses, only the sites with relatively complete data series were used. (This comprised at least 10 control sites per phase.)

The full data set is given as an annex to this chapter.

As already highlighted, in addition to occasional technical problems with the counters, there were a number of roadworks which may have affected the data. These included the following:

- Work on Haughton Road in relation to a junction for a new further education college, in Spring 2005;
- Disruption on the town centre inner ring road due to the construction of a bus lane in early Summer 2005;
- Work on the Eastern Transport corridor scheme and delays on the A66 trunk road east of Darlington in Spring/Summer 2008, partly leading to diversions along Yarn Road;
- Closure of the A68/A1(M) junction causing redistribution in Summer/Autumn 2008.

[8] The exception is site 43, where a value for October 2008 was generated as an average of the August and September flows, since the July flow seemed to be unusually high, probably due to the roadworks in relation to the Eastern Relief road.

In addition, there were minor roadworks affecting Sites 20 (October 2007), 28 (August 2008), and 18 (February-May 2009).

Estimates suggest that the population of Darlington was stable between 2004 and 2007 (2008 data were not available). Data from the Annual Business Inquiry suggests that employment in Darlington grew by 9.6% between 2004 and 2008. There was particular growth in employment on the periphery of the town.

Data from the NRTE
Data from the NRTE was comprised of the following:

- Minor road manual counts – six minor road count sites were in place during the study period. Of these, five sites had continuous data from 2000 (albeit with an unlikely value for one of those sites in 2001);
- Major road manual counts – there were 25 major road count sites. However, only six of these fell within the urban area, and had data for 2004, or 2003 and 2005 (from which a 2004 data point could be generated, assuming a linear trend between the two years). There was only one site with data for 2008. There were five counters where a data series could be generated up to 2007. (The full data set is given in the annex to this chapter.)

The locations of the major and minor road NRTE sites used are given in Figure 17.2.

Dates of counts at each minor road manual count site are given in Table 17.10. (The major road counts take place at different times in subsequent years, though all take place within 'neutral' weeks i.e. weeks in March, April, May, June, September and October[9].)

17.2.3 Data presentation

On subsequent pages, the following data are presented:

- Figures 17.1 and 17.2 – location maps, showing the automatic traffic counters and the NRTE sites;
- Tables 17.1 and 17.2 – overall estimations of changes recorded by the automatic traffic counters;
- Table 17.3 – a comparison of the counter data with national trends;
- Tables 17.4 to 17.9 - tables of changes in both annual traffic flows, and the May-October average daily flows, for the automatic traffic counters (divided into three sets - inner sites, outer sites and sites with partial data);
- Table 17.10 – a table of the relevant minor road NRTE data;
- Table 17.11 – a table of relevant major road NRTE data (see annex for full data set);
- Figure 17.3 – a map showing changes in traffic between 2004 and 2008 for all sites with available data for that period;
- Figures 17.4 and 17.5 – graphs of the major and minor road NRTE data;

[9] These months are chosen to avoid seasonal effects. Counts are undertaken on weekdays, avoiding public holidays.

- Figures 17.6 to 17.11 – graphs showing data for the individual automatic traffic counter sites with relatively complete data sets, divided into 'inner' and 'outer' sites. Graphs include the raw data. Data indexed to the earliest month of available data; and 12 month rolling averages;
- Table 17.12 – data from the Tees Valley multi-modal model, showing a breakdown of trip types that affect Darlington;
- Figures 17.13-17.16 – maps of changes in traffic flows between individual years, with personal travel planning areas marked;
- Table 17.13 – analysis of the NRTE data in relation to personal travel planning activity;
- Table 17.14 and 17.15 – analysis of the automatic traffic counters data in relation to personal travel planning activity;
- Table 17.16 – results from the household travel surveys.

17.2.4 Data analysis

Overall effects on traffic

Prior to May 2004, there were no data from the automatic traffic counters. Instead, the council collected data using pneumatic counters. This information, as reported in the 2005 annual progress report for LTP1 for the period 2001/2-2004/5, suggests that traffic *approaching the urban area* rose from 133,652 (units unclear) in 2001/2 to 140,795 in 2003/4, then dropping back to 121,225 in 2004/5. Given the trend shown by the major NRTE data at these points (Figure 17.5), this broadly suggests that traffic may have been rising prior to the Sustainable Travel Town work, and then potentially levelling out at the time it started.

The council also reported that flows approaching the inner ring road were 21,432 in 2001/2, then rose to 24,872 in 2002/3, dropped back a bit in 2003/4 and then declined again to 21,382 in 2004/5[10]. Considering this information in conjunction with the NRTE minor road count data, there seems to have been no particular trend in traffic flows *in inner Darlington* for the period 2000-2004.

Data from the automatic traffic counters are summarised in Tables 17.1 to 17.3, and reported in more detail in Tables 17.4-17.9 and Figures 17.6 to 17.11.

Table 17.1: Annual traffic totals for automatic traffic counter sites in Darlington

	Inner sites	Outer sites	Other sites	Total
Total number of sites	7	9	7	23
2004/5	40169789	38017875	25545367	103733031
2005/6	39202111	38242817	25564529	103009457
% change	**-2.4**	**0.6**	**0.1**	**-0.7**
Total number of sites	7	9	10	26
2005/6	39202111	38242817	52642237	130087165
2006/7	39499313	38497445	52658064	130654822
% change	**0.8**	**0.7**	**0.0**	**0.4**
Total number of sites	7	9	19	35
2006/7	39499313	38497445	92352667	170349425
2007/8	39685864	38769093	90328793	168783750

[10] Full details of the process generating these data are not available.

% change	**0.5**	**0.7**	**-2.2**	**-0.9**
Total number of sites	8	9	15	32
2007/8	44415397	38769093	88213209	171397699
2008/9	43551584	37956624	86062146	167570354
% change	**-1.9**	**-2.1**	**-2.4**	**-2.3**
Total number of sites	8	9	6	23
2004/5	45979048	38017875	23343937	107340860
2008/9	43551584	37956624	22499371	104007579
% change	**-5.3**	**-0.2**	**-3.6**	**-3.2**

Note: for data used, see Tables 17.4, 17.6 and 17.8

Table 17.2: May-October average daily traffic totals for automatic traffic counter sites in Darlington

	Inner sites	Outer sites	Other sites	Total
Total number of sites	8	9	7	24
2004	127667	105708	70628	304003
2005	122766	105542	70971	299279
% change	**-3.8**	**-0.2**	**0.5**	**-1.6**
Total number of sites	7	9	10	26
2005	107367	105542	145687	358595
2006	108359	105964	146723	361046
% change	**0.9**	**0.4**	**0.7**	**0.7**
Total number of sites	7	9	19	35
2006	108359	105964	255252	469575
2007	109598	106663	250874	467135
% change	**1.1**	**0.7**	**-1.7**	**-0.5**
Total number of sites	8	9	21	38
2007	123126	106663	321610	551399
2008	119054	107457	322356	548867
% change	**-3.3**	**0.7**	**0.2**	**-0.5**
Total number of sites	8	9	12	29
2004	127667	105708	152905	386280
2008	119054	107457	150702	377213
% change	**-6.7**	**1.6**	**-1.4**	**-2.4**
Total number of sites	8	9	12	29
2004	127667	105708	152905	386280
2007	123126	106663	148994	378783
% change	**-3.6**	**0.9**	**-2.6**	**-2.0**

Note: for data used, see Tables 17.5, 17.7 and 17.9

The overall picture that emerges is that, over the Sustainable Travel Town period, traffic levels fell by between 2.4 and 3.2% (the former figure comparing May-October averages between 2004 and 2008, whilst the latter figure compares annual totals for 2004/5 with 2008/9). The lower figure (2.4%) is probably the better reflection of the changes due to the Sustainable Travel Town work, given that some of the falls, particularly at the outer sites, took place towards the end of 2008/9, when changes in the economic situation may have been influential. Given the significant amount of

disruption caused by roadworks from early 2008 onwards, we have also calculated an estimate of the change in May-October averages between 2004 and 2007. This is in line with the other data, giving a value of -2%, with 2007-2008 May-October values suggesting a further fall of 0.5%, which would then support the assessment of a 2.5% reduction between 2004 and 2008, prior to changes in the economic situation.

Using a paired sample, one-tailed T-test on the May-October average values for the 29 sites with data for 2004 and 2008, gives a p-value of .103. Undertaking the same test on the May-October average values for the 29 sites with data for 2004 and 2007 gives a p-value of .080. The lack of a stronger result may be due to the substantial fluctuation at individual counters caused by roadworks.

Comparison of the different groups of sites suggest that changes have been somewhat different in different parts of the town – specifically, with reductions at the 'inner' sites (5.3-6.7%[11]) and the 'other sites' (1.4-3.6%), whilst, collectively, traffic at the outer sites was increasing until the middle of 2008. The traffic growth in the outer area may be related in part to employment growth around the periphery.

It is probable that changes in traffic were different in different sectors of the town, though it was beyond the scope of this analysis to examine this. There also appears to be some evidence of differential effects on major and minor roads. For example, as shown in Figure 17.8, counters 17 and 18 both appear to be showing traffic reductions for the part of the town that they are located in, however, counter 17 (located on a relatively minor road) recorded a reduction of 15.7% whilst counter 18 (located on a more major neighbouring road) recorded a reduction of only 4.1%.

Looking at the temporal pattern of change, it seems that there was potentially an effect from the first year of work, then more gradual changes in the following years. Looking at the NRTE data, between 2004 and 2008, the sum of the data from the six minor road count NRTE locations in Darlington show a reduction in traffic of 15.3%. The majority of that reduction took place between 2006 and 2008 (Table 17.5 and Figure 17.4). It is notable that the minor road NRTE sites were largely located in different locations to the automatic traffic counters.

The NRTE data series for the five major road count locations in Darlington suggests that traffic levels fell by 1.6% between 2004 and 2007, with three of five counters showing reductions between 2006 and 2007[12].

A comparison of the automatic counter data with national data is given in Table 17.3. This shows that, apart from the changes at the outer sites, the traffic reductions that occurred elsewhere had largely occurred before the national reductions in traffic caused by the changing economic situation.

[11] Changes at some of the inner sites have been particularly dramatic – and substitutional. However, as shown in Figure 17.7, the majority of the counters have recorded flows which were below the 100 index line for most of the Sustainable Travel Town period.

[12] NRTE data used here are for 'cars and taxis', whereas all of the other data in this section are for all motorised vehicles. Examination of the 'all vehicles' NRTE data suggests that, for minor roads, it shows a similar picture to the car and taxi data. Specifically, for the six minor road count sites, the index in 2008 (relative to 2004) is nearly the same for 'all vehicles' and for 'cars and taxis' (84.0 for 'all vehicles' and 84.7 for 'cars and taxis'). However, the index for the five major road count sites between 2004 and 2007 is slightly higher (100.3 for 'all vehicles' compared with 98.4 for 'cars and taxis).

Table 17.3: Comparing Darlington data with national trends

Annual totals	Automatic traffic counter data*				NRTE urban data (all motor vehicles)
	Inner sites	Outer sites	Other sites	All sites	
2004/5	100	100	100	100	100
2008/9	94.7	99.8	96.4	96.8	99.3
Mid-year estimates	May-October averages				Q2 and 3 average
2004	100	100	100	100	100
2008	93.3	101.6	98.6	97.6	100.0

Note: * Indices have been generated by using the percentage changes given in Tables 17.1 and 17.2.

The overall picture that emerges from the automatic traffic counter data, then, is that traffic levels in Darlington were 2.4-3.2% lower at the end than at the beginning of the Sustainable Travel Town period, with the lower figure reflecting change prior to the economic downturn. There were particular reductions in the more central part of the city, perhaps in the order of 6%. Traffic approaching the perimeter was roughly stable, though this followed a period of growth. The NRTE data suggest that reductions were greater on the minor roads, as compared with the major roads.

Data from the Tees Valley multi-modal model have been supplied which provides a breakdown of trips within, to and from the Darlington area in 2005. This information is shown in Table 17.12. It shows that only 46-56% of the trips that start or end within Darlington are wholly contained within Darlington – i.e. 44-54% start or end outside the Darlington urban area, meaning that they may have been less readily influenced by the Sustainable Travel Town interventions (though there may still have been some effect). It is also interesting that the proportion of intra-urban trips is much higher for 'other' purposes (61-63%) than for commuting (32-36%) or business (43-49%). It is plausible that trips for 'other' purposes such as shopping or personal business would be more likely to be focused on the central area – and thereby consistent with evidence suggesting that the greatest reductions in traffic have occurred in the central area. As outlined in Chapter 13 (with relevant data given in Table 13.28), in Darlington, changes in the proportion of trips made as a car driver fell by more for leisure than for work. The Tees Valley data also provides some evidence to support the argument that one might expect the changes on residential roads to be greater than the changes on the major roads, since the major roads are likely to include a greater proportion of trips that would have started or ended outside the Darlington urban area.

Assessment of personal travel planning effects

There were three phases of personal travel planning in Darlington:

- 1 (April-August 2005)
- 2 (April-September 2006)
- 3 (May-September 2007).

Analysis of the NRTE data in relation to the personal travel planning activity is shown in Table 17.13. It is not inconsistent with possible effects from all three phases, however, neither does it show that these have occurred.

Analysis of the automatic traffic counter data is given in Tables 17.14 and 17.15. Again, the data are not unambiguous. It should also be noted that there were very few counters with available data

located centrally in the Phase 3 areas. The most obvious evidence of an effect seems to be in the Phase 2 area, and this also appears to be apparent in some of the individual counters – for example, the decline at site 17 appears to have started at about the time of the personal travel planning work.

Comparison with the household travel survey data
As evident from Table 17.16, the household travel surveys suggest that:

- car driver trips reduced by between 8 and 10% between 2004 and 2008;
- car driver distance reduced by 11-12% (including trips up to 100km), or by 6-7% for trips of up to 50km;
- Phases 1 and 2 of personal travel planning work reduced car driver trips, compared to changes recorded in the control group. In the first phase of personal travel planning work, car driver trips in the control area were stable. In Phase 2 of the personal travel planning work, car driver trips in the control group also reduced (though by less than the change recorded in the target area); and in Phase 3, car driver trips in both the target and control groups were about 8% lower in 2007 than in 2004. (It should be noted that the control group for this phase was drawn from the Phase 1 area.)

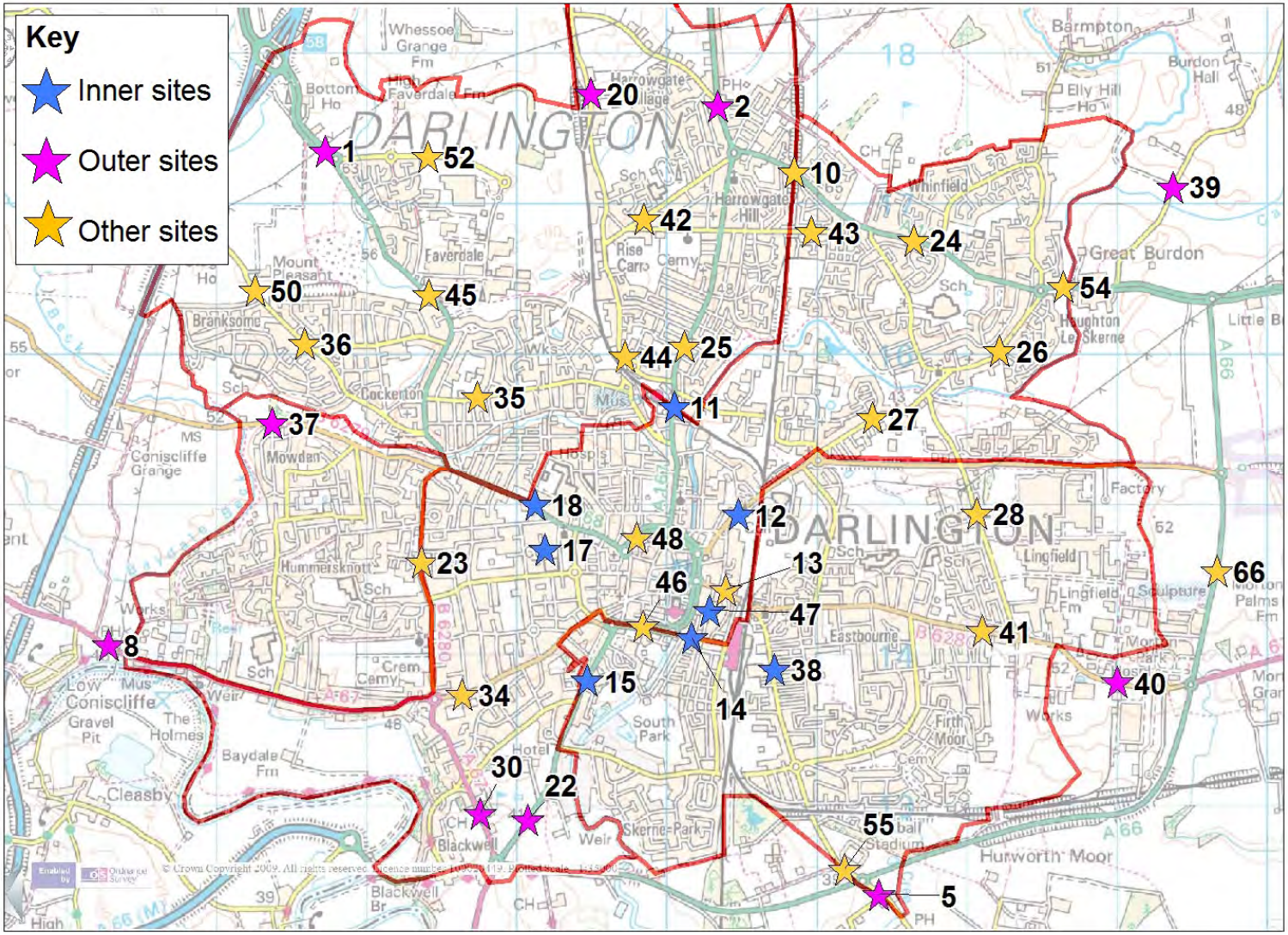
The reduction of 6-7% in the distance travelled for trips of less than 50km corresponds reasonably well with the 6% reduction in traffic recorded in central Darlington. The household travel survey also shows the Phase 2 personal travel planning work as generating the greatest relative reduction, (11% as opposed to 3% from Phase 1 and 8% from Phase 3).

17.2.5 Summary and conclusions about changes in traffic in Darlington

From the analysis, we draw the following conclusions:

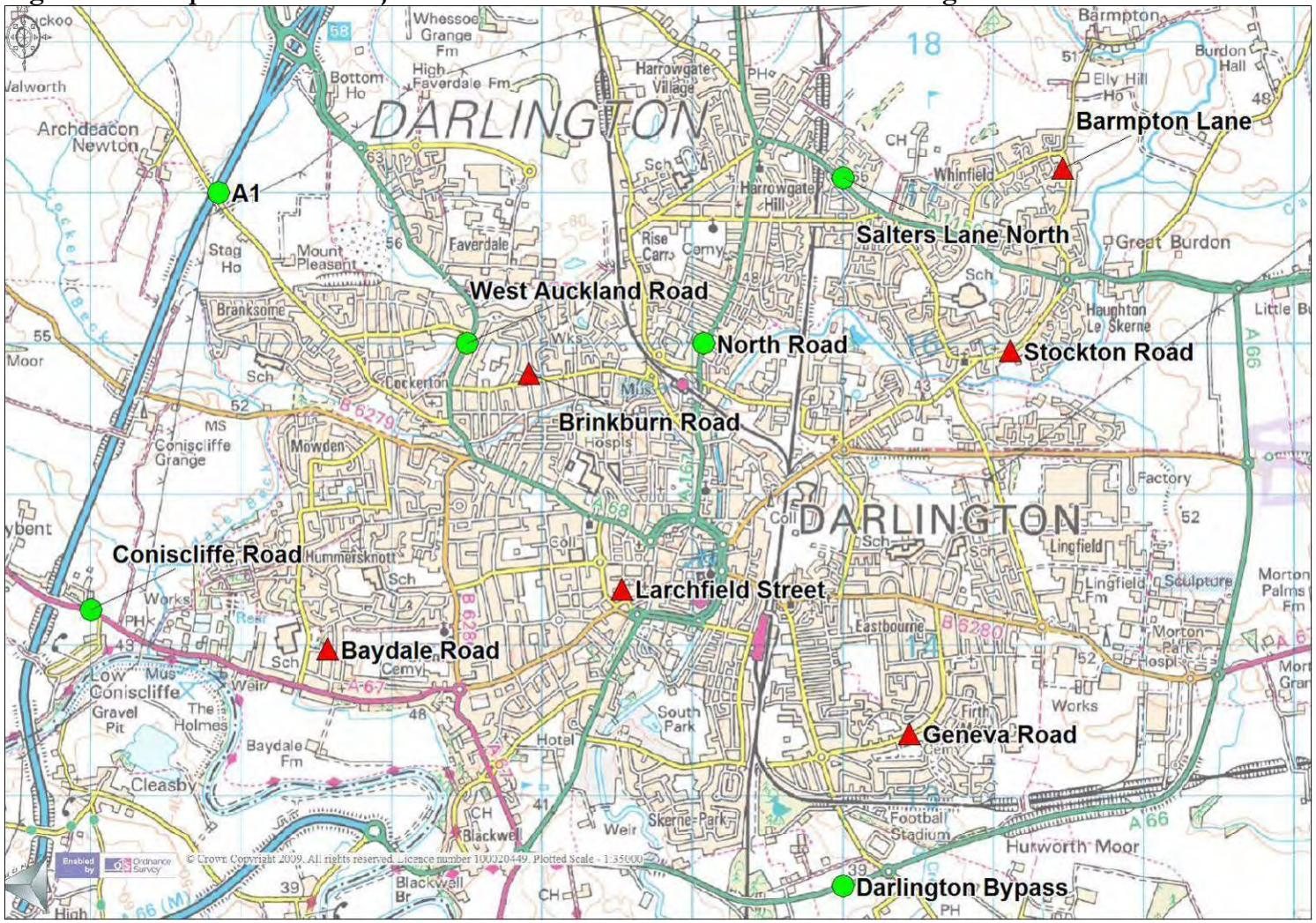
- The overall picture that emerges from the automatic traffic counter data is that traffic across the whole of Darlington (including traffic in peripheral locations) was 2.4-3.2% lower at the end than at the beginning of the Sustainable Travel Town period, with the lower figure pre-dating the economic downturn.
- The automatic traffic counter data also suggest that there were larger reductions in the more central part of the town, perhaps in the order of 6%. Traffic approaching the perimeter was roughly stable, though this followed a period of growth.
- The NRTE data suggest larger reductions on the minor roads, compared with smaller reductions on the major roads.
- The household travel survey suggested a reduction of 6-7% in the distance travelled for trips of less than 50km. This corresponds reasonably well with the reduction recorded in the central part of the town. Various explanations are possible. For example, this could be because a higher proportion of residents' trips that were no longer made by car were made in the central area, or because there was less 'induced traffic' and/or more effective 'locking in' as a result of limited road space in this area.
- Analysis of the data in relation to personal travel planning activity appears to show the clearest effect at the inner counters in the Phase 2 area. The household travel surveys also suggested that the greatest reduction in car driver trips resulted from the Phase 2 work (as compared with Phases 1 and 3).

Figure 17.1: Map of automatic traffic counters in Darlington



Note: Red lines indicate boundaries of personal travel planning areas.

Figure 17.2: Map of relevant major and minor road NRTE count sites in Darlington



Notes: Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites.

Table 17.4: Annual traffic totals for automatic traffic counter sites in inner Darlington

	11	12	14	15	17	18	38	47	Total
May 2004-Apr 2005	8245571	5809259	4082269	5539005	1564125	8347512	4082152	8309155	45979048
May 2005-Apr 2006	7896285		3675998	5617957	1523857	8343769	4215642	7928603	
May 2006-Apr 2007	7957772		3524694	5711048	1402407	8306192	4461347	8135853	
May 2007-Apr 2008	8187517	4729533	3810331	5705426	1339129	8186220	4525828	7931413	44415397
May 2008-Apr 2009	8211225	4765763	3702748	5612767	1318257	8003315	4377062	7560447	43551584
% **change from preceding year**									
05/06	-4.2		-10.0	1.4	-2.6	0.0	3.3	-4.6	
06/07	0.8		-4.1	1.7	-8.0	-0.5	5.8	2.6	
07/08	2.9		8.1	-0.1	-4.5	-1.4	1.4	-2.5	
08/09	0.3	0.8	-2.8	-1.6	-1.6	-2.2	-3.3	-4.7	-1.9
Index compared with 2004/2005									
04/05	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
05/06	95.8		90.0	101.4	97.4	100.0	103.3	95.4	
06/07	96.5		86.3	103.1	89.7	99.5	109.3	97.9	
07/08	99.3	81.4	93.3	103.0	85.6	98.1	110.9	95.5	96.6
08/09	99.6	82.0	90.7	101.3	84.3	95.9	107.2	91.0	94.7

Notes: Pale blue indicates traffic reduction; stronger blue indicates traffic reduction of 10% or more; pale green indicates lower traffic levels than in 2004/5; stronger green indicates that traffic levels were 10% or more below levels in 2004/5.

Table 17.5: May-October average daily traffic totals for automatic traffic counter sites in inner Darlington

	11	12	14	15	17	18	38	47	Total
2004	22782	16622	11254	15124	4289	22914	11131	23553	127667
2005	21610	15400	10730	15457	4149	22858	11239	21325	122766
2006	21901		9251	15744	3759	22899	12282	22524	
2007	22113	13528	10612	15755	3653	22571	12480	22414	123126
2008	23285	11729	10190	15494	3482	22046	12064	20766	119054
% change from preceding year									
2005	-5.1	-7.4	-4.7	2.2	-3.3	-0.2	1.0	-9.5	-3.8
2006	1.3		-13.8	1.9	-9.4	0.2	9.3	5.6	
2007	1.0		14.7	0.1	-2.8	-1.4	1.6	-0.5	
2008	5.3	-13.3	-4.0	-1.7	-4.7	-2.3	-3.3	-7.4	-3.3
Index compared with 2004									
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2005	94.9	92.6	95.3	102.2	96.7	99.8	101.0	90.5	96.2
2006	96.1		82.2	104.1	87.7	99.9	110.3	95.6	
2007	97.1	81.4	94.3	104.2	85.2	98.5	112.1	95.2	96.4
2008	102.2	70.6	90.5	102.4	81.2	96.2	108.4	88.2	93.3

Notes: Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004/5. Stronger green indicates that traffic levels were 10% or more below levels in 2004/5.

Table 17.6: Annual traffic totals for automatic traffic counter sites in outer Darlington

Total	1	2	8	20	22	30	37	39	40	Total
May04-Apr05	6559842	9075914	2908721	1280767	5163680	4611646	1196157	914164	6306984	38017875
May05-Apr06	6700707	8914851	2926726	1380814	5183784	4703323	1205304	930761	6296547	38242817
May06-Apr07	6813678	8814091	2989623	1416258	5225480	4665569	1219871	956572	6396303	38497445
May07-Apr08	6842470	8909540	3050093	1342033	5278836	4734607	1215953	979667	6415894	38769093
May08-Apr09	6909746	8844410	2996081	1158230	5199536	4731573	1156540	961736	5998772	37956624
% change from preceding year										
05-06	2.1	-1.8	0.6	7.8	0.4	2.0	0.8	1.8	-0.2	0.6
06-07	1.7	-1.1	2.1	2.6	0.8	-0.8	1.2	2.8	1.6	0.7
07-08	0.4	1.1	2.0	-5.2	1.0	1.5	-0.3	2.4	0.3	0.7
08-09	1.0	-0.7	-1.8	-13.7	-1.5	-0.1	-4.9	-1.8	-6.5	-2.1
Index compared with 2004-2005										
04-05	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
05-06	102.1	98.2	100.6	107.8	100.4	102.0	100.8	101.8	99.8	100.6
06-07	103.9	97.1	102.8	110.6	101.2	101.2	102.0	104.6	101.4	101.3
07-08	104.3	98.2	104.9	104.8	102.2	102.7	101.7	107.2	101.7	102.0
08-09	105.3	97.4	103.0	90.4	100.7	102.6	96.7	105.2	95.1	99.8

Notes: Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004/5.

Table 17.7: May-October average daily traffic totals for automatic traffic counter sites in outer Darlington

	1	2	8	20	22	30	37	39	40	Total
2004	18393	24989	8251	3557	14235	12855	3376	2592	17461	105708
2005	18264	24654	8148	3850	14245	13222	3378	2583	17199	105542
2006	18747	24069	8223	3937	14333	13027	3395	2708	17525	105964
2007	18875	24009	8600	3725	14577	13211	3399	2736	17532	106663
2008	20150	25113	8213	3098	14444	13319	3254	2616	17250	107457
% change from preceding year										
2005	-0.7	-1.3	-1.2	8.2	0.1	2.9	0.1	-0.4	-1.5	-0.2
2006	2.6	-2.4	0.9	2.3	0.6	-1.5	0.5	4.9	1.9	0.4
2007	0.7	-0.2	4.6	-5.4	1.7	1.4	0.1	1.0	0.0	0.7
2008	6.8	4.6	-4.5	-16.8	-0.9	0.8	-4.3	-4.4	-1.6	0.7
Index compared with 2004										
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2005	99.3	98.7	98.8	108.2	100.1	102.9	100.1	99.6	98.5	99.8
2006	101.9	96.3	99.7	110.7	100.7	101.3	100.6	104.5	100.4	100.2
2007	102.6	96.1	104.2	104.7	102.4	102.8	100.7	105.5	100.4	100.9
2008	109.6	100.5	99.5	87.1	101.5	103.6	96.4	100.9	98.8	101.7

Notes: Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004/5. Stronger green indicates that traffic levels were 10% or more below levels in 2004/5.

Table 17.8: Annual totals for other automatic traffic counter sites in Darlington

Total	5	10	23	24	25	26	27	28	34	35	36	41
May04-Apr05	2455923		5290730			5545223		4200137	3217591	2785385	1753764	
May05-Apr06	2422004		5270567	7668648				4209650	3174146	2750083		
May06-Apr07			5455755	7584010	7763792	5590980	7038456	4197048	3170918	2735538	1913380.5	
May07-Apr08	2465575	6325803	5388574	7806082	7656418	5323527	6651379	4287965	3147767	2692601	1819328	7398628
May08-Apr09		6063203		7518070	8030578	4307223		4245898	3115461	2803030		7299060
% change from preceding year												
05-06	-1.4		-0.4					0.2	-1.4	-1.3		
06-07			3.5	-1.1				-0.3	-0.1	-0.5		
07-08			-1.2	2.9	-1.4	-4.8	-5.5	2.2	-0.7	-1.6	-4.9	
08-09		-4.2		-3.7	4.9	-19.1		-1.0	-1.0	4.1		-1.3
Index change compared with 2004/5												
04-05	100.0		100.0			100.0		100.0	100.0	100.0	100.0	
05-06	98.6		99.6					100.2	98.6	98.7		
06-07			103.1			100.8		99.9	98.5	98.2	109.1	
07-08	100.4		101.8			96.0		102.1	97.8	96.7	103.7	
08-09						77.7		101.1	96.8	100.6		

Total	42	43	44	45	46	48	50	52	54	55	66
May04-Apr05	2458084	3660415	5137517								
May05-Apr06	2479710		5258369	7463163		6218665			8149236		
May06-Apr07	2483098	3314060	5252162	7657867	9783483	6042068	211883	778991	8079600	3299578	
May07-Apr08	2535691	3514620	5253875	7661914	9791747	4620933	213292	726358	7912243	3324479	7094469
May08-Apr09	2705543		5322216	7295782	8916175				6756538	3292601	8390768
% change from preceding year											
05-06	0.9		2.4								
06-07	0.1		-0.1	2.6		-2.8			-0.9		
07-08	2.1	6.1	0.0	0.1	0.1	-23.5	0.7	-6.8	-2.1	0.8	
08-09	6.7		1.3	-4.8	-8.9				-14.6	-1.0	18.3
Index change from 2004-2005											
04-05	100.0	100.0	100.0								
05-06	100.9		102.4								
06-07	101.0	90.5	102.2								
07-08	103.2	96.0	102.3								
08-09	110.1		103.6								

Notes: Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004/5. Stronger green indicates that traffic levels were 10% or more below levels in 2004/5.

Table 17.9: May-October average daily traffic totals for other automatic traffic counter sites in Darlington

	5	10	13	23	24	25	26	27	28	34	35	36	41
2004	6706		29330	14771		22971	15111		11604	8914	7749	4970	
2005	6744			14710	21685				11660	8738	7715		
2006				14956	21024	20900	15365	19379	11657	8654	7580	5345	
2007	6938	17258	27720	14974	21515	20076	15564	19560	11649	8775	7627	5088	19749
2008	6852	17267	28554	14861	21741	22799	12181		11495	8447	7577	5019	20918
% change from preceding year													
2005	0.6			-0.4					0.5	-2.0	-0.4		
2006				1.7	-3.0				0.0	-1.0	-1.7		
2007				0.1	2.3	-3.9	1.3	0.9	-0.1	1.4	0.6	-4.8	
2008	-1.2	0.1	3.0	-0.8	1.1	13.6	-21.7		-1.3	-3.7	-0.6	-1.4	5.9
Index compared with 2004													
2004	100.0			100.0		100.0	100.0		100.0	100.0	100.0	100.0	
2005	100.6			99.6					100.5	98.0	99.6		
2006				101.3		91.0	101.7		100.5	97.1	97.8	107.6	
2007	103.5		94.5	101.4		87.4	103.0		100.4	98.4	98.4	102.4	
2008	102.2		97.4	100.6		99.3	80.6		99.1	94.8	97.8	101.0	

	42	43	44	45	46	48	50	52	54	55	66
2004	6794	9896	14090								
2005	6825		14581	20355		16571			22848		
2006	6879	8732	14539	21075	26992	17903	592	2245	22456	8980	
2007	6921	9281	14383	21395	27063	12930	627	2096	22217	9135	19259
2008	7686	10218	15013	19774	25884	12327		1174	19936	9190	23444
% change from preceding year											
2005	0.5		3.5								
2006	0.8		-0.3	3.5		8.0			-1.7		
2007	0.6	6.3	-1.1	1.5	0.3	-27.8	6.0	-6.7	-1.1	1.7	
2008	11.1	10.1	4.4	-7.6	-4.4	-4.7		-44.0	-10.3	0.6	21.7
Index compared with 2004											
2004	100.0	100.0	100.0								
2005	100.5		103.5								
2006	101.3	88.2	103.2								
2007	101.9	93.8	102.1								
2008	113.1	103.3	106.6								

Notes: Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004/5. Stronger green indicates that traffic levels were 10% or more below levels in 2004/5.

Table 17.10: Minor road manual count car and taxi data from the NRTE in Darlington

	Barmpton Lane	Geneva Road	Baydale Road	Brinkburn Road	Larchfield Street	Stockton Road	Sum of 5 sites with data from 2000	Sum of all 6 sites
Date	May	Mar	June	May/June	Mar	Sep/Oct		
2000	3281		901	5676	2780	11158	23796	
2001	2367		868	6150	692*	10018		
2002	2372		801	5614	2651	11076	22514	
2003	2563	3913	787	5982	2377	11491	23200	27113
2004	2721	4377	808	6120	2797	11640	24086	28463
2005	2708	3913	884	6450	2949	11266	24257	28170
2006	3163	4698	849	6259	2700	11225	24196	28894
2007	2749	4399	844	5420	2492	10964	22469	26868
2008	2463	4714	752	5749	2535	7890	19389	24103
% change compared to the preceding year								
2001	-27.9		-3.7	8.4		-10.2		
2002	0.2		-7.7	-8.7		10.6		
2003	8.1		-1.7	6.6	-10.3	3.7	3.0	
2004	6.2	11.9	2.7	2.3	17.7	1.3	3.8	5.0
2005	-0.5	-10.6	9.4	5.4	5.4	-3.2	0.7	-1.0
2006	16.8	20.1	-4.0	-3.0	-8.4	-0.4	-0.3	2.6
2007	-13.1	-6.4	-0.6	-13.4	-7.7	-2.3	-7.1	-7.0
2008	-10.4	7.2	-10.9	6.1	1.7	-28.0	-13.7	-10.3
Index compared with 2004								
2000	120.6		111.5	92.7	99.4	95.9	98.8	
2001	87.0		107.4	100.5		86.1		
2002	87.2		99.1	91.7	94.8	95.2	93.5	
2003	94.2	89.4	97.4	97.7	85.0	98.7	96.3	95.3
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2005	99.5	89.4	109.4	105.4	105.4	96.8	100.7	99.0
2006	116.2	107.3	105.1	102.3	96.5	96.4	100.5	101.5
2007	101.0	100.5	104.5	88.6	89.1	94.2	93.3	94.4
2008	90.5	107.7	93.1	93.9	90.6	67.8	80.5	84.7

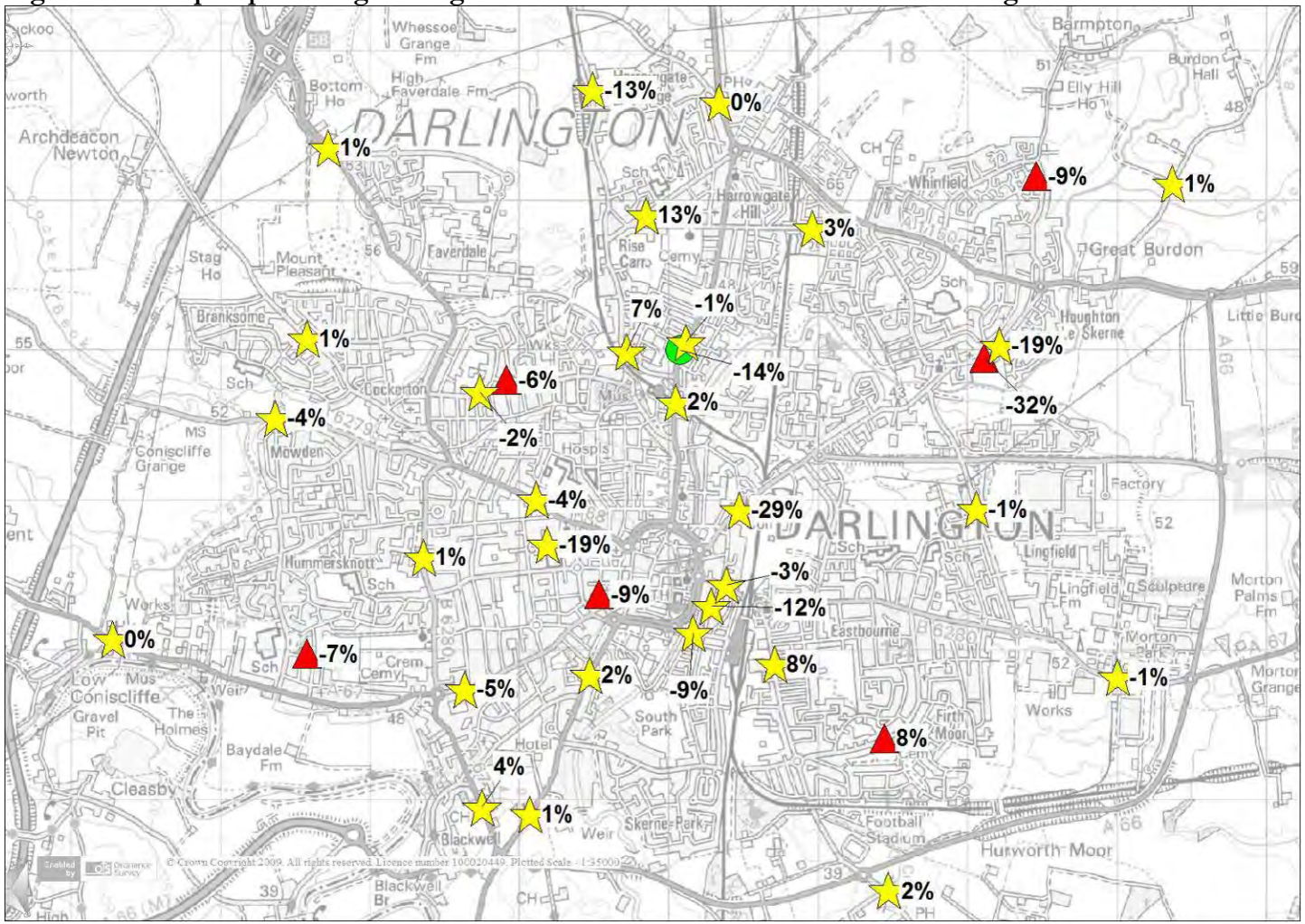
Notes: The five counters are Barmpton Lane, Baydale Road, Brinkburn Road, Larchfield Street and Stockton Road. Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. *This figure appears to be an anomaly and has been discounted from the calculations. Pale green indicates lower traffic levels than in 2004. Stronger green indicates that traffic levels were 10% or more below levels in 2004.

Table 17.11: Major road manual count car and taxi data from the NRTE in Darlington

	Coniscliffe Road	A1	North Road	Darlington Bypass	Salters Lane North	West Auckland Road	Sum of 5 counters with data to 2007
2000	5016	17865	15360	11306	12244	13467	61791
2001	5694	20385	16532	12262.5	11842	13561	66715.5
2002	5981	28323	16903	13219	11440	13313.5	75866
2003	6268	24055.5	17274	13599.5	11299	13066	72496
2004	6467	19788	15998	13980	11158	13998	67391
2005	6666	27013	13416	14831	11328	13519	73254
2006	6581.5	24549.5	11806	14128.5	11234.5		68300
2007	6497	22086	13167	13426	11141		66317
2008			13760				
% change compared with the preceding year							
2001	13.5	14.1	7.6	8.5	-3.3	0.7	8.0
2002	5.0	38.9	2.2	7.8	-3.4	-1.8	13.7
2003	4.8	-15.1	2.2	2.9	-1.2	-1.9	-4.4
2004	3.2	-17.7	-7.4	2.8	-1.2	7.1	-7.0
2005	3.1	36.5	-16.1	6.1	1.5	-3.4	8.7
2006	-1.3	-9.1	-12.0	-4.7	-0.8		-6.8
2007	-1.3	-10.0	11.5	-5.0	-0.8		-2.9
2008			4.5				
Index compared with 2004							
2000	77.6	90.3	96.0	80.9	109.7	96.2	91.7
2001	88.0	103.0	103.3	87.7	106.1	96.9	99.0
2002	92.5	143.1	105.7	94.6	102.5	95.1	112.6
2003	96.9	121.6	108.0	97.3	101.3	93.3	107.6
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2005	103.1	136.5	83.9	106.1	101.5	96.6	108.7
2006	101.8	124.1	73.8	101.1	100.7		101.3
2007	100.5	111.6	82.3	96.0	99.8		98.4
2008			86.0				

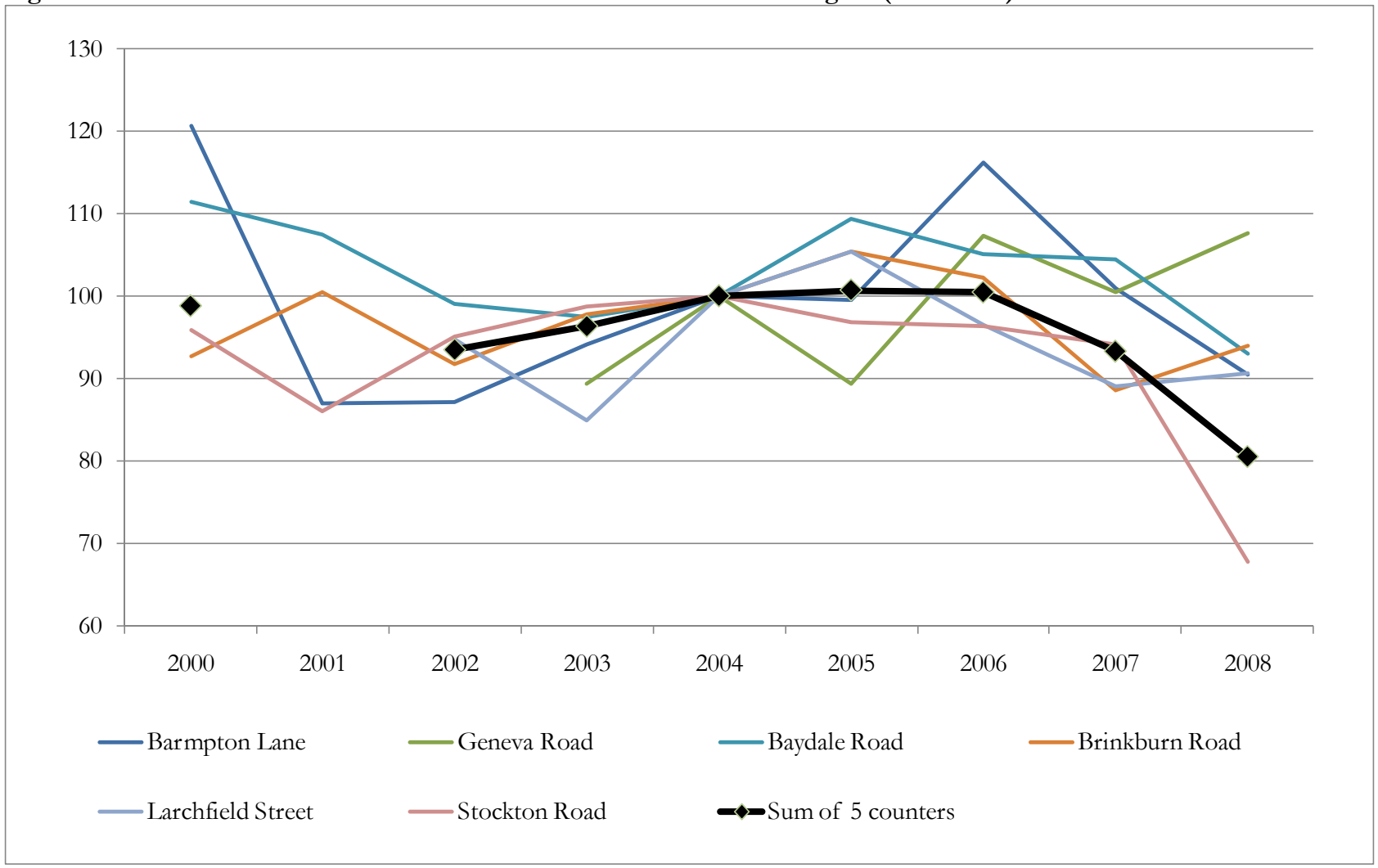
Notes: Data in red are interpolated figures. Dates of counts not given, as these are variable between years. Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004; stronger green indicates that traffic levels were 10% or more below levels in 2004.

Figure 17.3: Map of percentage changes in traffic between 2004 and 2008 in Darlington



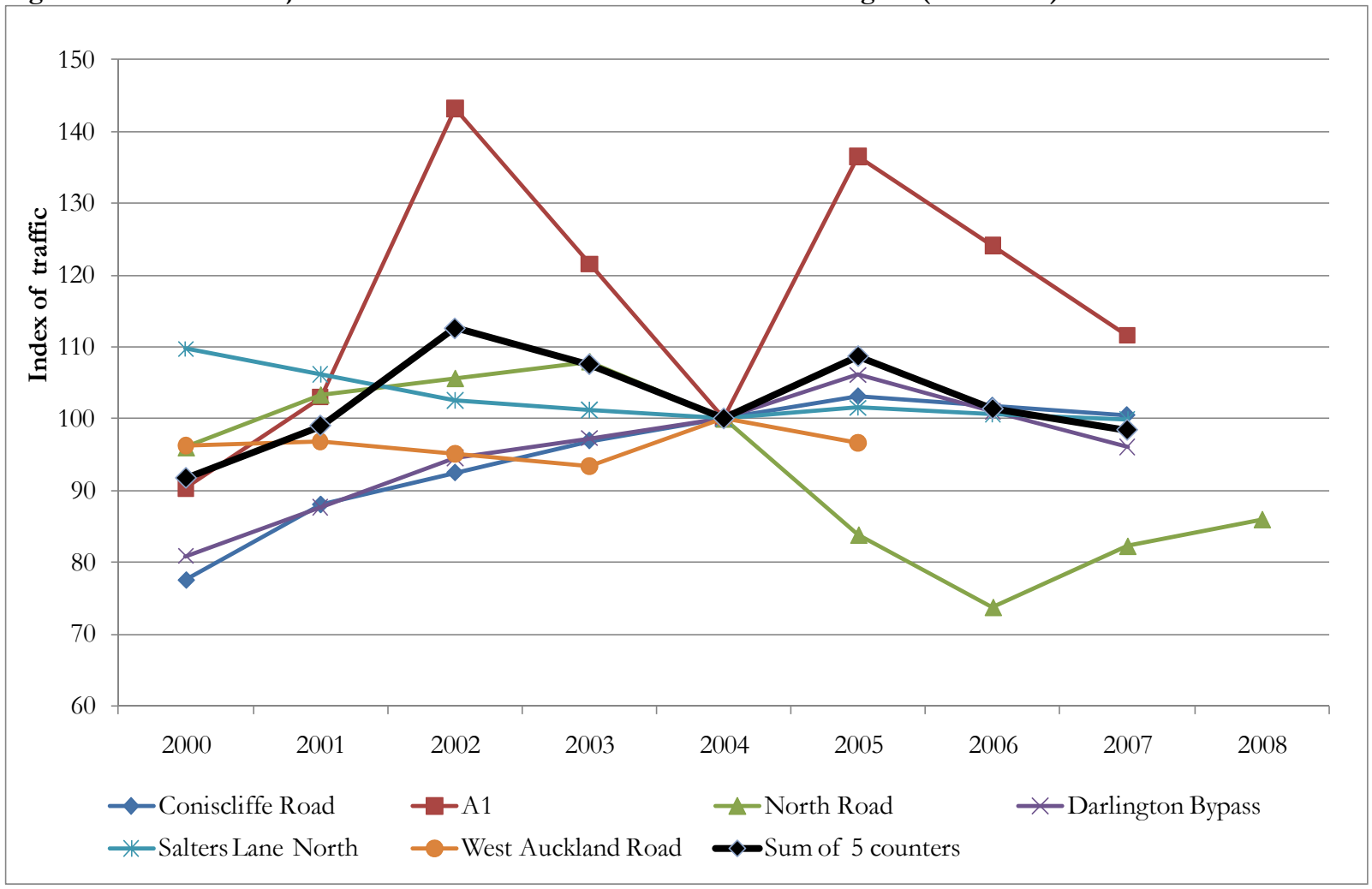
Notes: Yellow stars represent automatic traffic counters inner sites – data are the average for May to October. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites.

Figure 17.4: Index of minor road manual count car and taxi data for Darlington (2004 = 100)



Note: this graph should be considered indicative, being based on manual counts which take place on a single day each year and are therefore less reliable than automatic counts

Figure 17.5: Index of major road manual count car and taxi data for Darlington (2004 = 100)



Note: this graph should be considered indicative, being based on manual counts which take place on a single day each year and are therefore less reliable than automatic counts

Figure 17.6: Data for automatic traffic counters in inner Darlington

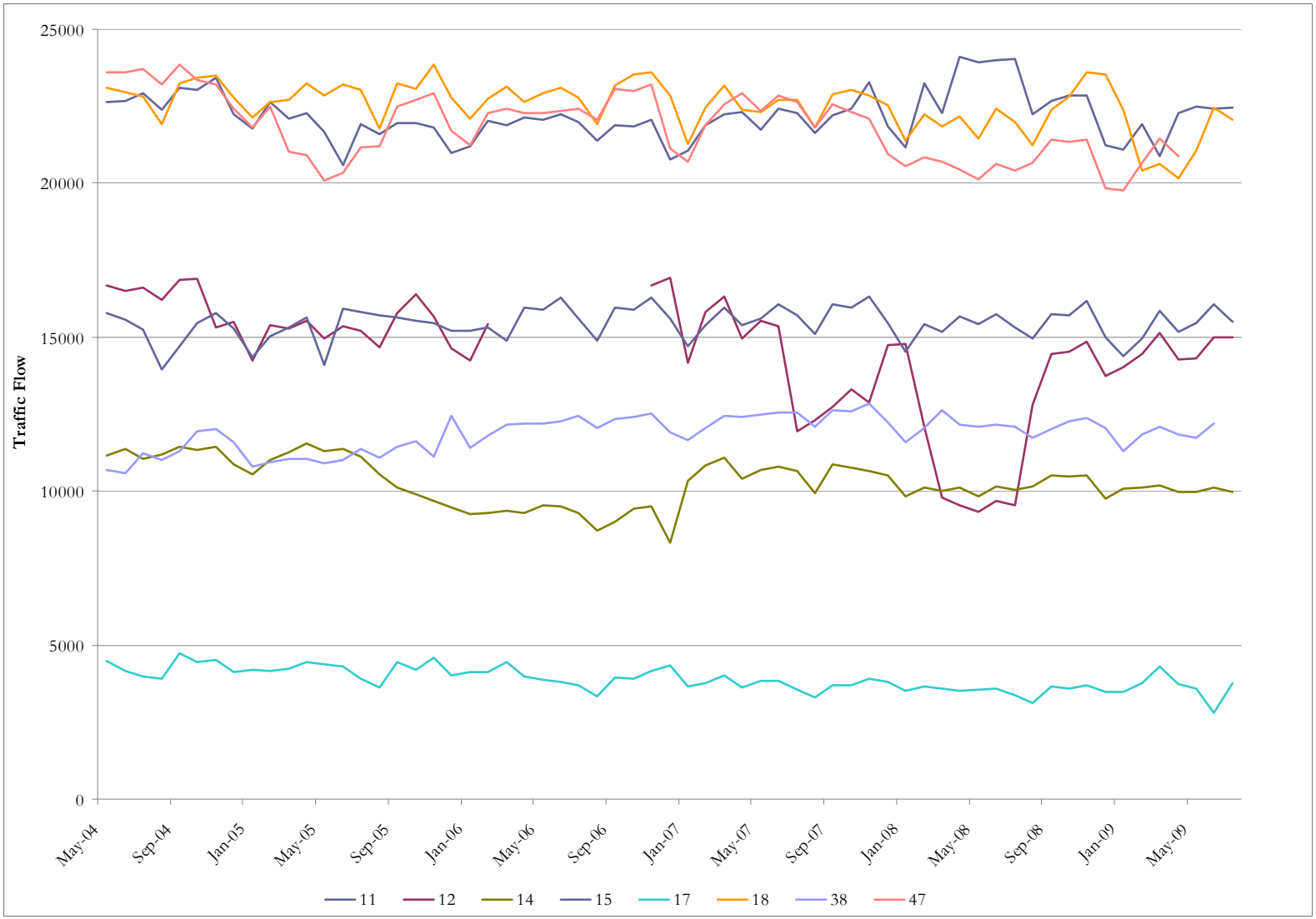


Figure 17.7: Data for automatic traffic counters in inner Darlington, indexed to May 2004

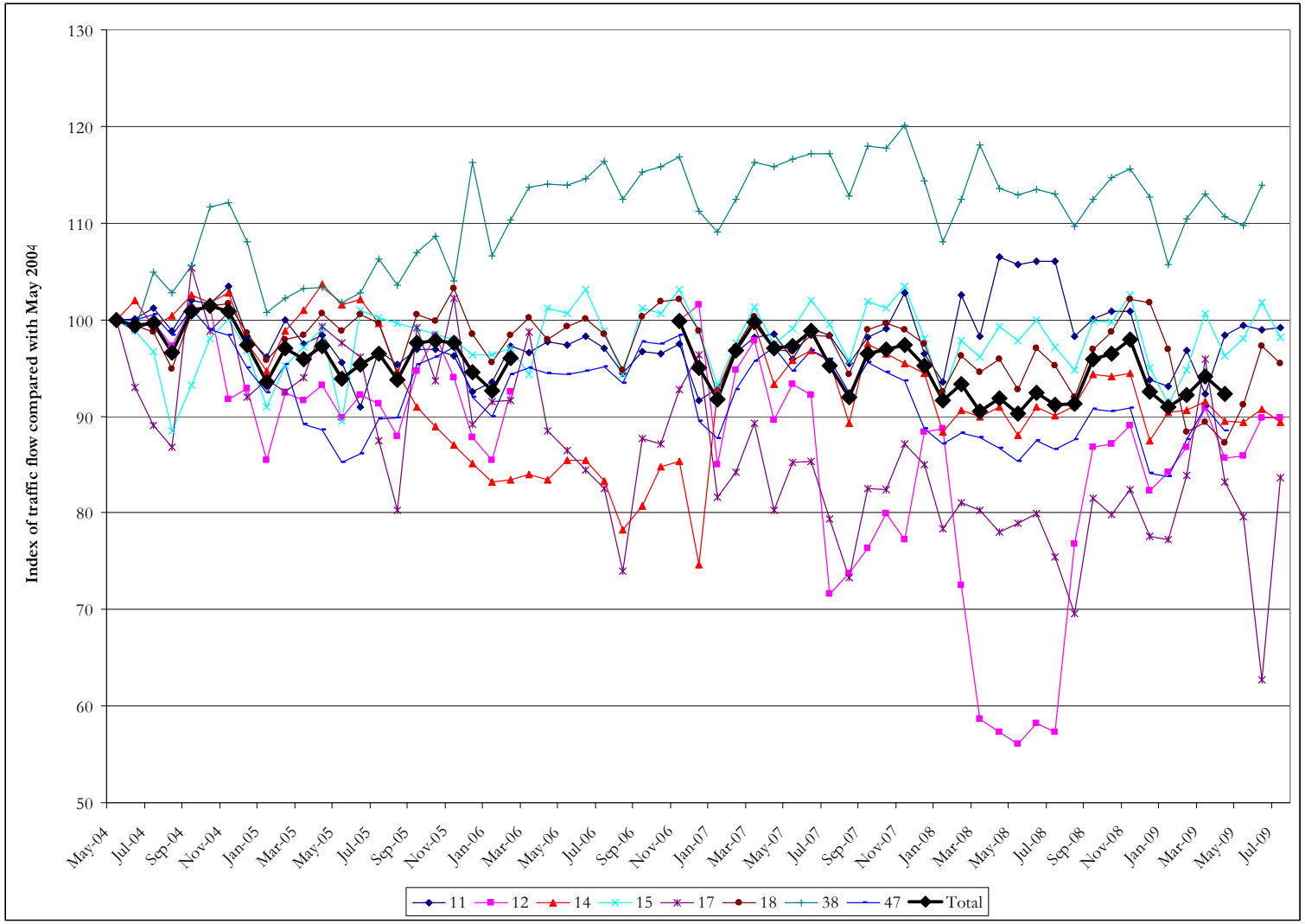


Figure 17.8: 12-month rolling average traffic counter data for inner Darlington, indexed to May 04-April 05

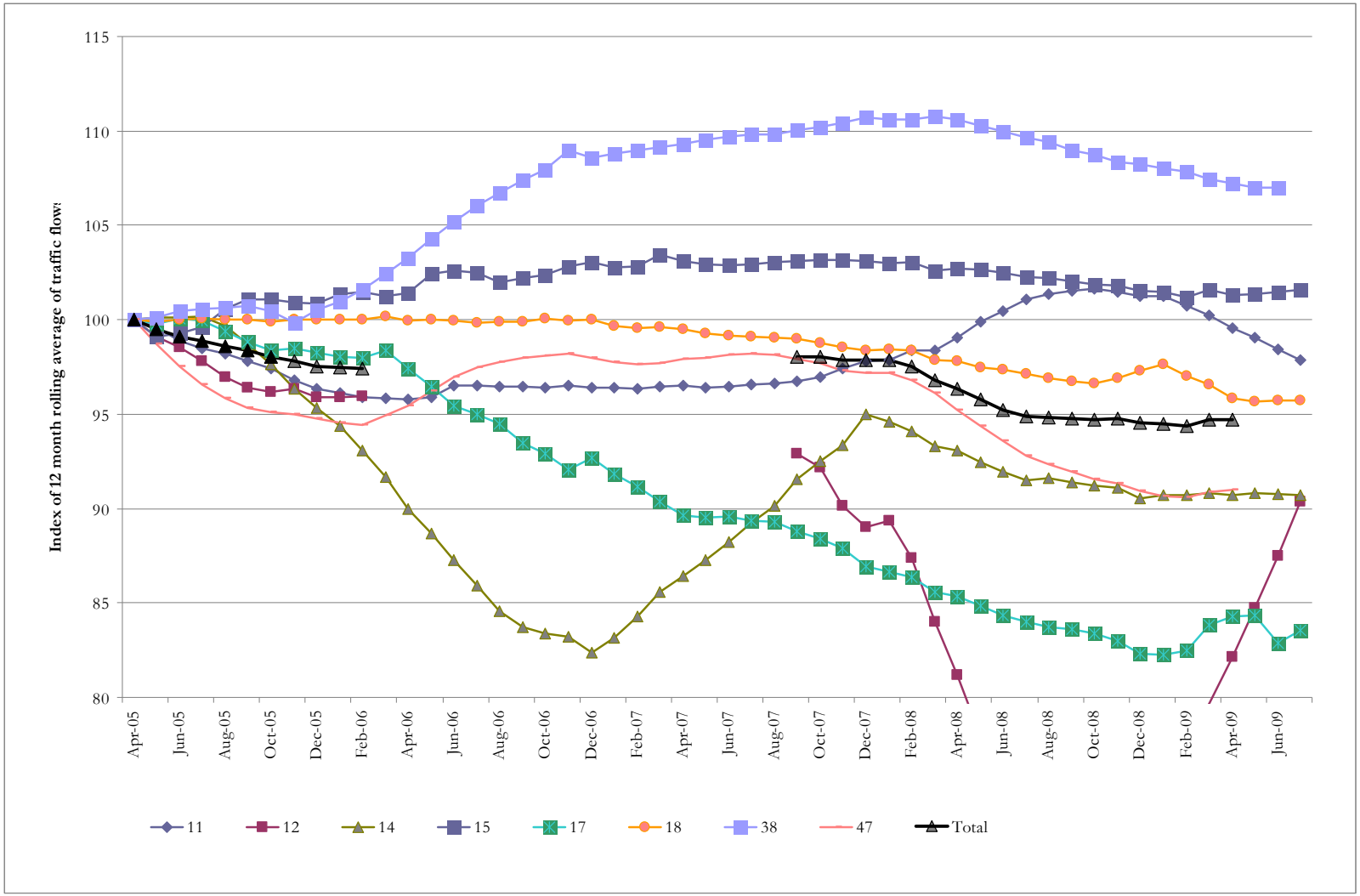


Figure 17.9: Data for automatic traffic counters in outer area of Darlington

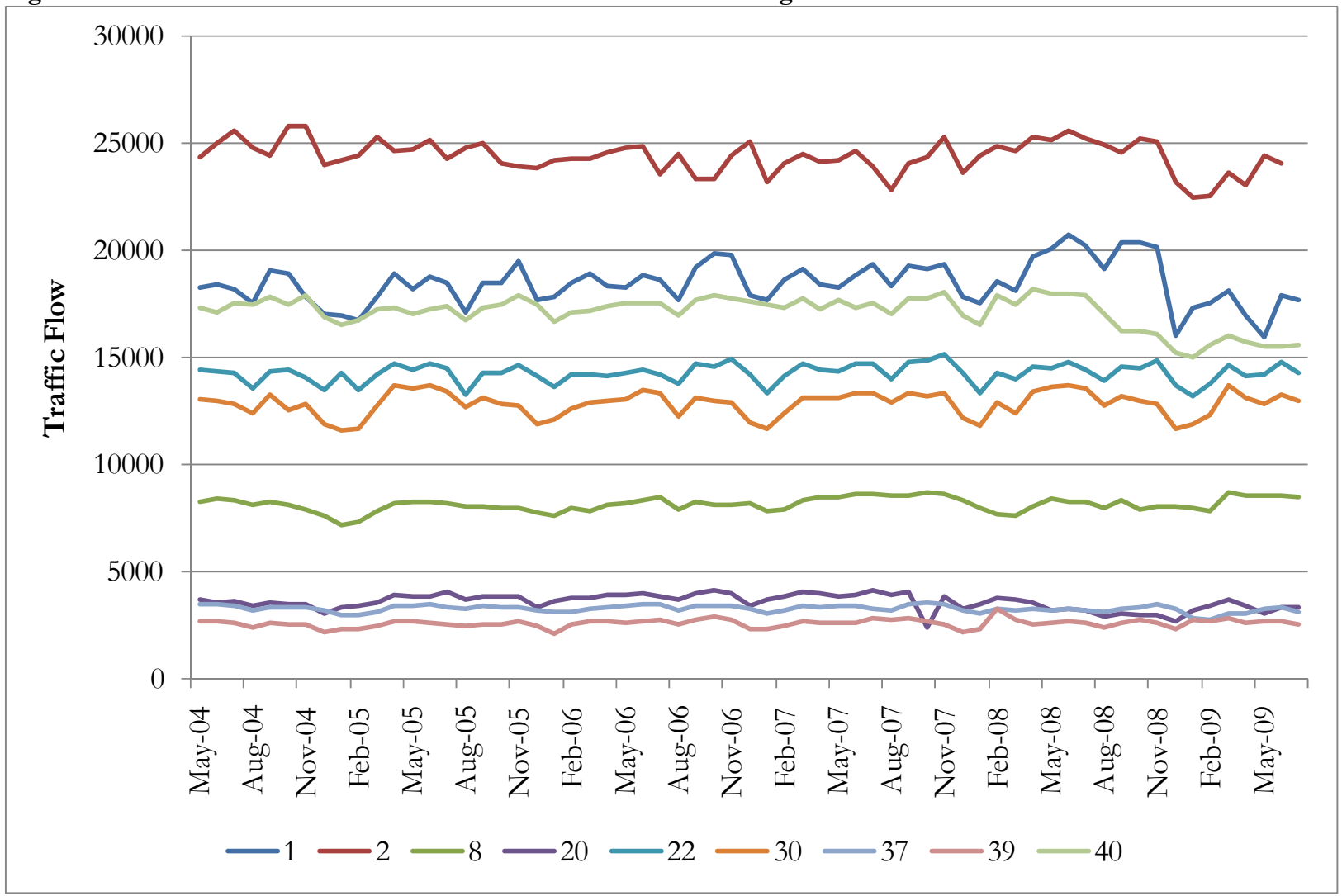


Figure 17.10: Data for automatic traffic counters in outer Darlington, indexed to earliest month of available data

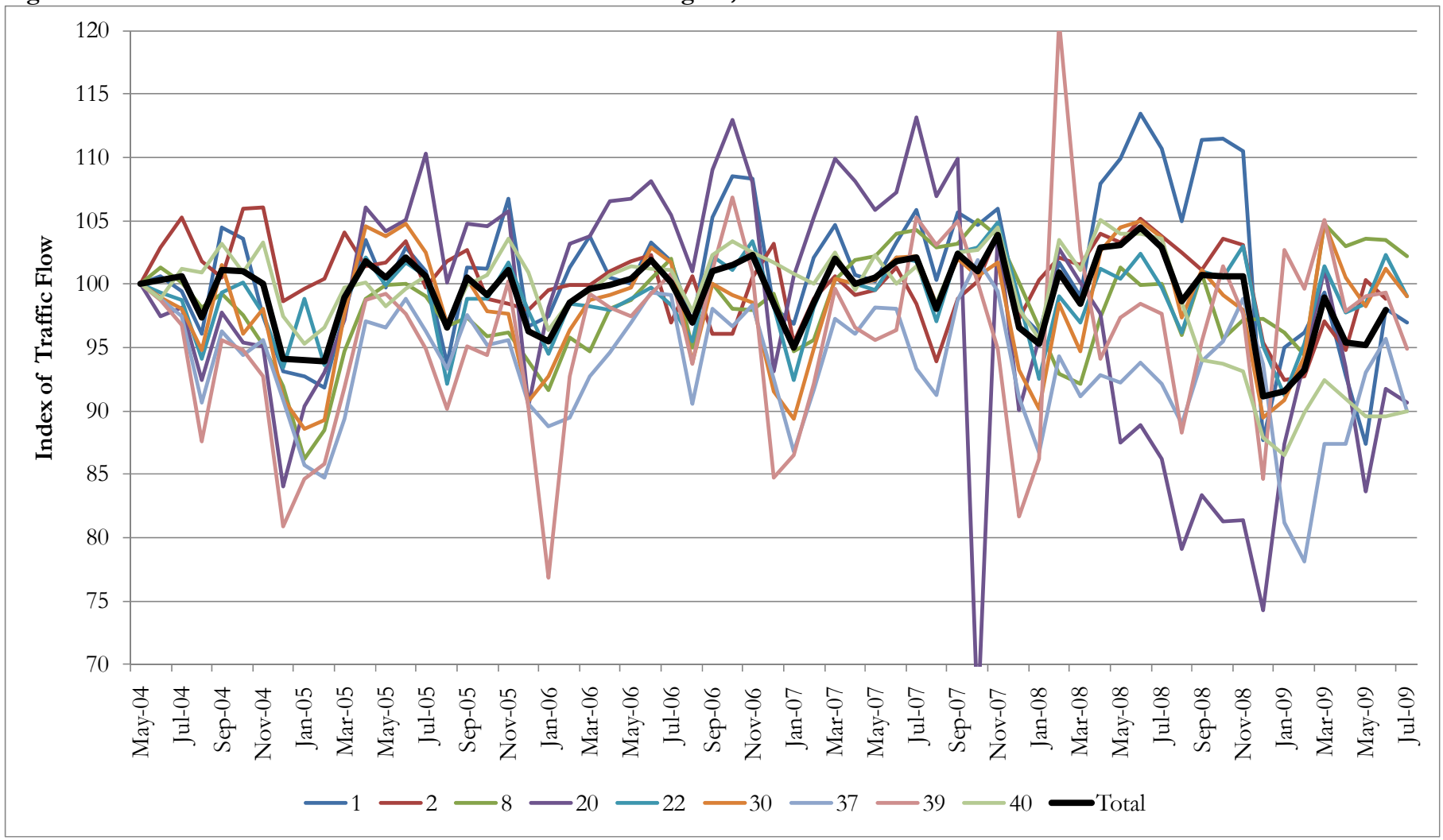


Figure 17.11: 12-month rolling average traffic counter data for outer Darlington, indexed to first available 12-month period of data

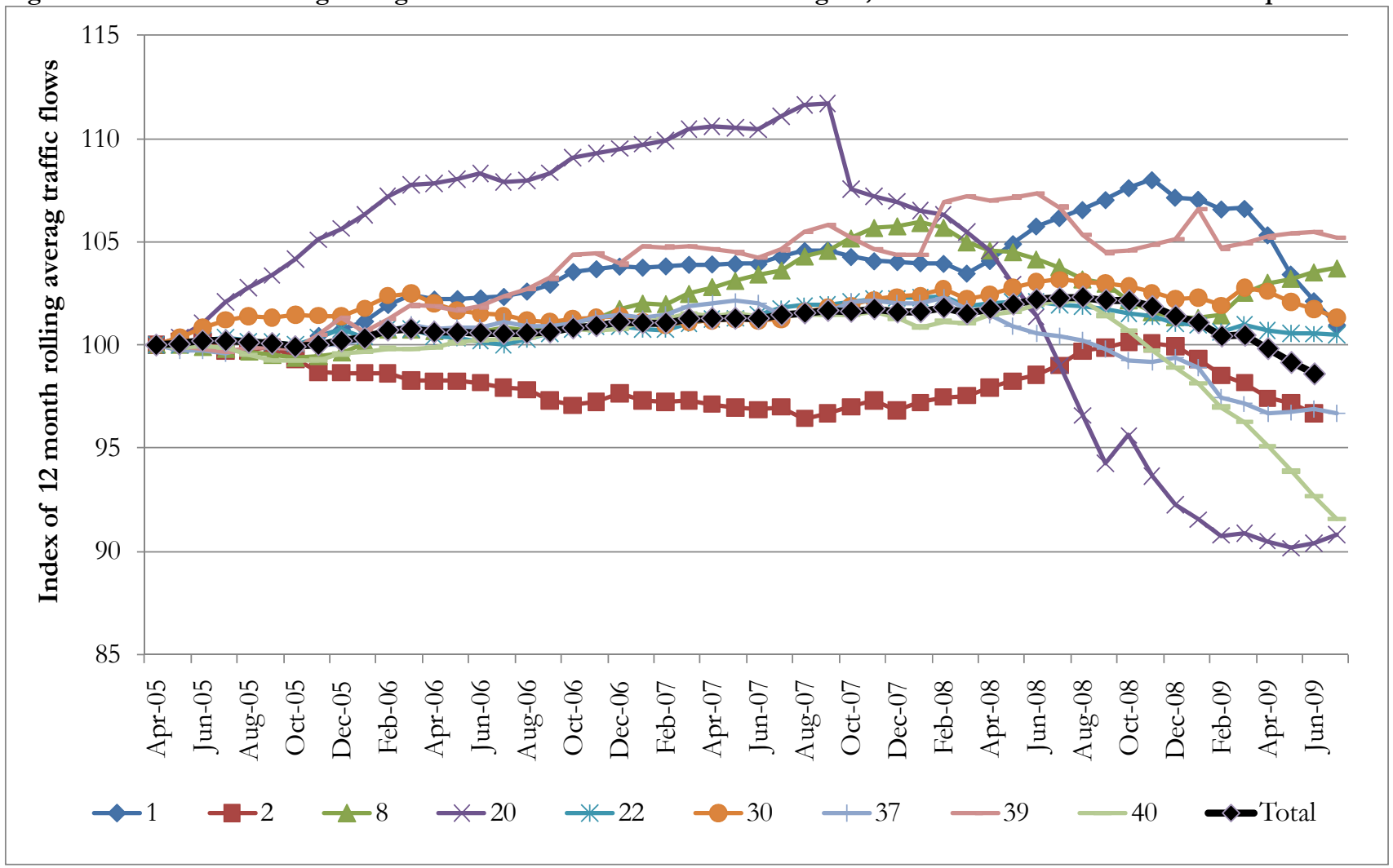
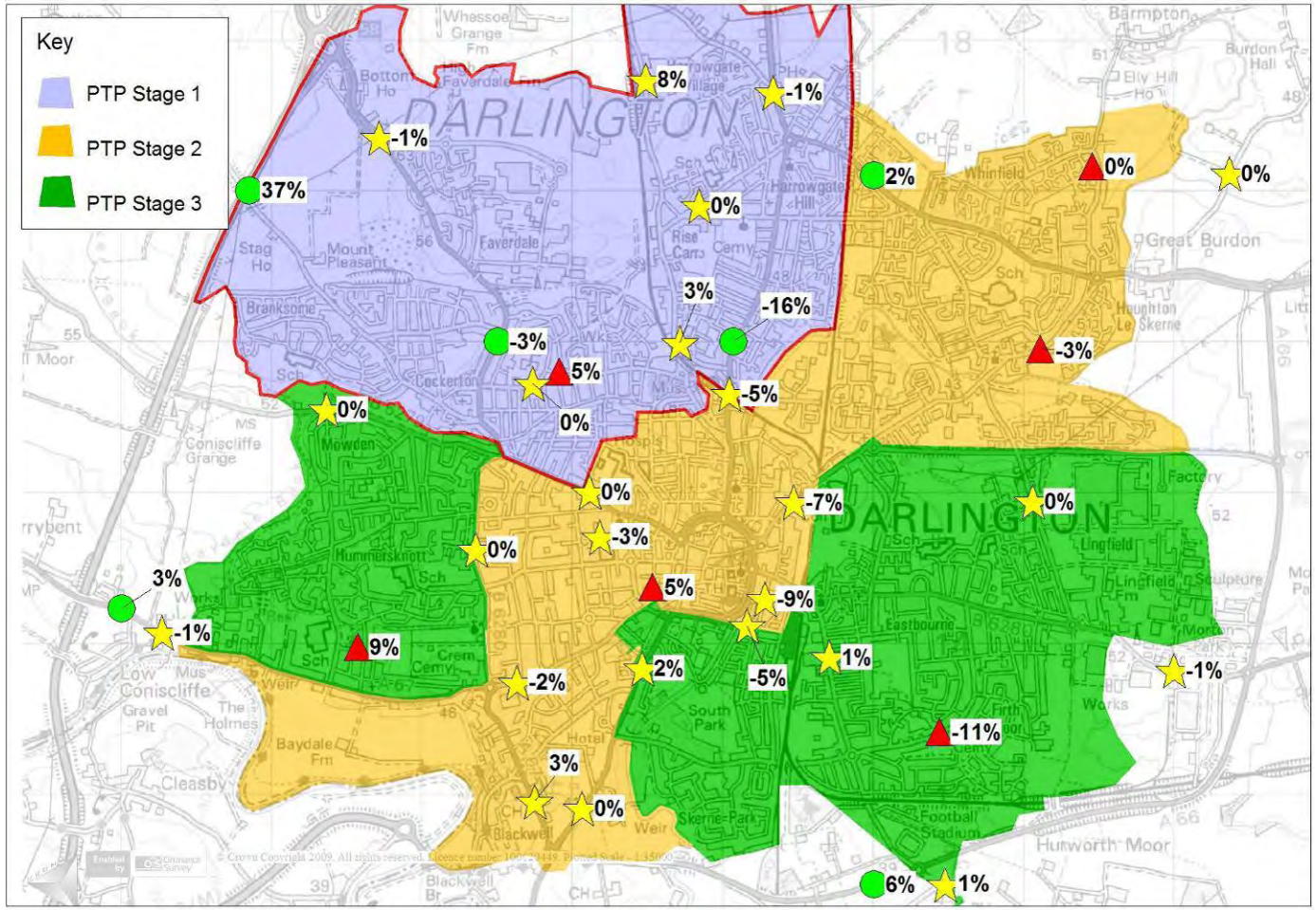


Table 17.12: Data from the Tees Valley Multi-Modal Model for the Darlington urban area in 2005

		Darlington-Darlington	From Darlington to elsewhere	From elsewhere to Darlington	Total	Proportion of intra-urban trips in Darlington
Work	AM	1900	1113	895	3908	48.6%
	Interpeak	2193	1487	1370	5050	43.4%
	PM	1342	761	814	2917	46.0%
Commute	AM	4641	4160	4263	13064	35.5%
	Interpeak	638	704	594	1936	33.0%
	PM	3172	3416	3283	9871	32.1%
Other	AM	5072	1325	1950	8347	60.8%
	Interpeak	9322	2706	2718	14746	63.2%
	PM	9300	2597	2848	14745	63.1%
Total	AM	11613	6598	7108	25319	45.9%
	Interpeak	12153	4897	4682	21732	55.9%
	PM	13814	6774	6945	27533	50.2%

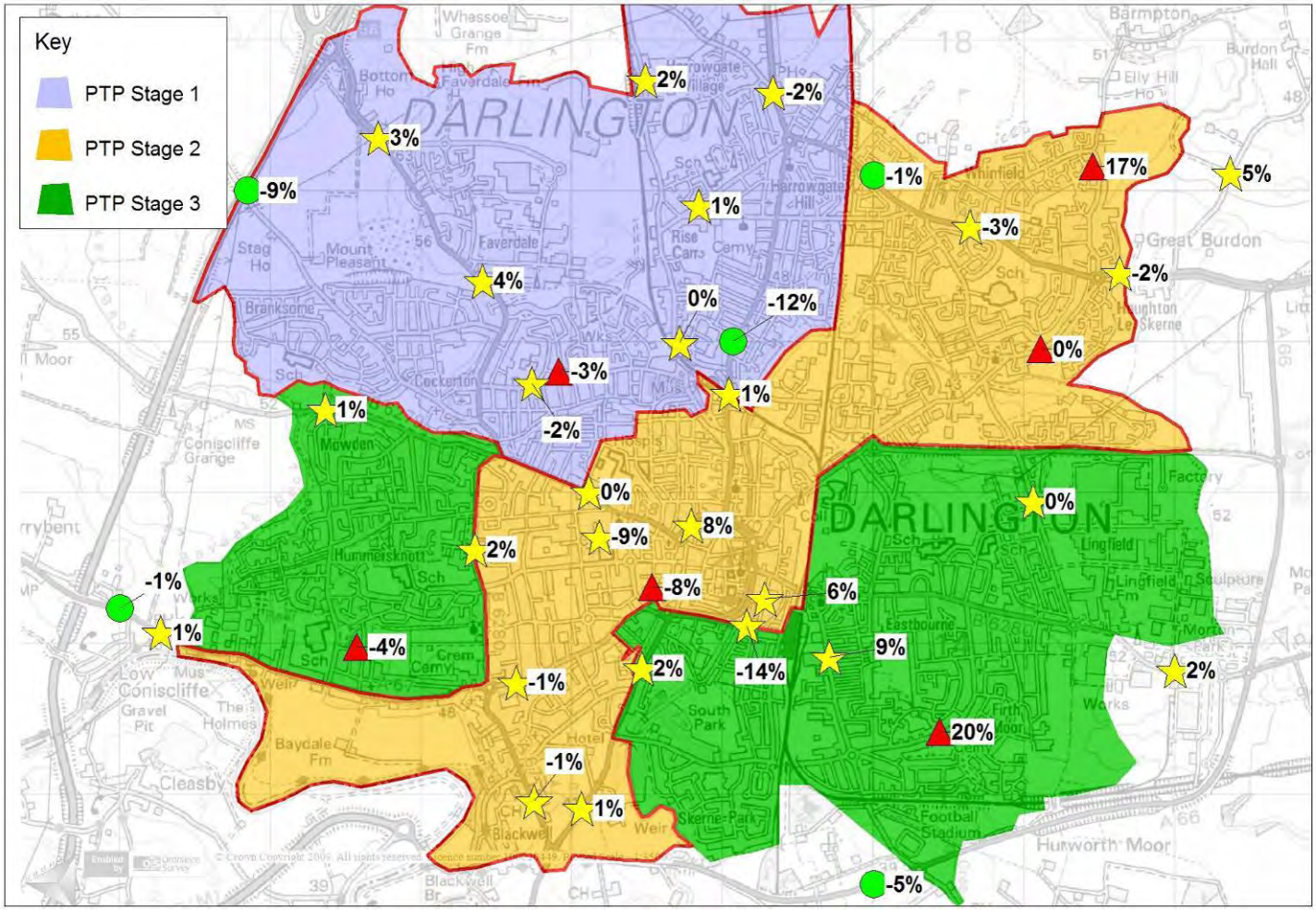
Notes: Data are average one-hour light vehicle totals. Data received 3/11/08. 'Darlington' is defined in this table as the Darlington urban area. 'Work' is travel undertaken for work purposes, where the destination or origin is not the usual workplace.

Figure 17.13: Map of changes in traffic in Darlington, 2004-2005, with personal travel planning areas marked



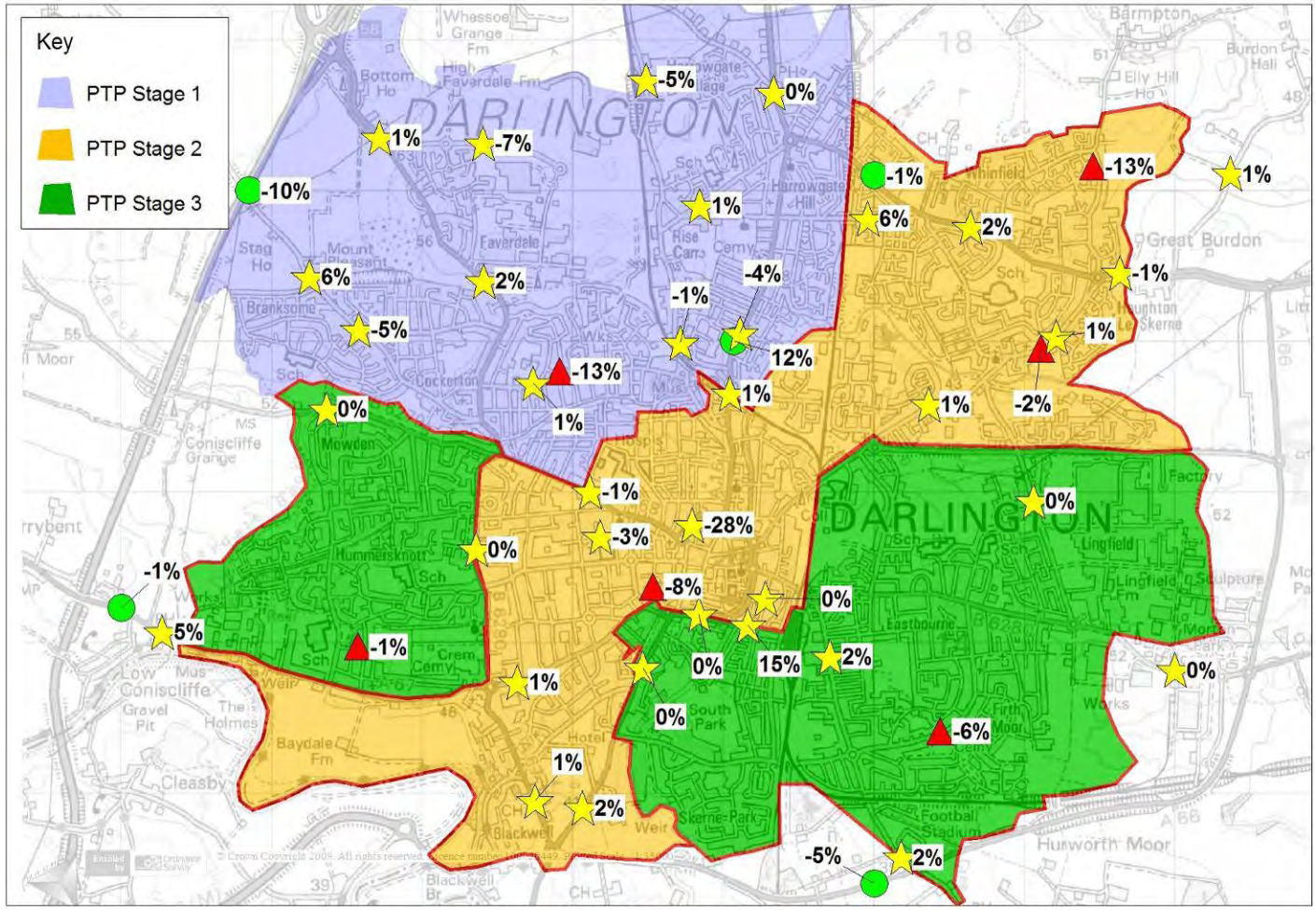
Notes: Yellow stars represent automatic traffic counter sites – data are the average for May to October. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites. Over this time period, changes expected from personal travel planning could have occurred in the Phase 1 area.

Figure 17.14: Map of changes in traffic in Darlington, 2005-2006, with personal travel planning areas marked



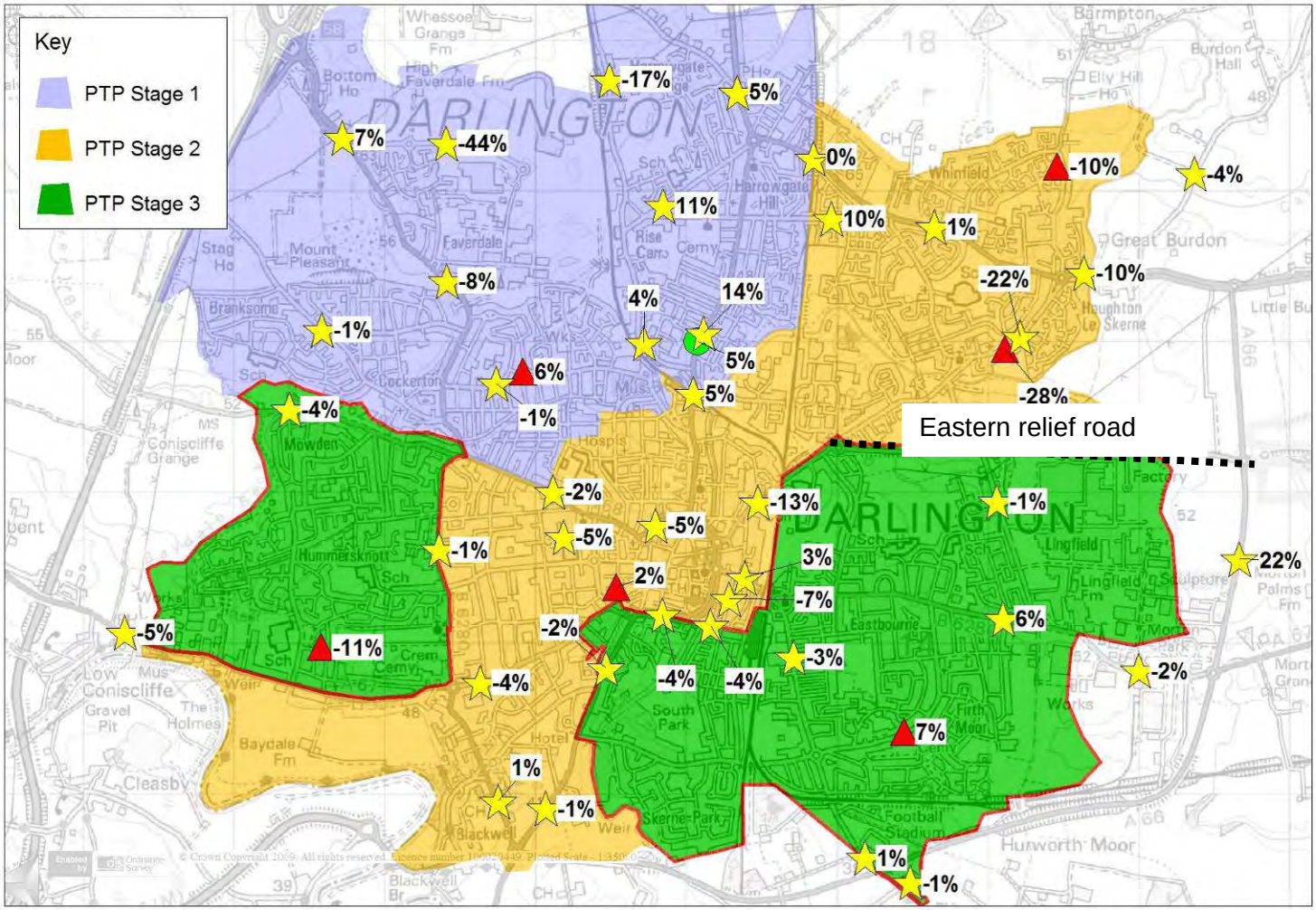
Notes: Yellow stars represent automatic traffic counter sites – data are the average for May to October. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites. Over this time period, changes expected from personal travel planning could have occurred in the Phase 1 and 2 areas.

Figure 17.15: Map of changes in traffic in Darlington, 2006-2007, with personal travel planning areas marked



Notes: Yellow stars represent automatic traffic counter sites – data are the average for May to October. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites. Over this time period, changes expected from personal travel planning could have occurred in the Phase 2 and 3 areas.

Figure 17.16: Map of changes in traffic in Darlington, 2007-2008, with personal travel planning areas marked



Notes: Yellow stars represent automatic traffic counter sites – data are the average for May to October. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites. Over this time period, changes expected from personal travel planning could have occurred in the Phase 3 area.

Table 17.13: NRTE manual count data in Darlington in relation to personal travel planning

	Phase 1	Phase 2	Phase 3
	Apr-Aug 2005	Apr-Sep 2006	May-Sep 2007
NRTE Minor roads			
	Brinkburn Road (May/Jun)	Larchfield Street (Mar), Stockton Road (Sep/Oct), Barmpton Lane (May)	Geneva Road (Mar), Baydale Road (Jun)
2004	6120	17158	5185
2005	6450	16923	4797
2006	6259	17088	5547
2007	5420	16205	5243
2008	5749	12888	5466
% change compared to preceding year			
2005	5.4	-1.4	-7.5
2006	-3.0	1.0	15.6
2007	-13.4	-5.2	-5.5
2008	6.1	-20.5	4.3
NRTE major roads			
	A1, North Road*	Salters Lane North	Darlington Bypass, Coniscliffe Road
2004	35,786	11158	20447
2005	40429	11328	21497
2006	36355.5	11234.5	20710
2007	35253	11141	19923
% change compared to preceding year			
2005	+12.9	1.5	5.1
2006	-10.1	-0.8	-3.7
2007	-3.0	-0.8	-3.8

Notes: *The West Auckland Road site also fell within the Phase 1 area, but only had data for 2004 and 2005. Over this period, it showed a reduction of 3.4%. Orange shading indicates when effects from personal travel planning may have been evident.

Table 17.14: Automatic traffic counter data in Darlington relevant to personal travel planning

	Phase 1	Phase 2	Phase 3	Not Phase 1	Not Phase 2	Not Phase 3
Counters used	1, 2, 11, 18, 20, 35, 37, 42, 44, 45	8, 11, 15, 17, 18, 22, 23, 24, 26, 30, 34, 39, 43, 48, 54	5, 8, 14, 15, 23, 28, 37, 38, 40, 46, 47, 55	8, 14, 15, 17, 22, 28, 30, 34, 38, 39, 40	1, 2, 14, 20, 28, 35, 37, 38, 40, 44	1, 2, 11, 17, 18, 20, 22, 30, 34, 35, 39, 44
Q1 2005	140792			113463	141679	152281
Q2 2005	146467	193219		119256	146917	159231
Q3 2005	143028			116717	144222	155242
Q1 2006		186245		114352	142440	154221
Q2 2006	146033	189140	158554	117930	146133	157478
Q3 2006	143184	188920		115879	143267	154249
Q1 2007			156830	116378	144389	153278
Q2 2007		186152	160743	119345	146614	156773
Q3 2007		185203	159678	119032	145885	155645
Q2 2008			157489	119236	151718	160900
% change compared to the preceding quarter						
Q2 2005	4.0			5.1	3.7	4.6
Q3 2005	-2.3			-2.1	-1.8	-2.5
Q2 2006		1.6		3.1	2.6	2.1
Q3 2006	-2.0	-0.1		-1.7	-2.0	-2.1
Q2 2007			2.5	2.5	1.5	2.3
Q3 2007		-0.5	-0.7	-0.3	-0.5	-0.7
% change compared to quarter in the previous year						
Q2 2006	-0.3	-2.1		-1.1	-0.5	-1.1
Q3 2006	0.1			-0.7	-0.7	-0.6
Q2 2007		-1.6	1.4	1.2	0.3	-0.4
Q3 2007		-2.0		2.7	1.8	0.9
Q2 2008			-2.0	-0.1	3.5	2.6

Note: Data given is the average daily value recorded in that quarter for all of the counters listed.

Table 17.15: Analysis of quarters data in Darlington in relation to personal travel planning effects

	Change in quarter compared to the preceding quarter		Change in quarter compared to quarter in the previous year		Change in following quarter		Change in the same quarter in following year	
	Target	*Control*	*Target*	*Control*	*Target*	*Control*	*Target*	*Control*
Phase 1 (Q2 2005)	4.0	5.1	n/a	n/a	-2.3%	-2.1%	-0.3%	-1.1%
Phase 2 (Q2 2006)	1.6	2.6	-2.1%	-0.5%	-0.1%	-2.0%	-1.6%	0.3%
Phase 3 (Q2 2007)	2.5	2.3	1.4%	-0.4%	-0.7%	-0.7%	-2.0	2.6%

Notes: The counters used to define the target and control areas for each phase are given in Table 17.13.
Green shading indicates where the target area has experienced less traffic growth – or more traffic decline – than the control area.

Table 17.16: Household travel survey results in Darlington

	Phase 1 area	Phase 2 area	Phase 3 area	Phase 2 & 3 area averages	Overall change estimate
Households	*11,802*	*11,675*	*14,400*		
Trips per person per year (unweighted data)					
Autumn 04	441	443	466	458	451
Autumn 05	426			460	449
Autumn 06		396	445		421
Autumn 07	406		428		408
Autumn 08					414
Index compared with 2004					
Autumn 05	96.6			100.4	99.7
Autumn 06		89.4	95.5		93.3
Autumn 07	92.1		91.8		90.6
Autumn 08					91.9
Overall change in trips per person (unweighted data, 2004-08)					***-8%***
Overall change in trips per person (weighted data, 2004-08)					***-10%***
Overall change in distance per person (unweighted data, 2004-08)					***-11%***
Overall change in distance per person (weighted data, 2004-08)					***-12%***

Notes: Red lines indicate timing of personal travel planning interventions. Green shading indicates results from area immediately subsequent to personal travel planning. Blue shading indicates control area results (as specified by Socialdata & Sustrans). Overall change estimates for Autumn 2006 and Autumn 2007 are based on interpolation. Trips of over 100km are excluded, meaning that results are slightly different from those reported in Chapter 13. Looking only at journeys of less than 50km, the reduction in trips is approximately the same (-8% to -10%). Both weighted and unweighted data suggest slightly lower reductions in car driver distance, of 7% and 6% respectively.

17.3 Evidence from Peterborough traffic count data

17.3.1 Introduction

This section reports on three main sources of data: information collected from automatic traffic counters relevant to the Peterborough urban area (available from March 2006), manual count ('screenline') data collected at a series of points across Peterborough, and the NRTE data. (The council data are actually collected and analysed by the consultancy Atkins for Peterborough City Council). In addition, information from the 2001 Census gives some indication of the proportion of commuting traffic within Peterborough that consists of intra-urban commuter trips.

17.3.2 Nature of the data

Automatic traffic counter data from Peterborough council
There were 10 automatic traffic counters in Peterborough. Six of these began operations in March 2006, whilst four started later. Four of the counters were significantly affected by roadworks over the period for which data were available (including the only centrally located counter at Rivergate). Several were not functional for significant periods. This means that it has only been possible to generate a 'total' using data from four of the counters (Longthorpe Parkway, Glinton, Paston Parkway and Bourges Boulevard). All of these counters are located on major roads, and all fall outside the inner part of Peterborough (as defined, perhaps, by the area covered by the urban screenline). A map, showing the location of the counters used, is given in Figure 17.17. The full data set is given in the annex. The data given is an average 24-hour figure for each month for seven-day, two-way flows.

It should be noted that the issues listed above significantly affect the usefulness of the data.

Some of the maps (Figures 17.20, 17.28-17.31) include data from all the different data sources. For these maps, the automatic traffic counter data is averaged for the period May to August. This period has been chosen, in order to match the period over which the minor road manual counts in Peterborough were collected as far as possible (which ranges from March to October); to maximise the number of sites for which data could be generated (which precluded, for example, starting the average from March); and to avoid confusion when assessing personal travel planning effects (given that several phases of personal travel planning began in September).

In relation to the automatic traffic counters, roadworks on the following roads were reported:

- January 2005-February 2007, Town Rail Bridge, affecting junction of Oundle Road/London Road to Rivergate;
- June 2007-April 2008, London Road (affecting Glebe Road/Fletton Avenue junction to Oundle Road junction);
- August 2007-August 2008, Junction 3 of Fletton Parkway;
- September-October 2008, Junction 32 to Junction 33 of Nene Parkway (across the River Nene) restricted to single carriageway to facilitate repairs to a viaduct;
- April-May 2009, Paston Parkway, Junction 20, with eastbound A47 traffic rerouted via Junction 21;

- May-September 2009, Frank Perkins Parkway between Junctions 4 and 5 restricted to single carriageway to facilitate repairs to bridges across the River Nene, initially northbound then southbound, causing rerouting of traffic, including through the city centre.

In brief, then, the main route into the town centre from the south was affected by roadworks for most of the period from January 2005 to April 2008, and there were roadworks affecting parts of the main perimeter roads from August 2007 to October 2008, and from April to September 2009, generating some rerouting that could have led to traffic increases in the town centre during 2009.

Manual count data from Peterborough council

Until 2009, Peterborough council carried out a series of one-day 12-hour manual classified vehicle counts in May each year, capturing both major and minor roads in the inner part of Peterborough. An 'urban screenline' of sites has been in place since 1998 (though it is problematic to extract data for the individual sites on this screenline prior to 2004). In 2005, a 'new city' screenline was created, which involves an arc of five sites to the north-east of the city centre. A map showing the locations of the screenline count sites is given in Figure 17.18. (Counts at the new city screenline were discontinued in 2009 due to budgetary constraints.)

The council also undertakes some manual counts in more peripheral parts of the town, but these data were not readily available, and are not reported here.

Data on cars and taxis from the NRTE

Minor road counts: In Peterborough, there were 15 minor road count sites of relevance. Of these, 7 had data dating from the year 2000, whilst all 15 had data from 2003 onwards. These data are given in Table 17.24. Of the counters, two appear to have anomalously high values in 2005[13]. After various different analyses, these have been left within the series, to avoid other bias. However, it means that the 2005 figure for the total series should be treated with caution. As highlighted in section 17.1, the data given are for cars and taxis. The location of the sites means that the totals generated from this data set will tend to be more indicative of changes in traffic in outer Peterborough, rather than inner Peterborough.

Major road counts: In Peterborough, there were 62 major road count sites. However, only 23 of these fell within the urban boundary, and had data for 2004, or 2003 and 2005 (from which a 2004 data point could be generated, assuming a linear trend between the two years), or, alternatively, two years of sequential data from 2004 onwards enabling the generation of an annual change. Only four of the sites had data from 2000, from which a continuous series could be generated, and only seven had data that made it possible to infer changes between 2004 and 2008. The sites with data that were used are given in Tables 17.25 and 17.26. Table 17.27 provides a measure of the changes in traffic recorded relative to 2004, using all sites with available data for the relevant years. As highlighted in section 17.1, the data given are for cars and taxis.

[13] Specifically, the values increase, by 31% and 41%, between 2004 and 2005, and then decline, by 27% and 30%, between 2005 and 2006. In practice, inclusion or exclusion of these values does not affect the main conclusions, which are focused on trends between 2004 and 2008.

Dates of counts at each minor road manual count site are given in Table 17.24. (The major road counts take place at different times in subsequent years, though all take place within neutral weeks i.e. weeks in March, April, May, June, September and October.)

17.3.3 Data presentation

On subsequent pages, the following data are presented:

- Table 17.17 – details of the number of sites showing traffic reduction for relevant periods;
- Table 17.18 – average changes in car traffic, as recorded at different groups of sites;
- Figures 17.17-17.19 – maps of counter locations;
- Tables 17.19-17.21 – changes in traffic recorded at the automatic traffic counter sites;
- Tables 17.22-17.23 – changes in traffic recorded at the screenline sites;
- Tables 17.24-17.27 – changes in traffic as evident in the NRTE data;
- Figure 17.20 – a map showing changes in traffic between 2004 and 2008 for all sites with available data for that period;
- Figures 17.21-17.23 – various plots of the automatic traffic counter data;
- Figures 17.24 – 17.25 – several plots of the screenline data;
- Figures 17.26-17.27 – plots of the major and minor NRTE data;
- Figures 17.28-17.31 – maps of changes in traffic flows between individual years, with personal travel planning areas marked;
- Table 17.28 – data about changes in population in Peterborough's urban wards;
- Figure 17.32 – a graph comparing changes in population with changes in traffic;
- Table 17.29 and Figure 17.33 – analysis of the automatic traffic counter data in relation to periods of personal travel planning work;
- Table 17.30 – analysis of the manual count data in relation to personal travel planning work;
- Table 17.31 – results from the household travel surveys.

17.3.4 Data analysis

Overall effects on traffic

Interpreting the data in Peterborough is not straightforward, since it is clear that trends have been in different in 'inner' and 'outer' Peterborough; over different time periods (roughly 2004-2006, compared with 2006-2008); and on major roads, as compared with minor roads. The following commentary outlines the main points from each data set, before summarising the overall implications.

The *automatic traffic counter data* is analysed in Tables 17.19-17.21 and Figures 17.21-17.23. The only 'total' that could be generated indicates that traffic levels were broadly stable at four counters on main roads in outer Peterborough from March 2006 to the beginning of 2009, when they began to decline, leading to a reduction of 2.9% in Q1 of 2009, compared with Q1 in 2008, and an overall change of -0.3% between 2006/7 and 2008/9. However, it is also clear that there were differences in that trend in particular locations. For example, traffic levels fell substantially at Longthorpe Parkway, whilst they increased substantially at Drakes Mere, the latter being located in an area of population growth.

The council's *screenline data* are given in Tables 17.22 and 17.23 and Figures 17.24 and 17.25. This data gives an indication of flows in inner Peterborough. The urban screenline (which is the longer term screenline series) suggests that, prior to the Sustainable Travel Town work, traffic levels had been increasing, with a particular increase from 2002 onwards. However, the urban and new city screenlines both suggest that, during the period of the Sustainable Travel Town work, traffic levels in inner Peterborough reduced. The urban screenline shows a decline of 9.4% between 2004 and 2006, with some subsequent increase, leading to a change of -7.0% between 2004 and 2008 (and of -5.1% between 2004 and 2009)[14]. From its inception in 2005, the new city screenline shows a decline of 4.2% between 2005 and 2006, and 9.3% between 2005 and 2008. Summing the two series together suggests that car traffic fell by 6.9% between 2005 and 2006, and 6.7% between 2005 and 2008[15].

The *minor roads NRTE data* (Table 17.24 and Figure 17.26), which provide a measure of changes in car and taxi flows on minor roads across Peterborough, suggests that, between 2004 and 2008, levels were roughly stable, with a decline of 1.0% according to the 15 counters total[16]. However, these data also suggest that traffic levels were rising from about 2002, but subsequently substantially declined between 2005 and 2006. As already noted, the 2005 figure for some of the NRTE counts appears anomalously high. Excluding these counts, nine of the 13 counts still show a drop between 2005 and 2006 (whilst inclusion of these counts would suggest reductions for 11 out of 15). Leaving aside the 2005 data, for all 15 counts, traffic fell by a total of -3.6% between 2004 and 2006. As previously noted, the location of the minor NRTE sites means that the trend generated by summing them together is likely to be more reflective of what has happened in outer Peterborough.

Major roads NRTE data are given in Tables 17.25-17.27 and Figure 17.27. These give a measure of changes in car and taxi flows across major roads in Peterborough, and again, there were considerably more sites in outer Peterborough than inner Peterborough. The four sites with data from 2000 indicated that, prior to the Sustainable Travel Town work, traffic levels were increasing. The best measure of the change in flows recorded at the major road NRTE sites from 2004 is probably that given Table 17.27 (since it utilises data from all sites with relevant counts for particular years). This indicates a reduction in traffic levels between 2005 and 2006 (leading to a total reduction of 1.5% between 2004 and 2006), but with subsequent regrowth in 2007, followed by a drop in 2008, such that car and taxi flows in 2008 were 1.7% lower than in 2004[17]. All major road NRTE counts in Peterborough took place in October 2008, or before, meaning that this reduction in flows is not likely to be due to the changing economic situation. However, values recorded at individual sites clearly vary dramatically, not least due to roadworks which are known to have affected flows at a number of sites.

The overall picture that emerges, then, is that all data sets with evidence before 2006 suggest that, prior to the Sustainable Travel Town work, traffic levels were increasing. However, there was then a

[14] The 2009 figure for the urban screenline should be treated with some caution since the increase is primarily caused by growth at the Town Bridge site – an increase of +7% between 2008 and 2009 – which may partly be due to roadworks elsewhere, whilst the changes at all other sites were remarkably consistent, being an increase of only +0.2%.
[15] The data given here are for cars and taxis. Equivalent values for all motor vehicles are a reduction of 6.1% at the urban screenline between 2004 and 2008, and a reduction of 7.1% at the new city screenline between 2005 and 2008.
[16] The equivalent value for all motor vehicles recorded at the NRTE minor road sites was an increase of 0.3% between 2004 and 2008.
[17] The equivalent value for all motor vehicles recorded at the NRTE major road sites was a decrease of 1.9% between 2004 and 2008.

reduction in traffic between 2005 and 2006, which was greater in inner Peterborough than outer Peterborough, and which was greater on minor roads than on major roads. This is illustrated by the data given in Table 17.17.

Table 17.17: Evidence of traffic reduction between 2005 and 2006 in Peterborough

	Screenline counters (inner Peterborough)	Minor NRTE sites (both sets have more sites in outer Peterborough)	Major NRTE sites	Total
Number of counters recording a reduction in flows				
2005 to 2006	9 of 12	11 of 15	10 of 21	30 of 48
Change recorded				
2004-2006	-9.4%~	-3.6%	-1.5%	--
2005-2006	-6.9%	n/a*	-1.0%	--

Notes: ~ Urban screenline data only. *Figure not quoted due to apparently anomalous data which would generate a large, but probably misleading, indication of traffic reduction between 2005 and 2006.

As shown in Table 17.17, 30 out of 48 sites where manual counts were undertaken suggest that traffic levels in Peterborough fell between 2005 and 2006. A Sign test gives a p-value of .111 for 30 out of 48 values – in other words, with 48 paired samples, there is an 11.1% chance that 30 would have changed in the same direction as a result of random variation[18].

From 2006 onwards, there then appears to be a change in trend. According to the screenline counts in inner Peterborough, traffic levels rose slightly but this was not enough to offset the previous reductions, meaning that, in 2008, flows recorded at the urban screenline were 7.0% lower than in 2004. The minor roads data (focused more on outer Peterborough) suggests that levels crept back more substantially, to only 1% below 2004 flows – though, it should be noted that this 1% reduction predated any effects from the changing economic situation. The NRTE major roads data suggests that, by 2008, car and taxi flows were roughly the same as in 2006 (specifically, 1.7% lower in 2008 than in 2004). The automatic traffic counter data also suggests relatively little change in flows between March 2006 and late 2008, followed by a subsequent drop in Q1 2009.

Changes at individual counters between 2004 and 2008 are shown in Figure 17.20, whilst Figures 17.28-17.31 show the changes that have taken place year on year.

It is also relevant to compare the town data with that generated by the benchmark NRTE data set. Trends in the different data sets are summarised in Table 17.18.

[18] It should be noted that, had the number been 31, the p-value would have changed to .059, highlighting that the small data set makes assessing statistical significance problematic.

Table 17.18: Comparing Peterborough data with national trends

Cars and taxis						
	Urban screenline	New city screenline	NRTE minor roads (15 sites)	NRTE major roads (all sites with data)		NRTE national urban cars and taxis, (Q2 and Q3)
2004	100.0		100.0	100		100.0
2005	98.5	100.0	112.2	99.4		100.1
2006	90.6	95.8	96.4	98.5		99.2
2007	93.7	100.1	97.8	100.7		100.7
2008	93.0	90.7	99.0	98.3		99.5
Motorised vehicles						
					Total for 4 ATCs	NRTE national urban traffic
2006/7					100	100
2007/8					99.9	99.8
2008/9					99.7	98.2

Note: manual count data for Peterborough (i.e. NRTE, urban screenline and new city screenline data) should be treated with caution as being generally less robust than automatic count data, because manual counts record traffic flows on a single day in each year.

Overall, as shown here, by 2008, it appears that car and taxi flows in inner Peterborough were 7-9% lower than in 2004. Meanwhile, flows on both minor and major roads in the rest of Peterborough were 1-1.7% lower than in 2004 (the higher figure for the major roads is less likely to be accurate, given the smaller number of sites, and the variability of flows at those sites due to roadworks, though the general implication of continuity of traffic levels from 2006 is confirmed by the automatic traffic counter data). These effects appear to largely predate any effects from the changing economic situation.

When considering this information, there are two other factors that need more consideration.

The first is roadworks. As previously stated, the main route into the town centre from the south was affected by roadworks for most of the period from January 2005 to April 2008, and there were roadworks affecting parts of the main perimeter roads from August 2007 to October 2008, and from April to September 2009. In practice, the southern route roadworks should not have affected the changes calculated between 2004 and 2008. Meanwhile, the main impact of the perimeter roadworks is likely to have been route changes, which helps to explain some of the erratic changes seen at individual counters.

The second main factor that needs consideration is change in population. Population estimates suggest that the population of Peterborough rose by 6.1% between 2004 and 2007 (according to council data). (Later data are not available.) Table 17.28 provides a breakdown of population changes by ward. This indicates that the greatest growth in population (49% of the total) took place in the Fletton and Orton-with-Hampton wards (located to the south of the town), with a further 32% of the growth in wards Central, Park, East and Ravensthorpe (located in the central and eastern parts of the town). (These are the wards which all experienced growth of 5% or more between 2004 and 2007.) Figure 17.32 shows how population has grown, compared with trends in car traffic (as

suggested by the urban screenline). There is some evidence to suggest that the implementation of the Sustainable Travel Town work has led to some decoupling of population growth and traffic growth. Had traffic levels simply increased in line with population growth from 2004 to 2007, this would imply that they should have been 6.1% higher in 2007, which is clearly not the case. It is also notable that, in line with population growth, employment also grew. According to the Annual Business Inquiry, between 2004 and 2008, the number of jobs in Peterborough increased by 7.5%.

The 2001 journey to work census data – as analysed and supplied by Atkins – suggests that only 42% of car driver trips for work within the Peterborough urban area both begin and end there. This provides some evidence to support the argument that one might expect the changes on central and residential roads to be greater than changes on the major roads, since the major roads are likely to include a greater proportion of trips that would have started or ended outside the Peterborough urban area. This does appear to be the case, in terms of the observed changes in traffic between 2005 and 2006 – the main period when the Sustainable Travel Town work appears to have affected flows, as shown in Table 17.17.

To generate a rough estimate of total changes in traffic flows in Peterborough, it is possible to perform a 'back of the envelope' calculation using population data. Specifically, if Central, Park, Ravensthorpe and Fletton are taken as representing 'inner Peterborough', these wards represented 24% of the population of Peterborough in 2007. Assuming traffic in these wards reduced by 7%, together with a reduction of 1% across the rest of Peterborough, this would give an overall change in traffic of -2.4%. In the context of a 6.1% population increase, this would imply a relative reduction of -8.7%.

Assessment of personal travel planning effects

There were five phases of personal travel planning in Peterborough:

- 1 (September-December 2005)
- 2 (April-July 2006)
- 3 (September-December 2006)
- 4 (April-August 2007)
- 5 (September-December 2007).

The effects of the personal travel planning work can be assessed in different ways.

Table 17.29 and Figure 17.33 give analysis of the automatic traffic counter data. As highlighted there, there were no ATC sites with data available to assess Phases 1 or 4. The two sites with relevant data for Phase 2 are both located on main roads on the edge of the relevant area. Neither appears to show an effect from the personal travel planning work, though this may be partially due to location. In contrast, the counters for Phases 3 and 5 do seem to be showing an effect, since, on both occasions, there appears to have been a reduction in traffic flows in the quarter immediately following personal travel planning work, which was greater in magnitude, or not matched, by reductions elsewhere. In particular, flows at Longthorpe Parkway (the site relevant to Phase 3) appear to have declined since that time, although the lack of data prior to March 2006 makes it difficult to assess the previous trend in this area.

Meanwhile, Table 17.30 analyses the data available from the various manual counts.

The screenline data do not show any clear-cut effects. However, this may partly be due to the confounding effects of the roadworks at and leading up to the town bridge, which will have affected traffic flows at four of the counters. It may be significant that flows at the counters in the Phase 2 area reduced by 6.8% between 2005 and 2006.

The minor roads data potentially suggest that there was an effect from the Phase 1 work between 2005 and 2006; from the Phase 4 work, between 2006 and 2007; and from the Phase 5 work, between 2007 and 2008. The major roads data potentially show an effect from the Phase 4 work (from 2006 to 2007) and from the Phase 5 work (from 2007 to 2008).

In brief, then, taken together, the data sets all provide some evidence to suggest that each of the different phases of personal travel planning may have had an effect, though none are conclusive, not least, perhaps, due to the nature of the available evidence, and the confounding effects of other things taking place in the towns. The strongest evidence perhaps comes from the Longthorpe Parkway automatic traffic counter, in relation to Phase 3, though the other data sets do not show an effect in relation to this phase.

Comparison with the household travel survey data
As evident from Table 17.31, the household travel surveys suggest that:

- car driver trips reduced by between 8 and 10% between 2004 and 2008;
- car driver distance reduced by only 2-3%, when including trips up to 100km, but, perhaps more informatively, by 7% (unweighted) or 10% (weighted) when considering trips of up to 50km. Factoring the population increase into these estimates suggests that this should have resulted in a reduction of about 1.7%-4.5% in the total traffic generated by residents' trips of up to 50km;
- Phases 1, 2 and 3 all reduced car driver trips relative to the control areas, whilst traffic levels in the control areas stayed constant or even rose slightly.

In comparing this with the results reported above, it is notable that a reduction in the order of 7-10% corresponds reasonably well with our 'back of the envelope' calculation from the count data, *when taking population increase into account*. Equally reductions in the order of 1.7%-4.5% do appear to be observable on street, albeit with the higher estimate only being observed in the inner part of Peterborough. The most surprising aspect of the household survey data – given the reductions in traffic between 2005 and 2006 showing in the other data sets – is perhaps that it shows no reduction in travel by the control group between October 2004 and April 2006.

17.3.5 Summary and conclusions about changes in traffic in Peterborough

Interpreting what has happened to traffic levels in Peterborough is not straightforward, not least because the automatic traffic counters only began operating in March 2006. Consequently, our interpretation relies on substantial analysis of the different manual counts carried out in the town. On the basis of that evidence, we draw the following conclusions:

- All three data sets with available evidence suggest that, prior to the Sustainable Travel Town work, traffic levels in Peterborough were stable or rising, with a particular increase from about 2002 onwards.

- Between 2004 and 2008, traffic levels in inner Peterborough fell by approximately 7%, whilst they fell by approximately 1% in the outer part of the town. A 'back of the envelope' calculation, based on the distribution of population, suggests that this would equate to an overall change in traffic of about -2.4%. These overall changes predate any effects from the changing economic situation. There appears to have been a particular decline between 2005 and 2006, when manual car counts at 30 out of 48 sites reduced, with greater reductions occurring on the minor roads, and in the inner area, than on the major roads and in more peripheral locations.
- Between 2004 and 2007, the population of Peterborough grew by 6.1%, whilst employment grew by 7.5% between 2004 and 2008. It is clear that, during the Sustainable Travel Town work, employment and population growth have been decoupled from traffic growth.
- The household surveys suggest that, *per resident*, there was a reduction of 7 to 10% in both trips and distance travelled as a car driver, for journeys of 50km or less. Factoring population growth into calculations therefore suggests that there is a reasonable correspondence between the count data and the household travel surveys, since a reduction of 7-10% in car driver distance *per capita*, would translate into a 1.7-4.5% reduction driven by residents at town level. The greater reductions observed in the inner part of Peterborough suggests that trips in this area have been particularly affected.

The traffic data provide some indications of potential personal travel planning effects in particular areas, though none of the evidence is conclusive. (There was, however, a clear reduction recorded at one of the relevant traffic counters in the Phase 3 area which appears to have begun at about the time of the personal travel planning work).

Figure 17.17: Map of automatic traffic counters in Peterborough

Figure 17.18: Map of screenline count locations in Peterborough

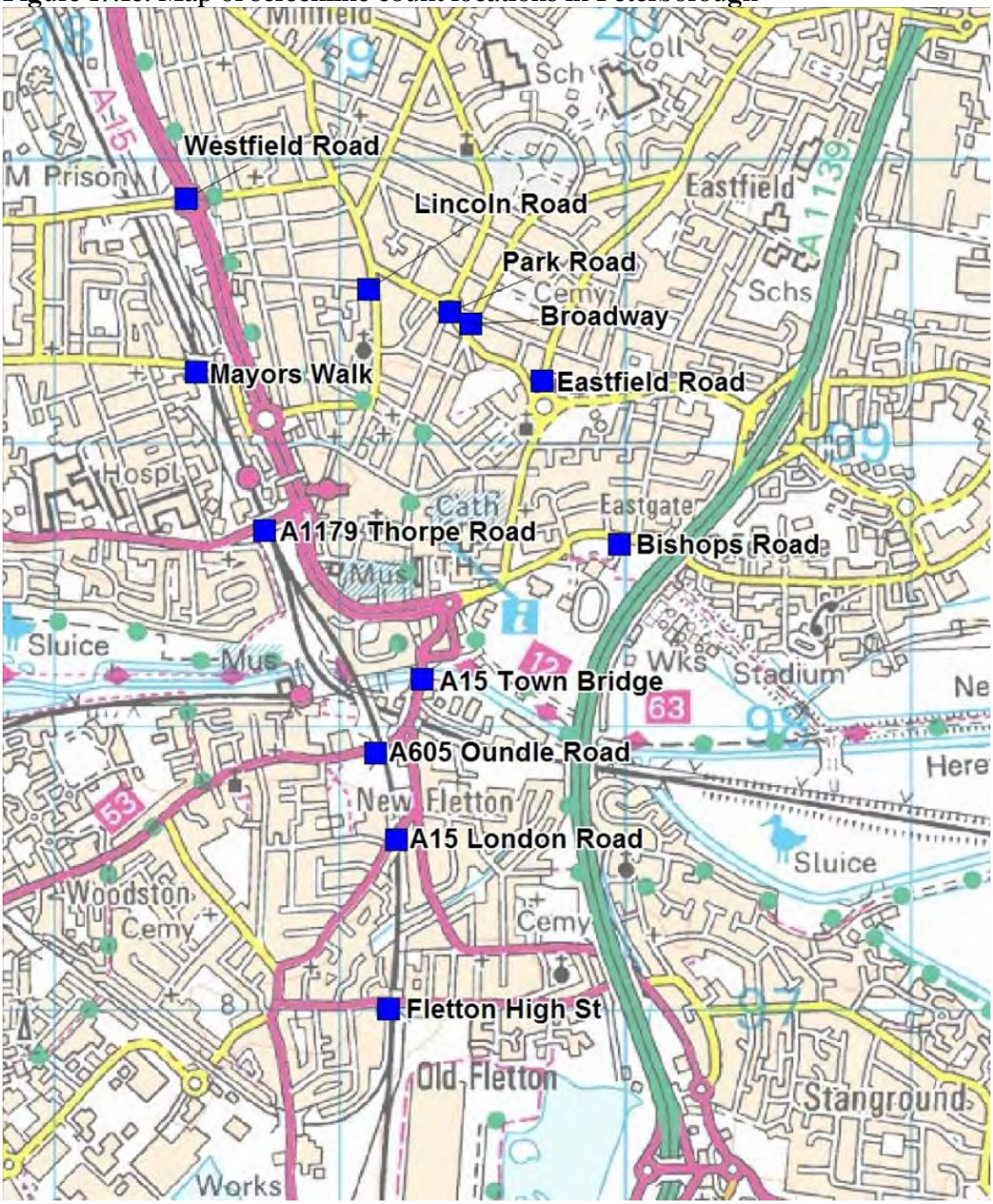


Figure 17.19: Map of relevant major and minor road NRTE count sites in Peterborough

Notes: Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites.

Table 17.19: Annual traffic totals for automatic traffic counter sites in Peterborough

Annual Totals	Longthorpe Parkway	A15 Rivergate	Bourges Boulevard	Glinton	Paston Parkway	Boon gate	Drakes Mere	Frank Perkins Parkway	A1260 Nene Parkway	Fletton Parkway	Total*
Apr 06 - Mar 07	8441487	9195941	10301106	6890185	9362585						34995363
Apr 07 - Mar 08	8297869	11891223	10505088	6938626	9142965	8704968					34963239
Apr 08 - Mar 09	7824038	11788944	10731604	6739027	9365849	8721901	1862715		18832362	18113078	34897315
% change from preceding year											
07-08	-1.7	29.3	2.0	0.7	-2.3						-0.1
08-09	-5.7	-0.9	2.2	-2.9	2.4	0.2					-0.2

Notes: Pale blue indicates traffic reduction. Orange shading indicates that the total was affected by roadworks. * Total column gives the sum of the results for Longthorpe Parkway, Bourges Boulevard, Glinton and Paston Parkway.

Table 17.20: May-August average daily traffic totals for automatic traffic counter sites in Peterborough

	Longthorpe Parkway	A15 Rivergate	Bourges Boulevard	Glinton	Paston Parkway	Boongate	Drakes Mere	Frank Perkins Parkway	A1260 Nene Parkway	Fletton Parkway	Total
2006	23114	22759	28063	18585	26002	24180					95764
2007	22540	34539	28074	18675	25883	24046		51702	53781	51761	95172
2008	21867	33579	29232	18331	25559	23842	4954	49945	53085	49366	94989
2009		33645	28999	19041	25632	21838	5953	41563	55857	44500	
% change from preceding year											
2007	-2.5	51.8	0.0	0.5	-0.5	-0.6					-0.6
2008	-3.0	-2.8	4.1	-1.8	-1.2	-0.9		-3.4	-1.3	-4.6	-0.2
2009		0.2	-0.8	3.9	0.3	-8.4	20.2	-16.8	5.2	-9.9	

Notes: Pale blue indicates traffic reduction. Orange shading indicates that the total was affected by roadworks. * Total column gives the sum of the results for Longthorpe Parkway, Bourges Boulevard, Glinton and Paston Parkway.

Table 17.21: Average quarterly traffic counter data in Peterborough

	Longthorpe Parkway	A15 Rivergate	Bourges Boulevard	Glinton	Paston Parkway	Boongate	Drakes Mere	Frank Perkins Parkway	A1260 Nene Parkway	Fletton Parkway	Total
Q2 2006	23026	22807	28116	18580	26375	24281					96097
Q3 2006	23182	22703	28186	18652	25727						95748
Q4 2006	23944	25367	28953	19139	25250						97287
Q1 2007	22348	29982	27630	19150	25270		2902				94398
Q2 2007	22368	34188	28104	18765	25985	24088					95221
Q3 2007	22927	34211	28000	18571	25672	23715		50469	54143	49543	95170
Q4 2007	23182	32656	30221	19522	24092	23812	4656	49785	54351	47323	97017
Q1 2008	22224	28919	28500	18999	24194	23533	5091		53896	46307	93917
Q2 2008	22387	32998	29356	18712	25991	24492	5381	50530	54794	49132	96445
Q3 2008	21086	33455	29399	18326	25739	23692	4756	50576	50460	49706	94550
Q4 2008	21798	32379	30712	18887	26119	24447	4994		50780	50927	97514
Q1 2009	20429	30323	28096	17909	24769	22915	5285		50301	48656	91203
Q2 2009		32578	28961	18782	25556	22688	5853	47179	54373	47610	
Q3 2009		33991	29154	18680	25932	21286	6097	39270	56522	43327	
% change compared to same quarter previous year											
Q2 2007	-2.9	49.9	0.0	1.0	-1.5	-0.8					-0.9
Q3 2007	-1.1	50.7	-0.7	-0.4	-0.2						-0.6
Q4 2007	-3.2	28.7	4.4	2.0	-4.6						-0.3
Q1 2008	-0.6	-3.5	3.1	-0.8	-4.3		75.4				-0.5
Q2 2008	0.1	-3.5	4.5	-0.3	0.0	1.7					1.3
Q3 2008	-8.0	-2.2	5.0	-1.3	0.3	-0.1		0.2	-6.8	0.3	-0.7
Q4 2008	-6.0	-0.8	1.6	-3.3	8.4	2.7	7.3		-6.6	7.6	0.5
Q1 2009	-8.1	4.9	-1.4	-5.7	2.4	-2.6	3.8		-6.7	5.1	-2.9
Q2 2009		-1.3	-1.3	0.4	-1.7	-7.4	8.8	-6.6	-0.8	-3.1	
Q3 2009		1.6	-0.8	1.9	0.7	-10.2	28.2	-22.4	12.0	-12.8	

Notes: Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Orange shading indicates that the value was affected by roadworks. Data given are the average 24-hour figures for the quarter.

Table 17.22: Urban screenline car counts in Peterborough

	Westfield Road	Mayors Walk	A1179 Thorpe Road	A605 Oundle Road	A15 - London Road	Fletton High St	A15 Town Bridge	Totals
2004	13,374	5,514	16,046	9,434	6,405	5,291	25,249	81,353
2005	13,308	5,834	16,222	9,635	6,031	5,581	23,483	80,094
2006	13300	5522	16391	8089	4998	5574	19792	73,666
2007	13872	5593	15538	9330	5339	5193	21391	76,256
2008	14,284	5,440	16,293	8,102	5,867	5,159	20,533	75,678
2009	14,309	5,450	16,321	8,116	5,877	5,168	21,968	77,210
% change compared to preceding year								
2005	-0.5	5.8	1.1	2.1	-5.8	5.5	-7.0	-1.5
2006	-0.1	-5.3	1.0	-16.0	-17.1	-0.1	-15.7	-8.0
2007	4.3	1.3	-5.2	15.3	6.8	-6.8	8.1	3.5
2008	3.0	-2.7	4.9	-13.2	9.9	-0.7	-4.0	-0.8
2009	0.2	0.2	0.2	0.2	0.2	0.2	7.0	2.0
Index compared to 2004								
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2005	99.5	105.8	101.1	102.1	94.2	105.5	93.0	98.5
2006	99.4	100.1	102.2	85.7	78.0	105.3	78.4	90.6
2007	103.7	101.4	96.8	98.9	83.4	98.1	84.7	93.7
2008	106.8	98.7	101.5	85.9	91.6	97.5	81.3	93.0
2009	107.0	98.8	101.7	86.0	91.8	97.7	87.0	94.9

Notes: Pale blue indicates traffic reduction. Darker blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004. Stronger green indicates that traffic levels were 10% or more below levels in 2004.

Table 17.23: New city screenline car counts in Peterborough

	Lincoln Road	Park Road	Broadway	Eastfield Road	Bishops Road	Total
2005	13997	7176	2029	7136	6083	36421
2006	12116	6729	2095	8143	5805	34888
2007	13516	6997	1838	8423	5699	36473
2008	11828	6231	1909	7698	5385	33051
% change compared to previous year						
2006	-13.4	-6.2	3.3	14.1	-4.6	-4.2
2007	11.6	4.0	-12.3	3.4	-1.8	4.5
2008	-12.5	-10.9	3.9	-8.6	-5.5	-9.4
Index compared to 2005						
2005	100.0	100.0	100.0	100.0	100.0	100.0
2006	86.6	93.8	103.3	114.1	95.4	95.8
2007	96.6	97.5	90.6	118.0	93.7	100.1
2008	84.5	86.8	94.1	107.9	88.5	90.7

Notes: Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004. Stronger green indicates that traffic levels were 10% or more below levels in 2004.

Table 17.24: Minor road manual count car and taxi data from the NRTE in Peterborough

	Fulbridge Road	Orton Goldhay	Shrews -bury Avenue	Bretton Way	Star Road	Coneygee Road	Donaldson Drive	Wistow Way	Hartwell Way	Bretton Parkway	Thorpe Road	Eye Road	David's Lane	St Margaret's Road	Exeter Road	Sum of 7 counters	Sum of 15 counters
Date	Jun	Sep/Oct	Jul	Jun/Jul	Apr	May	Apr/May	Jun	Jul	Apr	Mar/Apr	Sep	Jul/Sep	Aug/Sep	May/Jun		
2000									1503	6260	3563	2765	4466	240	1264	20061	
2001									1493	5275	3483	3033	4785	219	1261	19549	
2002									1451	5086	2810	3068	5258	264	1196	19133	
2003	5993	260	5940	5767	1743	4129	515	1132	1457	5537	2850	2833	5738	304	1294	20013	45492
2004	6225	264	6259	5891	1776	4295	485	1195	1590	5452	3003	3287	5337	552	1210	20431	46821
2005	6093	231	6842	7704	1712	4243	442	1073	1588	7666	3204	4034	5879	453	1351	24175	52515
2006	6034	285	6446	5661	1586	3792	487	989	1520	5402	3100	2324	5593	457	1450	19846	45126
2007	6373	238	6262	6098	1850	4030	484	979	1571	5007	3184	2398	5400	656	1261	19477	45791
2008	5882	317	6338	5833	1574	3960	471	978	2216	5146	3672	2439	5358	674	1511	21016	46369
% change compared to preceding year																	
2001									-0 7	-15 7	-2 2	9 7	7 1	-8 8	-0 2	-2 6	
2002									-2 8	-3 6	-19 3	1 2	9 9	20 5	-5 2	-2 1	
2003									0 4	8 9	1 4	-7 7	9 1	15 2	8 2	4 6	
2004	3 9	1 5	5 4	2 2	1 9	4 0	-5 8	5 6	9 1	-1 5	5 4	16 0	-7 0	81 6	-6 5	2 1	2 9
2005	-2 1	-12 5	9 3	30 8	-3 6	-1 2	-8 9	-10 2	-0 1	40 6	6 7	22 7	10 2	-17 9	11 7	18 3	12 2
2006	-1 0	23 4	-5 8	-26 5	-7 4	-10 6	10 2	-7 8	-4 3	-29 5	-3 2	-42 4	-4 9	0 9	7 3	-17 9	-14 1
2007	5 6	-16 5	-2 9	7 7	16 6	6 3	-0 6	-1 0	3 4	-7 3	2 7	3 2	-3 5	43 5	-13 0	-1 9	1 5
2008	-7 7	33 2	1 2	-4 3	-14 9	-1 7	-2 7	-0 1	41 1	2 8	15 3	1 7	-0 8	2 7	19 8	7 9	1 3

Table 17.24 (continued): Minor road manual count car and taxi data from the NRTE in Peterborough

	Fulbridge Road	Orton Goldhay	Shrews -bury Avenue	Bretton Way	Star Road	Coneygee Road	Donaldson Drive	Wistow Way	Hartwell Way	Bretton Parkway	Thorpe Road	Eye Road	David's Lane	St Margaret's Road	Exeter Road	Sum of 7 counters	Sum of 15 counters
Index compared to 2004																	
2000									94 5	114 8	118 6	84 1	83 7	43 5	104 5	98 2	
2001									93 9	96 8	116 0	92 3	89 7	39 7	104 2	95 7	
2002									91 3	93 3	93 6	93 3	98 5	47 8	98 8	93 6	
2003	96 3	98 5	94 9	97 9	98 1	96 1	106 2	94 7	91 6	101 6	94 9	86 2	107 5	55 1	106 9	98 0	97 2
2004	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0
2005	97 9	87 5	109 3	130 8	96 4	98 8	91 1	89 8	99 9	140 6	106 7	122 7	110 2	82 1	111 7	118 3	112 2
2006	96 9	108 0	103 0	96 1	89 3	88 3	100 4	82 8	95 6	99 1	103 2	70 7	104 8	82 8	119 8	97 1	96 4
2007	102 4	90 2	100 0	103 5	104 2	93 8	99 8	81 9	98 8	91 8	106 0	73 0	101 2	118 8	104 2	95 3	97 8
2008	94 5	120 1	101 3	99 0	88 6	92 2	97 1	81 8	139 4	94 4	122 3	74 2	100 4	122 1	124 9	102 9	99 0

Notes: The seven counters total is for those with data from 2000. The 15 counters total is for those with data from 2003 onwards. Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004. Stronger green indicates that traffic levels were 10% or more below levels in 2004. Orange shading indicates values that appear to be particularly anomalous.

Table 17.25: Major road manual count car and taxi data from the NRTE (1) in Peterborough

	A15 (a)	Thorpe Road	Nene Parkway	A15 (b)	Bourges Boulevard	A1260	A1139 (a)	Soke Parkway	Frank Perkins Parkway	Lincoln Road	4 counters total
2000		14542.0		8357.0	30340.0		37200.0	23822.0	27814.0		119176
2001	9568.0		24790.0	9046.0	31011.0	25654.0	35549.0	26792.0	28764.0		122116
2002	10397.5		26621.5	8679.5	31682.0	25926.0	37616.0	26854.0	27677.0	22140.0	123829
2003	11227.0	15825.0	28453.0	8313.0	29927.5	26198.0	39683.0	28313.0	27996.0	23366.0	125919.5
2004	11210.0	15184.0	27710.0	8777.0	28173.0	25047.5	37784.0	28295.0	26458.0	24592.0	120710
2005	11193.0	14543.0	26967.0	8884.0	28092.0	23897.0	38407.0	26738.0	29243.0	23286.5	122480
2006	11545.5	14247.5	27378.5	8730.5	28011.0	25128.5	37592.0	30007.0	34120.0	21981.0	129730
2007	11898.0	13952.0	27790.0	8577.0	28135.0	26360.0	35837.0	28530.0	31494.0	22306.5	123996
2008					28259.0		37874.0	31644.0	18771.0	22632.0	116548
2001				8.2	2.2		-4.4	12.5	3.4		2.5
2002	8.7		7.4	-4.1	2.2	1.1	5.8	0.2	-3.8		1.4
2003	8.0		6.9	-4.2	-5.5	1.0	5.5	5.4	1.2	5.5	1.7
2004	-0.2	-4.1	-2.6	5.6	-5.9	-4.4	-4.8	-0.1	-5.5	5.2	-4.1
2005	-0.2	-4.2	-2.7	1.2	-0.3	-4.6	1.6	-5.5	10.5	-5.3	1.5
2006	3.1	-2.0	1.5	-1.7	-0.3	5.2	-2.1	12.2	16.7	-5.6	5.9
2007	3.1	-2.1	1.5	-1.8	0.4	4.9	-4.7	-4.9	-7.7	1.5	-4.4
2008					0.4		5.7	10.9	-40.4	1.5	-6.0
2000		95.8		95.2	107.7		98.5	84.2	105.1		98.7
2001	85.4		89.5	103.1	110.1	102.4	94.1	94.7	108.7		101.2
2002	92.8		96.1	98.9	112.5	103.5	99.6	94.9	104.6	90.0	102.6
2003	100.2	104.2	102.7	94.7	106.2	104.6	105.0	100.1	105.8	95.0	104.3
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2005	99.8	95.8	97.3	101.2	99.7	95.4	101.6	94.5	110.5	94.7	101.5
2006	103.0	93.8	98.8	99.5	99.4	100.3	99.5	106.1	129.0	89.4	107.5
2007	106.1	91.9	100.3	97.7	99.9	105.2	94.8	100.8	119.0	90.7	102.7
2008					100.3		100.2	111.8	70.9	92.0	96.6

Notes: The four counters total is for those with data from 2000. Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004. Stronger green indicates that traffic levels were 10% or more below levels in 2004.

Table 17.26: Major road manual count car and taxi data from the NRTE (2) in Peterborough

Road Name at CP	Paston Parkway	Oundle Road	Fletton Parkway (a)	Whittlesey Road	Fletton Parkway (b)	Soke Parkway (a)	A47 (a)	A1139 (b)	A605	Fletton Parkway (c)	Fletton Parkway (d)	A47 (b)	A47 (c)
2000			24846.0										
2001	17177.0	10399.0											
2002						22638.0							
2003				10934.0									
2004	18044.0	9711.0	28680.0	10789.5									
2005			29214.0	10645.0	25230.0	23120.0	1454.0	4863.0	8641.0	24223.0	33138.0	17268.0	1467.0
2006			29748.0	11375.0	23076.0	24602.3	1297.0	6128.0	9582.0	22827.0	33972.0	15128.0	1275.0
2007					23687.0	26084.7				23946.5	28532.0		
2008	20275.0	10719.0			20522.0	27567.0				25066.0	34351.0		
% change compared with the preceding year													
2002													
2003													
2004				-1.3									
2005			1.9	-1.3									
2006			1.8	6.9	-8.5	6.4	-10.8	26.0	10.9	-5.8	2.5	-12.4	-13.1
2007					2.6	6.0				4.9	-16.0		
2008					-13.4	5.7				4.7	20.4		
Index compared with 2004													
2000			86.6										
2001	95.2	107.1											
2002													
2003				101.3									
2004	100.0	100.0	100.0	100.0									
2005			101.9	98.7									
2006			103.7	105.4									
2007													
2008	112.4	110.4											

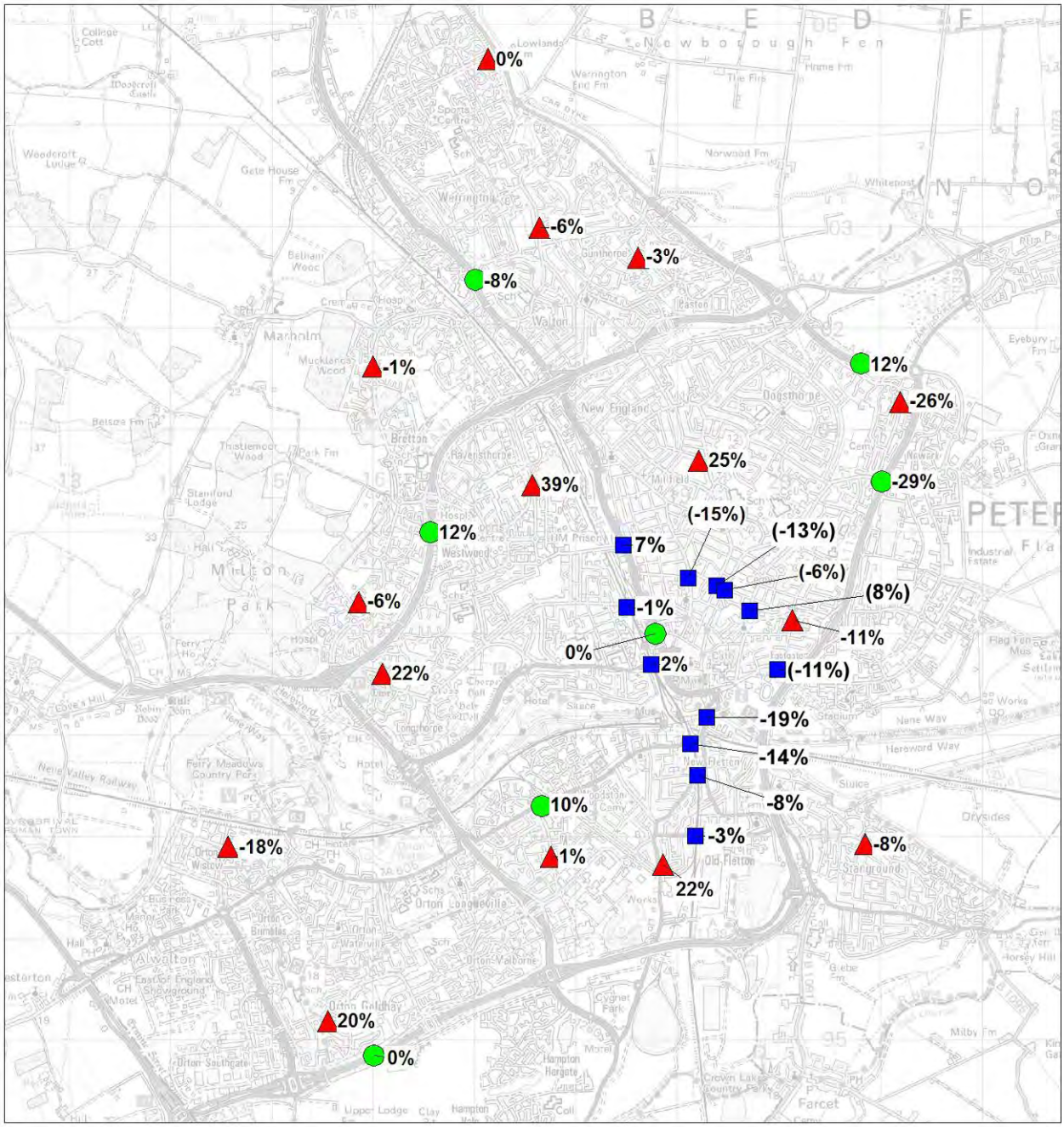
Notes: Data in red are interpolated figures. Dates of counts are not given, as these are variable between years. Pale blue indicates traffic reduction. Stronger blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004. Stronger green indicates that traffic levels were 10% or more lower than levels in 2004.

Table 17.27: Generating an index of changes in flows recorded at the major road manual count sites in Peterborough, using all sites with available data

	1st year	2nd year	Number of sites	% change
2004-2005	272700	271109.5	12	-0.6
2004-2006	272700	268489.5	12	-1.5
2004-2007	233230.5	234879.5	10	0.7
2004-2008	173057	170174	7	-1.7
2005-2008	251477.5	246686	9	-1.9

Note: These data imply that, compared to an index of 100 in 2004, relevant indices for following years were 99.4 (2005), 98.5 (2006), 100.7 (2007) and 98.3 (2008).

Figure 17.20: Map of percentage changes in traffic between 2004 and 2008 in Peterborough



Notes: Yellow stars represent automatic traffic counter sites – data are the average for May to August.
Blue squares are the screenline counts. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites.

Figure 17.21: Data for automatic traffic counters in Peterborough

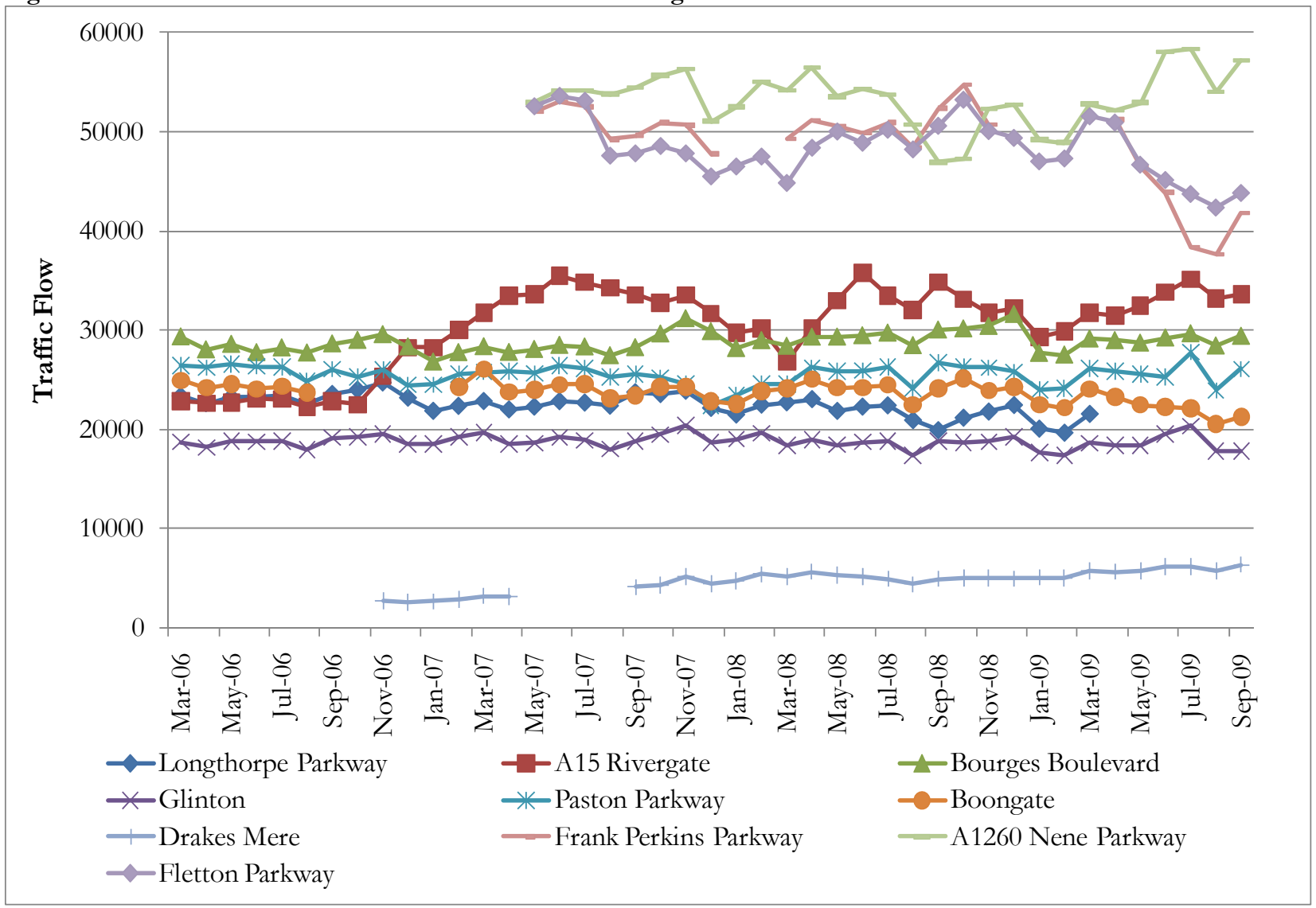
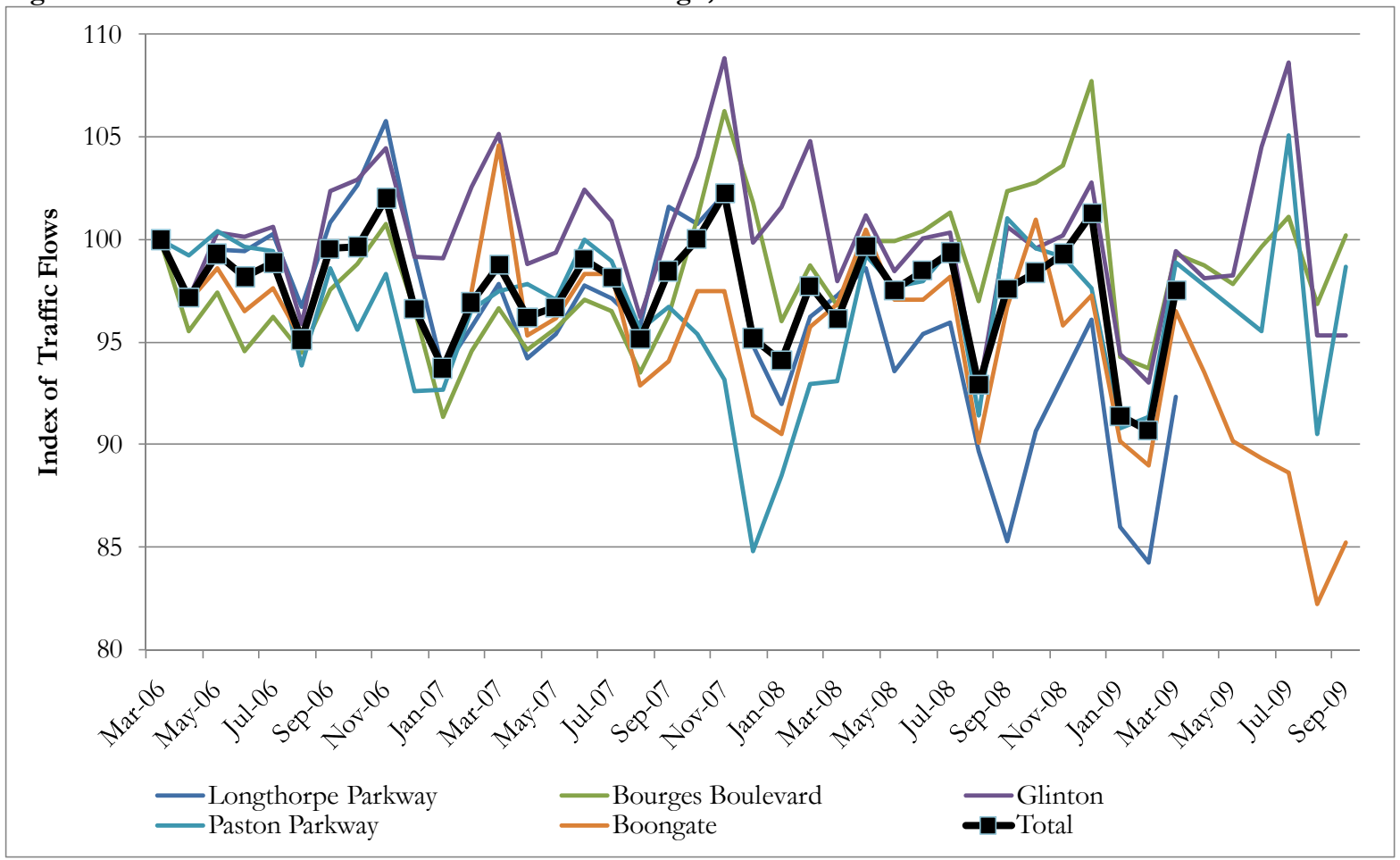
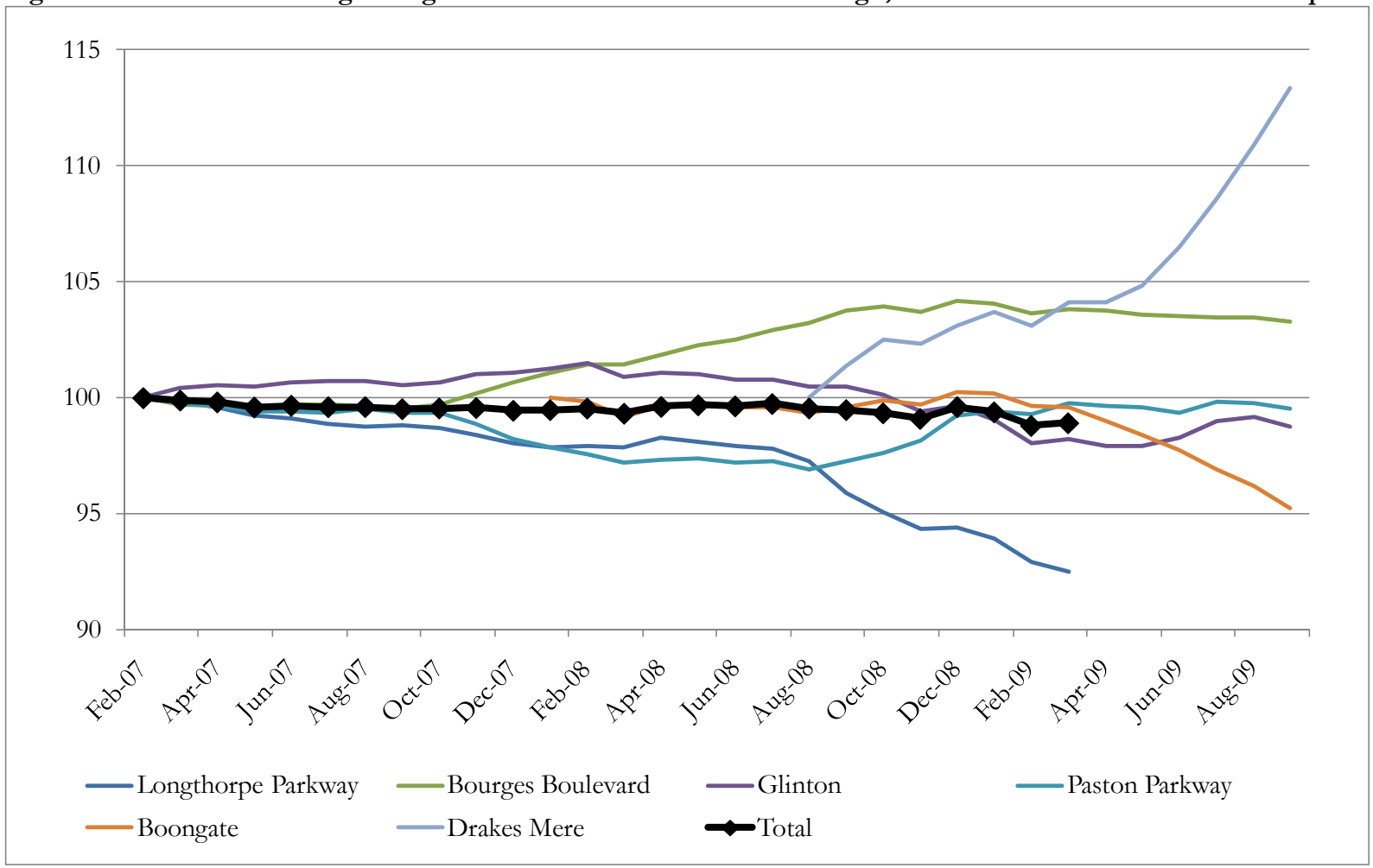


Figure 17.22: Data for individual counters in Peterborough, indexed to earliest month of available data



Notes: Counters affected by roadworks (A15 Rivergate, Frank Perkins Parkway, A1260 Nene Parkway and Fletton Parkway) have been excluded. Data from Drakes Mere, an area of population growth, have also been excluded given the substantial increase in flows recorded at this counter, which, if plotted, make it difficult to see the trends occurring at any of the others. The 'total' series gives the sum of the results for Longthorpe Parkway, Bourges Boulevard, Glinton and Paston Parkway.

Figure 17.23: 12-month rolling average traffic counter data for Peterborough, indexed to first available 12-month period of data



Notes: Counters affected by roadworks (A15 Rivergate, Frank Perkins Parkway, A1260 Nene Parkway and Fletton Parkway) have been excluded. The 'total' series gives the sum of the results for Longthorpe Parkway, Bourges Boulevard, Glinton and Paston Parkway.

Figure 17.24: Urban and new city screenline totals over time in Peterborough

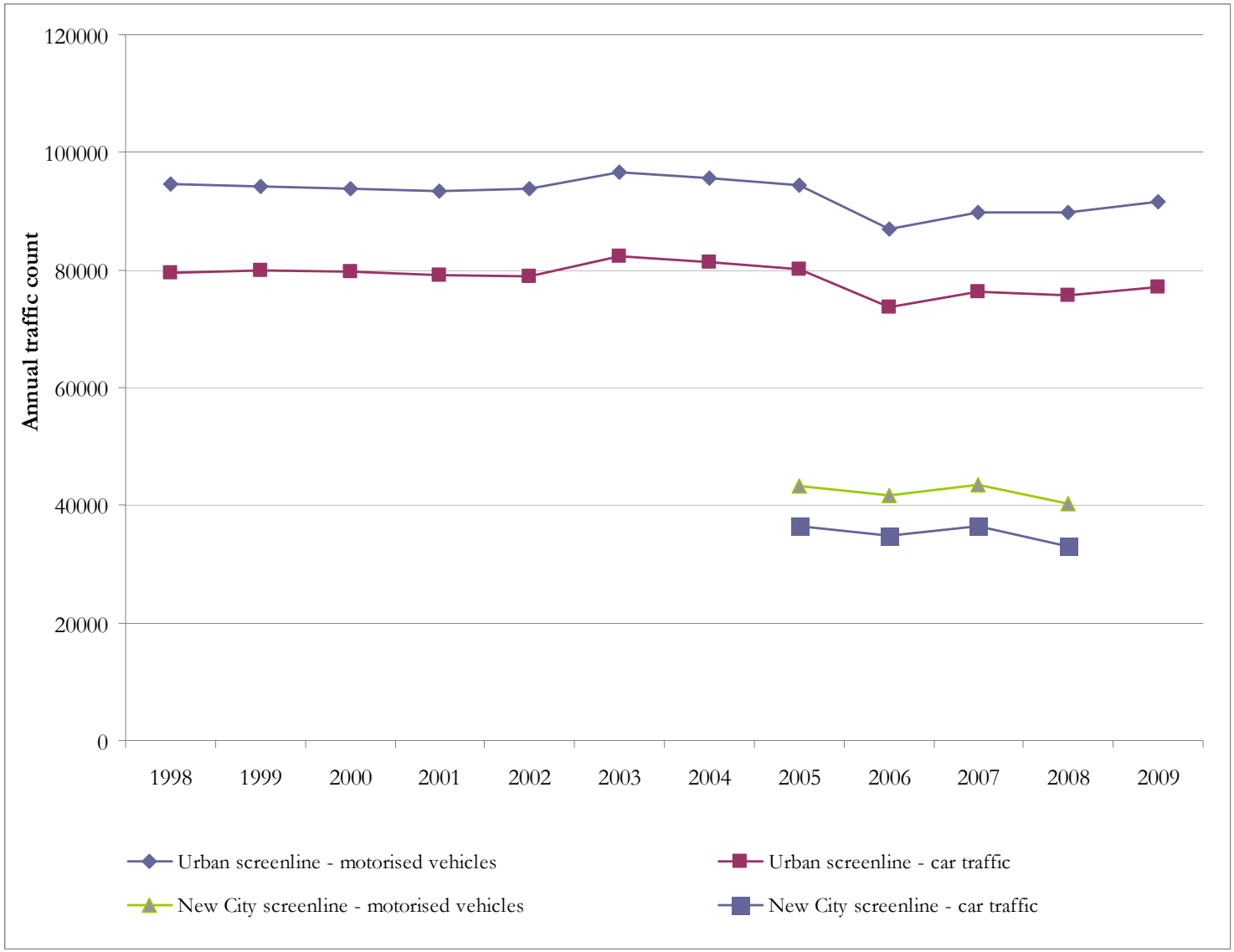


Figure 17.25: Results for individual car counts from the urban and new city screenlines in Peterborough

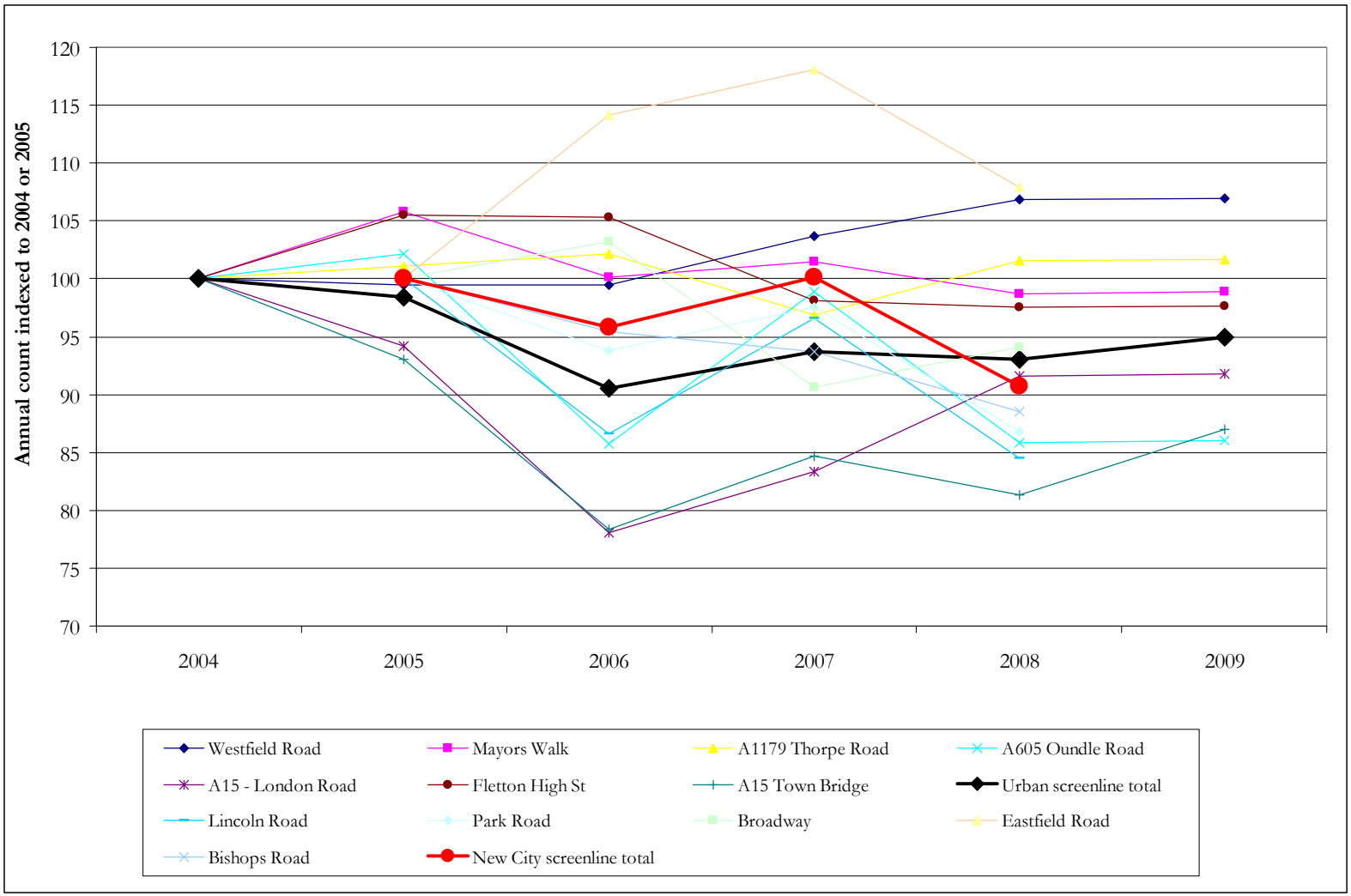
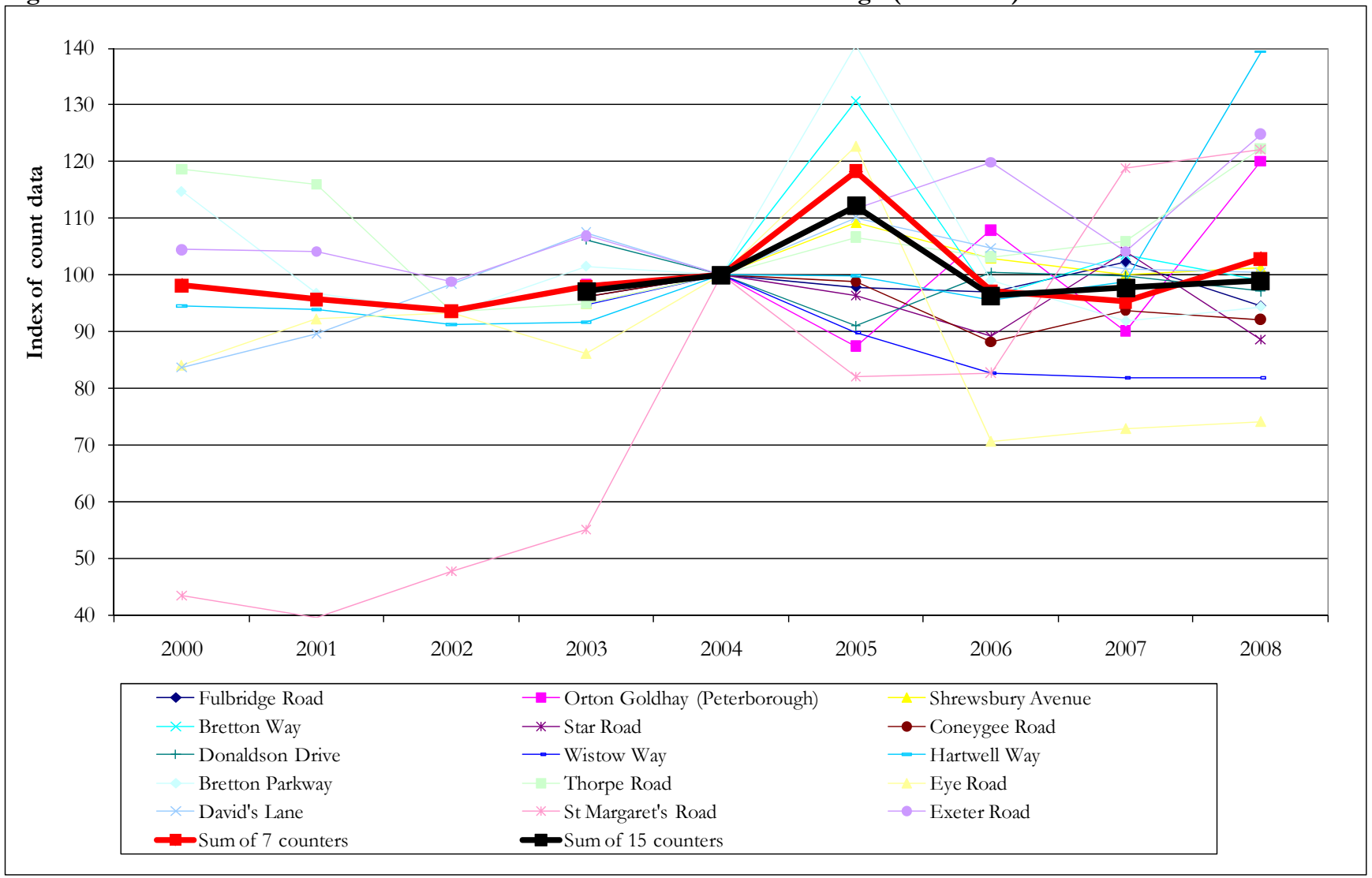
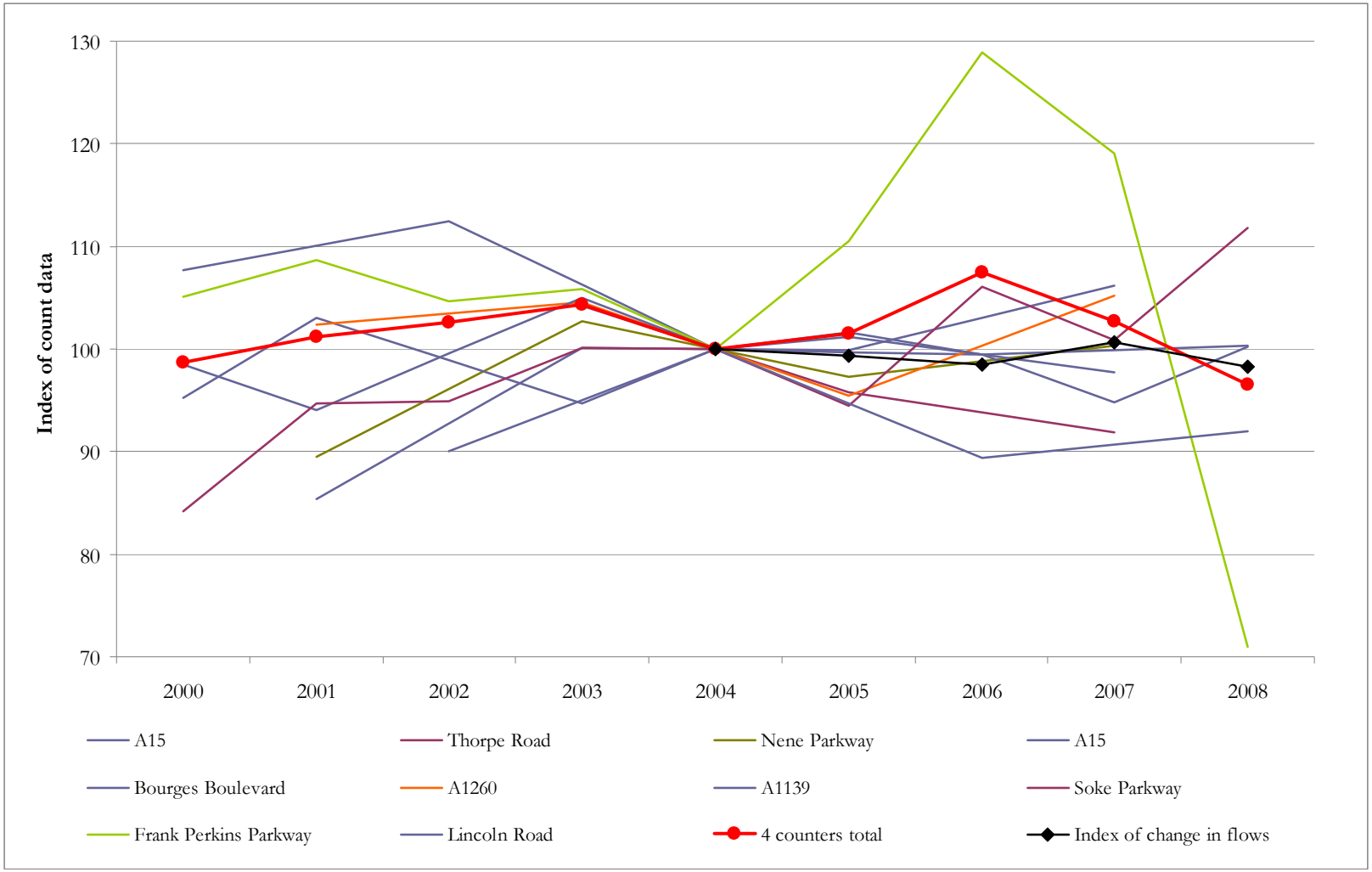


Figure 17.26: Index of minor road manual count car and taxi data for Peterborough (2004 = 100)



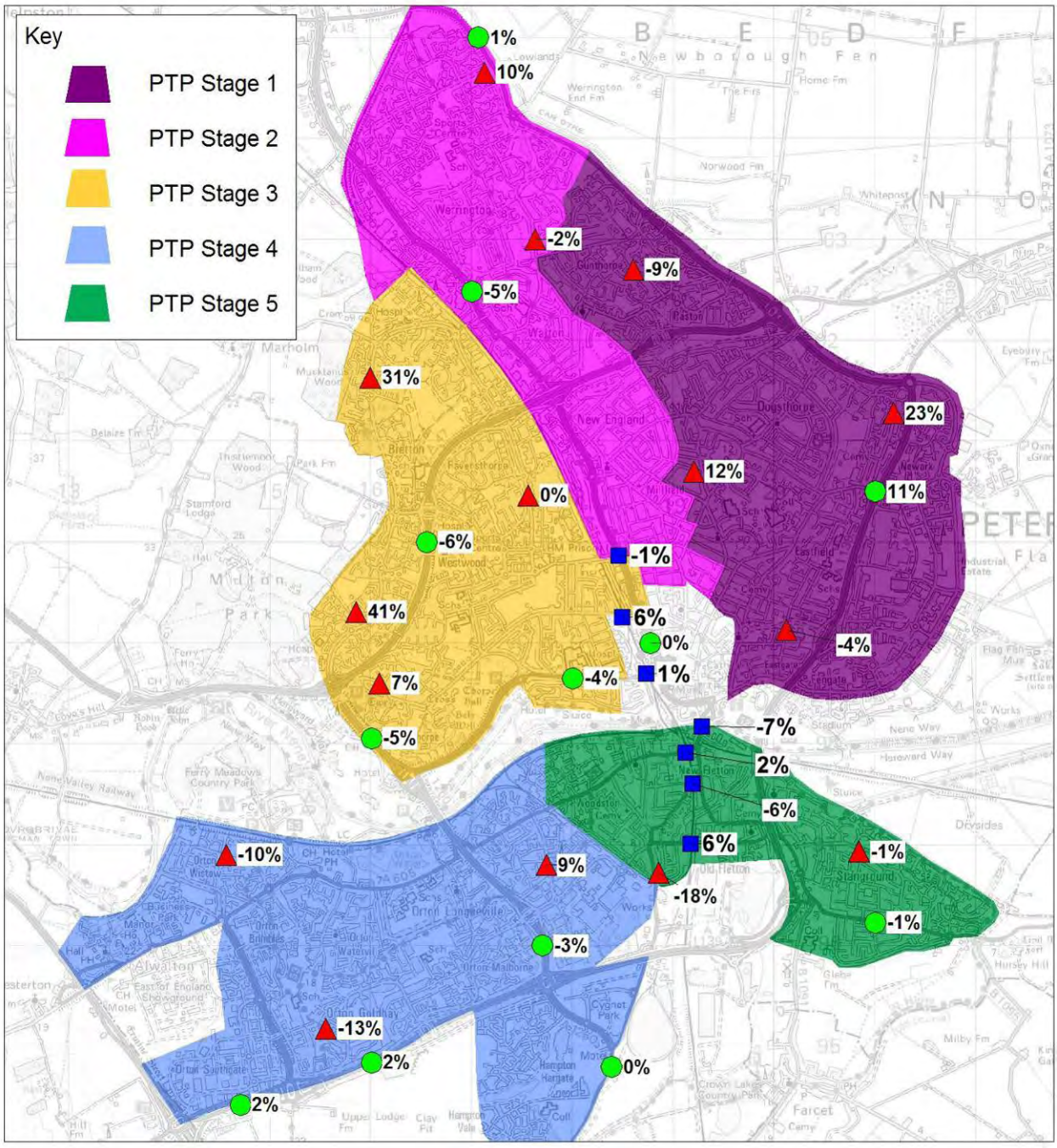
Note: St Margarets Road has relatively low traffic volumes, and several of the counts have anomalous values for 2005. This graph should be considered indicative, being based on manual counts which take place on a single day each year and are therefore less reliable than automatic counts

Figure 17.27: Index of major road manual count car and taxi data for Peterborough (2004 = 100)



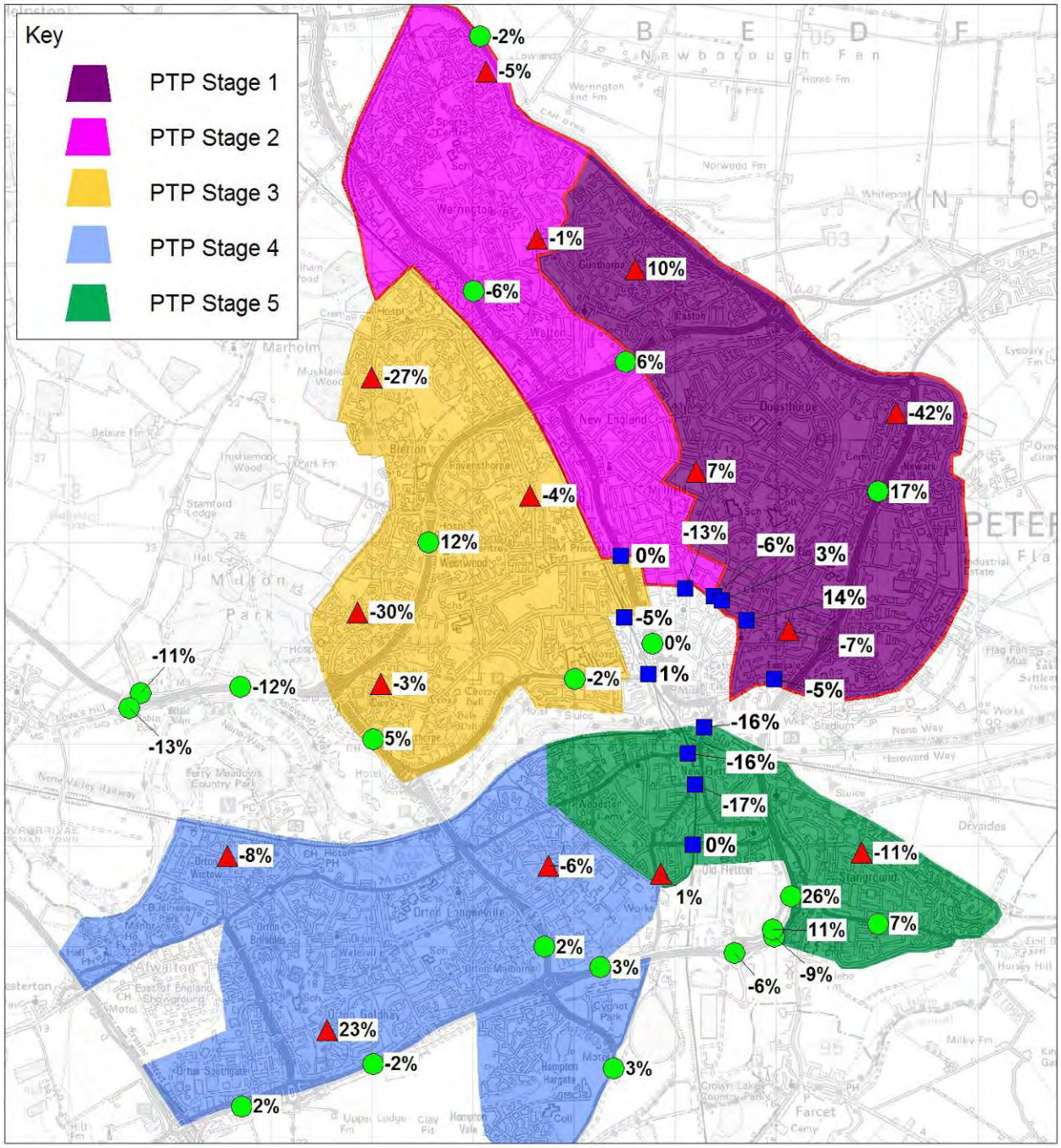
Note: Only sites with a relatively continuous series are displayed on this graph, though data from all relevant sites has been used to generate the index of change in flows. This graph should be considered indicative, being based on manual counts which take place on a single day each year and are therefore less reliable than automatic counts

Figure 17.28: Map of changes in traffic in Peterborough, 2004-2005, with personal travel planning areas marked



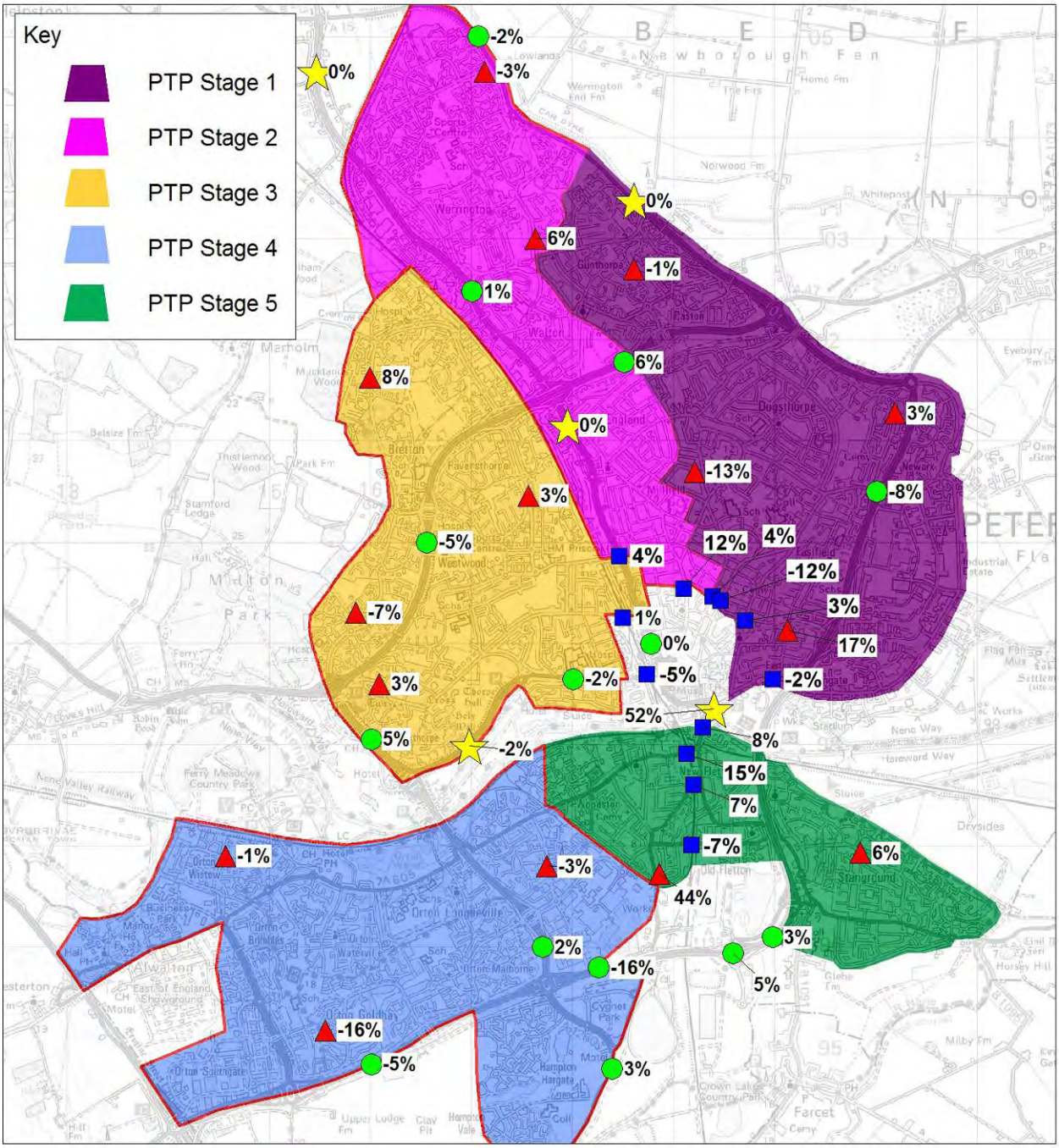
Note: Yellow stars represent automatic traffic counter sites – data are the average for May to August. Blue squares represent the screenline count sites. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites. At the end of this time period, personal travel planning was just beginning in the Phase 1 area.

Figure 17.29: Map of changes in traffic in Peterborough, 2005-2006, with personal travel planning areas marked



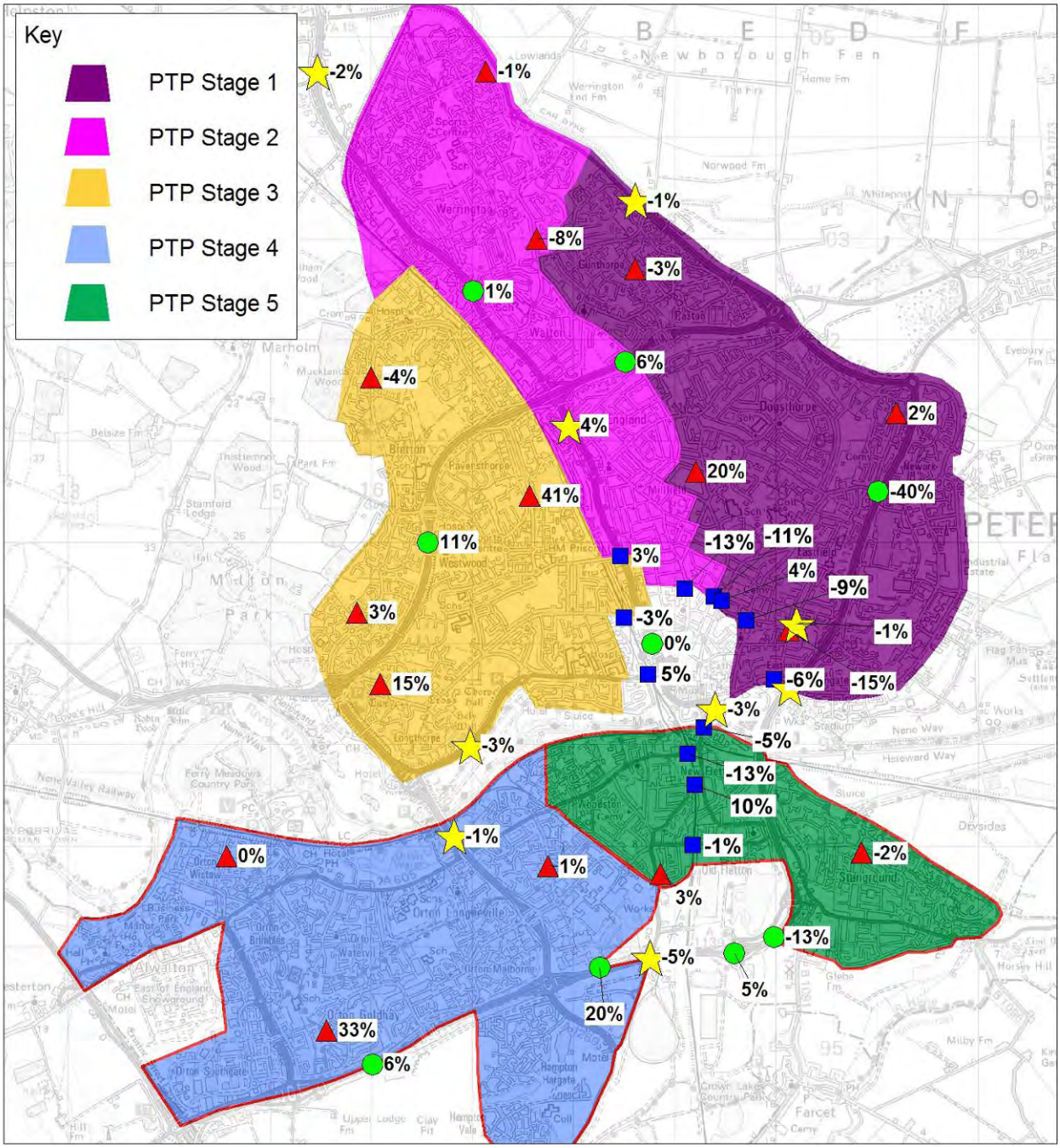
Notes: Yellow stars represent automatic traffic counter sites – data are the average for May to August. Blue squares represent the screenline count sites. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites. Over this time period, changes expected from personal travel planning would have occurred in the Phase 1 and 2 areas.

Figure 17.30: Map of changes in traffic in Peterborough, 2006-2007, with personal travel planning areas marked



Notes: Yellow stars represent automatic traffic counter sites – data are the average for May to August. Blue squares represent the screenline count sites. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites. Over this time period, changes expected from personal travel planning would have occurred in the Phase 2, 3 and 4 areas.

Figure 17.31: Map of changes in traffic in Peterborough, 2007-2008, with personal travel planning areas marked



Note: Yellow stars represent automatic traffic counter sites – data are the average for May to August. Blue squares represent the screenline count sites. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites. Over this time period, changes expected from personal travel planning would have occurred in the Phase 4 and 5 areas.

Table 17.28: Changes in population in Peterborough urban wards

	2004	2005	2006	2007	% change	Numeric change
Bretton North	9,390	9,340	9,450	9,520	1.4	130
Bretton South	3,150	3,150	3,190	3,220	2.2	70
Central	9,100	9,530	9,740	9,860	8.4	760
Dogsthorpe	9,170	9,230	9,330	9,370	2.2	200
East	8,670	8,920	9,130	9,570	10.4	900
Fletton	8,280	8,890	9,400	9,790	18.2	1,510
North	5,160	5,170	5,240	5,370	4.1	210
Orton Longueville	10,390	10,450	10,550	10,430	0.4	40
Orton Waterville	8,150	8,160	8,360	8,420	3.3	270
Orton with Hampton	5,710	6,620	7,280	8,420	47.5	2,710
Park	8,200	8,310	8,530	8,810	7.4	610
Paston	8,120	8,130	8,170	8,250	1.6	130
Ravensthorpe	7,030	7,170	7,310	7,530	7.1	500
Stanground Central	8,480	8,430	8,560	8,620	1.7	140
Stanground East	3,120	3,150	3,150	3,150	1.0	30
Walton	5,500	5,460	5,520	5,440	-1.1	-60
Werrington North	7,930	7,860	7,880	7,910	-0.3	-20
Werrington South	6,630	6,690	6,810	6,820	2.9	190
West	8,360	8,420	8,560	8,590	2.8	230
Peterborough Urban Area	**140,540**	**143,080**	**146,160**	**149,090**	**6.1**	**8,550**

Note: Yellow highlighting indicates wards where population increased by 5% or more.

Figure 17.32: Changes in Peterborough's population compared to the trend at the urban screenline

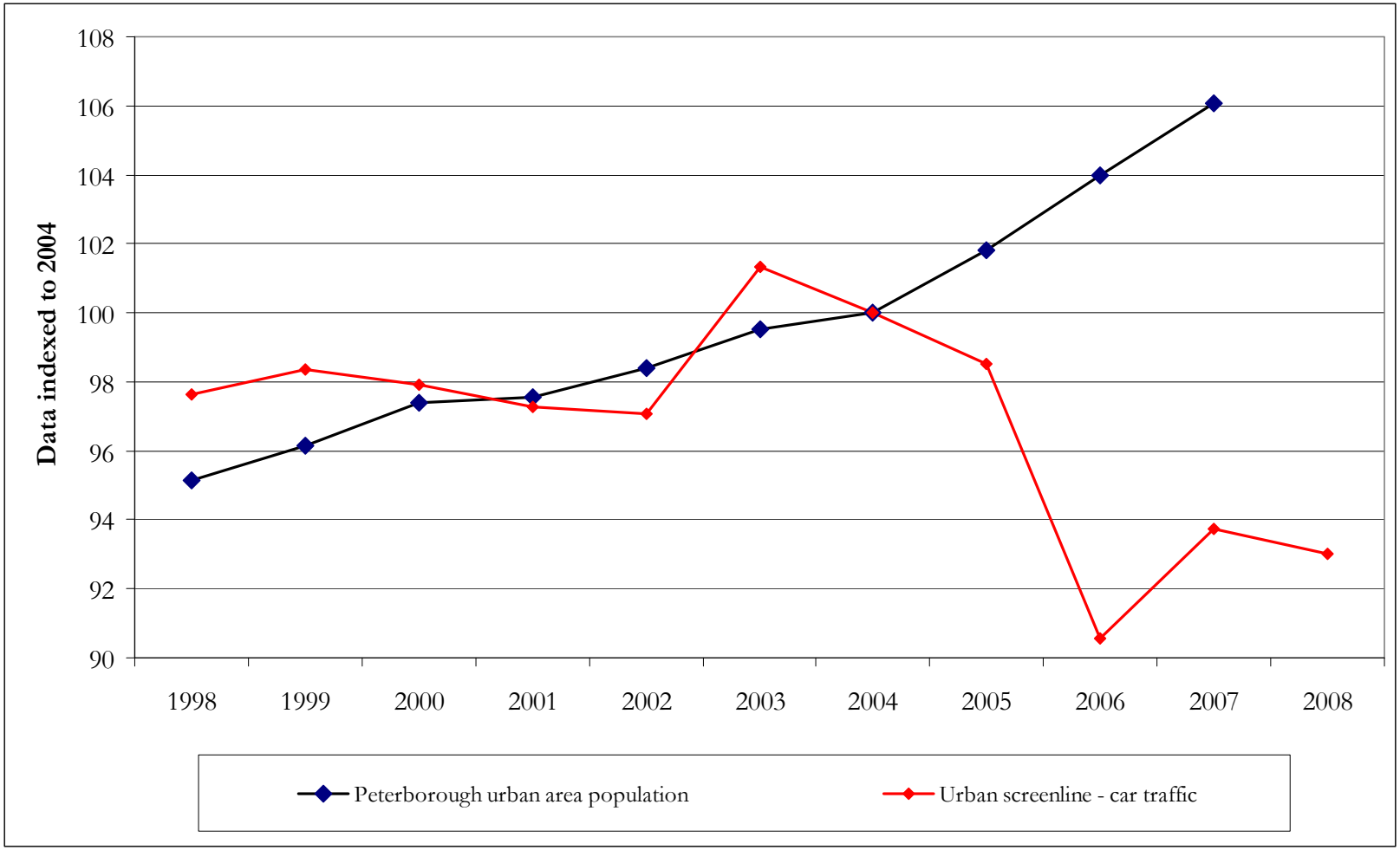
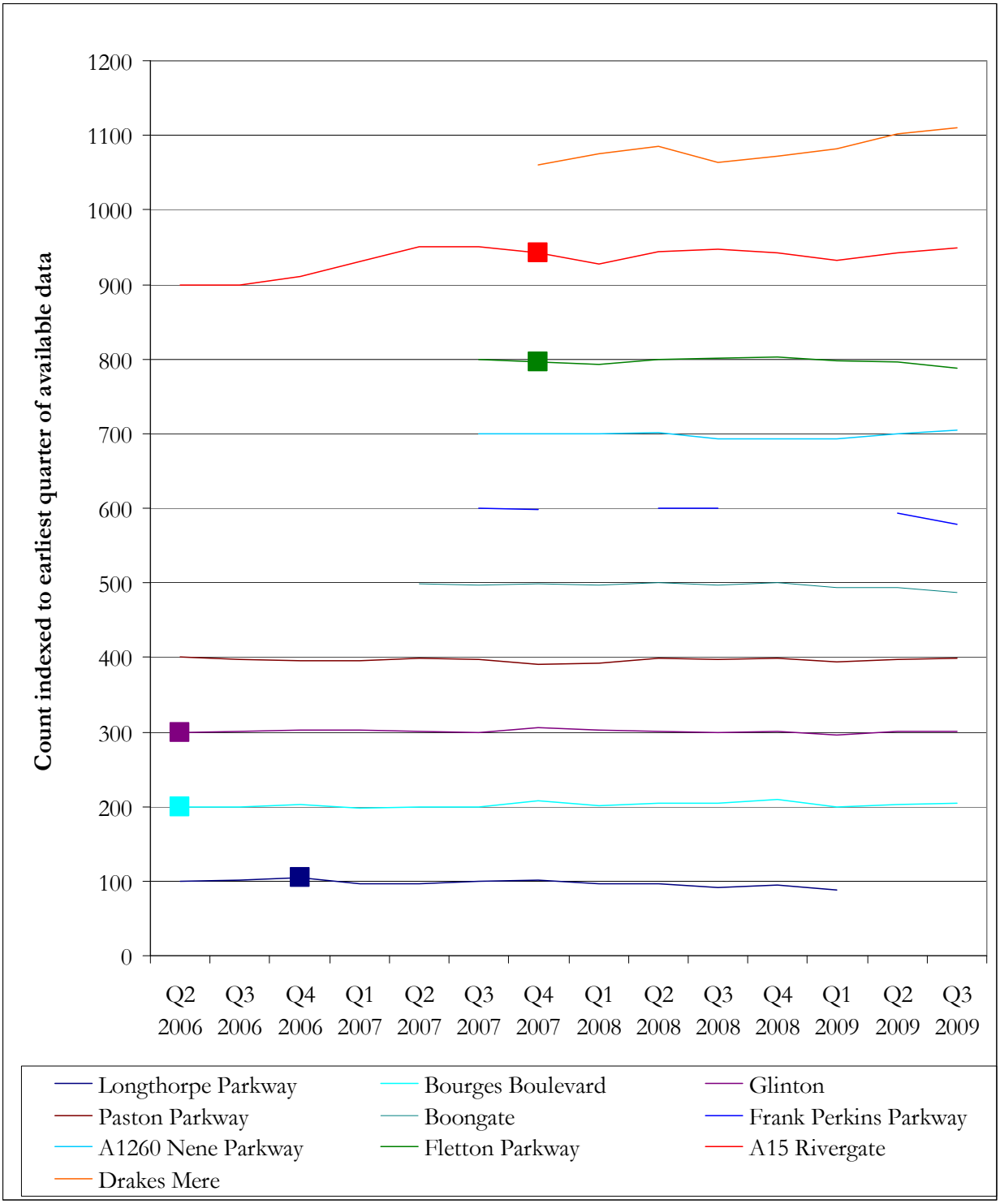


Table 17.29: Analysis of automatic traffic counter quarters data in Peterborough in relation to personal travel planning effects

	Change in quarter compared to the preceding quarter		Change in following quarter		Change in the same quarter in following year	
	Target	*Control*	*Target*	*Control*	*Target*	*Control*
Phase 2 (Q2 2006)	n/a	n/a	+0.3%	-0.8%	+0.4%	+6.4%
Phase 3 (Q4 2006)	+3.3%	+3.6%	-6.7%	+3.4%	-3.2%	+7.9%
Phase 5 (Q4 2007)	-4.5%	+1.9%	-5.9%	-3.2%	+4.2%	+0.5%

Notes: For Phase 2, target counters were taken as Bourges Boulevard and Glinton, whilst Longthorpe Parkway, Rivergate and Paston Parkway were used for the control. For Phase 3, target counter was taken as Longthorpe Parkway, whilst Bourges Boulevard, Glinton, Rivergate and Paston Parkway were used for the control. For Phase 5, target counters were taken as Fletton Parkway and Rivergate, whilst Longthorpe Parkway, Bourges Boulevard, Glinton, and Paston Parkway were used for the control. Green shading indicates where the target area has experienced less traffic growth – or more traffic decline – than the control area. Unlike in other analyses, it has not been possible to look at the change in the quarter when personal travel planning took place compared to the same quarter in the preceding year, since the data were not available for Phases 2 and 3, and the only site where this would have been relevant for Phase 5 (Rivergate) was substantially affected by the completion of roadworks.

Figure 17.33: Indices of Peterborough traffic counter data by quarter, referenced to first quarter of available data



Note: Large squares show periods when personal travel planning took place in the area of the traffic counter.

Table 17.30: Analysis of manual car count data in Peterborough in relation to personal travel planning areas

Personal travel planning phase	Sites in target area	Period of change	% change at target sites	% change at other sites
Screenline data				
1 (Sep-Dec 05)	Park Road, Broadway, Eastfield Road, Bishops Road	2005 to 2006	+1.6	-8.8
2 (Apr-Jul 06)	Westfield Road, Lincoln Road, Park Road	2005 to 2006	-6.8	-6.9
		2006 to 2007	+7.0	+2.5
3 (Sep-Dec 06)	Westfield Road, Mayors Walk	2006 to 2007	+3.4	+3.9
4 (Apr-Aug 07)	n/a	2006 to 2007	n/a	n/a
5 (Sep-Dec 07)	Town Bridge, Oundle Road, London Road, Fletton High Street	2007 to 2008	-3.9	-3.4
NRTE minor roads				
1 (Sep-Dec 05)	Star Road, Exeter Road, Donaldson Drive, Eye Road	2005 to 2006	-22.4	-12.7
2 (Apr-Jul 06)	Fulbridge Road, David's Lane	2005 to 2006	-2.9	-17.4
		2006 to 2007	+1.3	+1.5
3 (Sep-Dec 06)	Bretton Way, Bretton Parkway, Thorpe Road, Hartwell Way	2006 to 2007	+1.1	+1.7
4 (Apr-Aug 07)	Wistow Way, Orton Goldhay, Shrewsbury Avenue	2006 to 2007	-3.1	+2.4
		2007 to 2008	+2.1	+1.1
5 (Sep-Dec 07)	St Margaret's Road, Coneygee Road	2007 to 2008	-1.1	+1.5
NRTE major roads				
1 (Sep-Dec 05)	Frank Perkins Parkway, Soke Parkway	2005 to 2006	+14.6	+0.1
2 (Apr-Jul 06)	Soke Parkway(a), Lincoln Road, A15(b)	2005 to 2006	0.0	+2.2
		2006 to 2007	+3.0	-2.0
3 (Sep-Dec 06)	Soke Parkway(b), A1260, Thorpe Road	2006 to 2007	-0.8	-1.4
4 (Apr-Aug 07)	Nene Parkway, Fletton Parkway (d), A15(a), A1139(a)	2006 to 2007	-5.8	+0.6
	Fletton Parkway (d), A1139(a)	2007 to 2008	+12.2	-13.7
5 (Sep-Dec 07)	Fletton Parkway (b)	2007 to 2008	-13.4	-8.1

Note: Green shading indicates where sites in the target area experienced less traffic growth – or more traffic decline – than those in the control area.

Table 17.31: Household travel survey results in Peterborough

	Phase 1 area	Phase 2 & 3 areas	Outside Phase 1 area	Outside Phase 1 and Phase 2/3 areas	Overall change estimate
Population	*29,894*	*54,067*	*108,106*	*54,039*	*138,000*
Car driver trips of 100km or less per person per year (unweighted data)					
Oct-04	447	460	435	428	452
Apr-06	395		441		445
Apr-07		420		433	431
Oct-08					417
Index compared with 2004					
Apr-06	88.4		101.4		98.6
Apr-07		91.3		101.2	95.4
Oct-08					92.3
Overall change in trips per person per year (unweighted data)					***-8%***
Overall change in trips per person per year (weighted data)					***-9%***
Overall change in distance per person per year (unweighted data)					***-2%***
Overall change in distance per person per year (weighted data)					***-3%***

Notes: Red lines indicate timing of personal travel planning interventions. Green shading indicates results from area immediately subsequent to personal travel planning. Blue shading indicates control area results (as specified by Socialdata & Sustrans). Overall change estimates for Autumn 2006 and Autumn 2007 are based on interpolation (and an alternative process would result in the April 2007 values being 440 and 97.3). Trips of over 100km are excluded, meaning that results are slightly different to those reported in Chapter 13. Looking only at journeys of less than 50km, the reduction in trips is approximately the same (-8% unweighted, -10% weighted). However, both unweighted and weighted data suggest higher reductions in car driver distance, of -7% and -10% respectively.

17.4 Evidence from Worcester traffic count data

17.4.1 Introduction

This chapter reports on two main sources of data: information collected from eight automatic traffic counters within the Worcester urban area, and the relevant NRTE data.

17.4.2 Nature of the data

Data from Worcestershire County Council
The main source of traffic data for Worcester comes from eight permanent traffic counters. A map, showing the location of these counters, is given in Figure 17.34. Most of the counters are on main roads, which carry a mixture of through traffic and local traffic. Seven of the counters have data from January 2004, or earlier, though these are all located around the urban perimeter. The eighth counter – New Road – is located on a central bridge into the city, but only has data from March 2005.

The full data set is given in the annex. Missing values have been interpolated, as described in section 17.1. The data given is an average 24-hour figure for each month for seven-day, two-way flows.

At Bransford Road, the 'real' values in September 2007 and July and August 2008 were artificially high, due to roadworks on a parallel street. These values have been deleted from the data set, and replaced with interpolated values, based on the previous and ensuing month.

In addition to the eight traffic counters within Worcester, there are also a number of permanent traffic counters located in Worcester's hinterland. Data from these have not been analysed for this project, since they primarily provide an indication of traffic generated by those travelling outside the town. However, data from a counter on a key commuter route between Worcester and Malvern has been obtained and analysed (specifically a counter located on the A449 at Powick). This is because the county was involved in promoting a flagship bus service (the 44) along this route. (This was part of a *Kickstart* initiative, rather than the *Choose How You Move* project, though it involved smarter choices type work.) These data are presented separately.

In addition, a peak-time city cordon survey at 20 sites was carried out in 2004 and 2005. However, due to the short time period covered by the survey, this information has not been analysed.

Data from the NRTE[19]
Minor road counts: In Worcester, there were six minor road count sites used during the study period. Of these, two sites had continuous data from 2000; four sites had continuous data from 2003; and all six sites had data that were usable with some interpolation.

[19] NRTE data used here are for 'cars and taxis', whereas all of the other data in this section are for all motorised vehicles. Examination of the 'all vehicles' NRTE data suggests that it shows a similar picture to the car and taxi data. Specifically, for the six minor road count sites, the index in 2008 (relative to 2004) is the same for 'all vehicles' and for 'cars and taxis' (106.6). The index for the five major road count sites in 2007 is nearly identical (100.0 for 'all vehicles' and 99.4 for 'cars and taxis').

Major road counts: In Worcester, there were 26 major road count sites. Eight of these had data for 2004, or 2003 and 2005 (from which a 2004 data point could be generated, assuming a linear trend between the two years). There were only five counters with continuous data between 2001 and 2007, from which a series could be generated. There were only two relevant sites with data for 2008. (The full data set is given in the annex.)

Some of the maps (Figures 17.36, 17.37, 17.47, 17.48 and 17.49) include data from both automatic counters and manual counts. For these maps, the automatic traffic counter data is for the period May to October, so as to match the period over which the minor road manual counts in Worcester were collected. Dates of counts at each minor road manual count site are given in Table 17.36. (The major road counts take place at different times in subsequent years, though all take place within neutral weeks i.e. weeks in March, April, May, June, September and October.)

In terms of contextual factors, population estimates from Worcestershire County Council indicate that the population of Worcester grew by 1.1% between 2004 and 2007 (2008 data were not available). Employment in Worcester declined by 4.2% between 2004 and 2008 according to data from the Annual Business Inquiry. (This was due to a decline of 7% between 2004 and 2005, followed by a smaller increase in employment in the period to 2008.)

There were significant roadworks on London Road between July and November 2006, and large parts of the town were affected by severe flooding in July 2007.

17.4.3 Data presentation

On subsequent pages, the following data are presented:

- Figures 17.34 and 17.35 – location maps of the automatic traffic counters and NRTE sites;
- Tables 17.34 and 17.35 – tables of changes in traffic flows for the automatic traffic counter sites, measured annually and using May-October averages;
- Table 17.36 – a table of the minor road car and taxi NRTE data;
- Table 17.37 – a table of relevant car and taxi major road NRTE data (see annex to this chapter for full data set);
- Figure 17.36 – a map showing changes in traffic between 2004 and 2008 for all sites with available data for that period;
- Figure 17.37 – a map showing changes in traffic between 2006 and 2008 for all sites with available data for that period;
- Figures 17.38 and 17.39 – graphs of the major and minor road NRTE data;
- Figure 17.40 – a graph showing data for each of the individual automatic traffic counter sites since January 1998, prior to any data interpolation;
- Figure 17.41 – a graph showing data for each of the individual automatic traffic counter sites indexed to the earliest month of available data;
- Figure 17.42 – a graph showing a 12-month rolling average index of the data from the individual automatic traffic counter sites, and the total for those sites;
- Figure 17.43 – a graph showing data about bus patronage and traffic relevant to bus route 44;
- Table 17.38 – a table of quarterly data for the individual automatic traffic counter sites;

- Figures 17.44-17.46 – different presentations of the individual automatic traffic counter data, with periods of personal travel planning activity marked;
- Table 17.39 – a table of analysis of the quarters data, as related to personal travel planning activity;
- Figures 17.47-17.49 – maps of changes in traffic flows between individual years, with personal travel planning areas marked;
- Tables 17.40 and 17.41 – results from the household travel surveys.

17.4.4 Data analysis

Overall effects on traffic

The seven automatic traffic counters in operation since 2004, located around the perimeter of Worcester, suggest that traffic levels were approximately the same in 2008/9 as in 2004/5 (Table 17.34). However, the picture is slightly more complicated than this, as may be seen in Figure 17.42. This shows that traffic grew slightly between 2004/5 and 2006/7, and then declined from 2006/7 onwards (with a reduction of -1.8% comparing 2006/7 with 2008/9 and -1.9% comparing May-October averages for 2004 and 2008). The eighth counter, located at a central bridge in Worcester (the New Road counter), recorded a change in traffic levels of -8.2% between 2005/6 (when it came into operation) and 2008/9, (or -8.1% comparing 2005 and 2008 May-October averages), suggesting that there were potentially substantial reductions in traffic in the central part of Worcester.

NRTE data from the six minor road count locations in Worcester show no clear trend either upwards or downwards (Table 17.36 and Figure 17.38).

NRTE data from five major road count locations in Worcester suggest that traffic levels grew between 2001 and 2005, but then fell from 2005 to 2007, with a reduction in the order of 2% (Table 17.37 and Figure 17.39). There was a substantial reduction at the relatively centrally located London Road site[20]. (Data for 2008 are very limited.)

We turn now to examine the data at individual sites for the period when traffic appears to have been falling. Between 2006 and 2008, more counts showed a reduction in traffic than an increase. Thus, for the 15 sites for which we have data for 2006 and 2008 (eight automatic traffic counters; six minor road count locations and one major road count location), 11 were showing a reduction in traffic over that period (using the May-October averages for the automatic traffic counter figures).

Looking at the quarterly data for both the New Road central counter, and, separately, the total for the seven peripheral automatic count sites (Table 17.38), traffic levels began falling steadily from Q1 2007, and were lower than in the same quarter in the previous year for eight of the nine following quarters. (This is particularly relevant since the reductions pre-date the major flooding in Worcester in Summer 2007 and the effects of the economic downturn, neither of which can therefore be either the only – or even the primary – cause of the overall decline in traffic levels.)

[20] The two counts from which this is deduced took place in September 2005 and July 2007. Hence, the reduction cannot be due to roadworks. It is also not attributable to flooding, given that the count was on July 6th, and the flooding began on July 20th. However, there could, of course, be a seasonal effect, partly contributing to the reduction.

Using a paired sample, one-tailed T-test on the 12 months of average traffic data for all eight automatic traffic counter sites in 2006/7 and comparing it with the 12 months of data for 2008/9 gives a p-value of .00, suggesting that there has been a statistically significant decline in traffic levels. In total, traffic fell by 2.6% over that period.

The automatic counter data can be compared with the benchmark NRTE data set, as shown in Table 17.32. Taking the whole period of the Sustainable Travel Town work, there has been little change in traffic levels around the periphery. However, this apparent picture of stability is actually comprised of a period of increase, but then a decline, which occurred significantly before the national decline in traffic. Specifically, flows recorded at the seven peripheral counters were 1.1% lower in the first nine months of 2007, compared with 2006, whilst they were 1.9% higher nationally. Comparing the first nine months of 2008 with 2006 suggests a traffic reduction of 1.9% in Worcester (as measured by all eight counters), compared with a national change of +0.1%. The overall reduction in Worcester between 2006/7 and 2008/9 was -2.6%, though some of the reduction in late 2008/early 2009 will have been due to national factors. It should also be noted that the fact that only one counter was located centrally (which was recording a much greater reduction in traffic) may mean that all calculations underestimate the actual change in Worcester traffic flows that occurred.

Table 17.32: Comparing Worcester data with national trends

	Central counter (New Road)	7 other counters (periphery)	8 counters total	NRTE urban data (all motor vehicles)
Annual totals				
2004/5	n/a	100.0	n/a	100
2008/9		100.0		99.3
Change		0		-0.7
Q1-Q3 totals				
2006	100.0	100.0	100.0	100.0
2007	97.2	98.9	98.6	101.9
2008	94.8	99.0	98.1	100.1
Change	**-5.2%**	**-1.0%**	**-1.9%**	**+0.1%**

Note: Q1-Q3 totals are used to show change in traffic levels prior to start of recession in Q4 2008

The overall picture that emerges, then, is that traffic levels in Worcester, particularly around the perimeter roads, were relatively similar at the end of the Sustainable Travel Town period to those at the beginning. However, a trend of general traffic decline appears to have begun around mid-2006 (following a period of gradual increase). Moreover, there were some substantial reductions in traffic at some centrally located sites, and at individual counters (as discussed further below).

Meanwhile, as already highlighted, the population of Worcester grew by 1.1% between 2004 and 2007. Factoring this in would imply greater changes in traffic per capita – specifically, a reduction of 1.1% in peripheral traffic per person between 2004 and 2008 (rather than 'no change') and a reduction of 3.7% in total traffic per person between 2006 and 2008 (rather than -2.6%).

Effects at individual traffic counters

Of the eight automatic traffic counters, three had slightly higher levels of traffic at the end of the Sustainable Travel Town period; three showed a small decline; whilst two showed a more marked reduction. Specifically, at the New Road counter, located at a key bridge into the city centre, traffic was 8.2% less in 2008/9, compared with 2005/6, whilst the Bransford Road counter, located on a relatively residential road with reasonably low volumes of traffic, showed a 9.8% reduction in traffic between 2004/5 and 2008/9.

Data was also analysed from a counter in Powick on the A449 – a road where there had been a major upgrade of bus services. This is shown in Figure 17.43. Between 2004/5 and 2007/8 (the period for which we have data), bus patronage on Route 44 on this corridor approximately trebled, an increase of 663,317 passengers a year. Meanwhile, 12-hour traffic flows (7.00-19.00hrs) measured at the Powick site fell by -5.0%, a reduction of a 304,925 vehicles a year. Using a paired sample, one-tailed T-test on the 12 months of average traffic data for 2004/5 compared with 2007/8 gives a p-value of .009, suggesting that there was a statistically significant decline in traffic levels over that period at the 99% confidence level. The implication is that about half of the growth in bus patronage could have resulted from a transfer of car driver trips, and there has been a statistically significant decline in traffic on that route.

Assessment of personal travel planning effects

None of the automatic traffic counters were well located to detect the effects of the personal travel planning work, as they were mainly located on main roads around the perimeter of the city (and therefore on the edge of the personal travel planning areas). However, Table 17.33 indicates the counters that are most relevant to each personal travel planning target area. Table 17.39 and 17.40 provide analysis of relevant data. Figures 17.43-17.45 then illustrate the data graphically, with periods of personal travel planning marked. Figures 17.46-17.48 are maps showing how the changes in traffic recorded at both automatic and manual count sites relate to the personal travel planning areas.

Table 17.33: Relating traffic counters to the personal travel planning work in Worcester

Personal travel planning phase	Timing	Relevant automatic traffic counters
1	September-December 2005	None
2.1	April-August 2006	Swineherd Way and Whittington
2.2	Autumn 2006	Broomhall Way
3.1 and 3.2	April-July 2007 and September-December 2007	Bromyard Road, Bransford Road and Temeside Way

For Phase 1, the only available data comes from the minor road manual counts. From a high in 2005, the Astwood Road counter showed a reduction in 2006 and again in 2007 – though not sustained in 2008.

For Phase 2, the maps illustrate that there were some traffic reductions in the Phase 2 area, though the graphs and analysis of the automatic traffic counter evidence suggest little obvious effect (Table 17.39).

For Phase 3, all of the analysis suggests that there was quite a marked effect. Specifically counters located to the west of the city showed reductions in traffic, which were greater than the reductions (or increases) in traffic that occurred elsewhere.

In general, then, the most obvious traffic reductions appear to have occurred in the centre, south and west of the city.

Comparison with the household travel survey data
As evident from Tables 17.40 and 17.41, the household travel surveys suggest that:

- car driver trips reduced by between 7% and 10% between 2004 and 2008, (with a reduction of 8% to 10% when considering journeys of up to 50km);
- the changes in car driver distance were much smaller: 0% (unweighted data for trips up to 100km); +2% (weighted data for trips up to 100km); -3% (trips up to 50km, both weighted and unweighted data);
- all three phases of personal travel planning reduced car driver trips by 11 to 13%;
- control data suggest that, in areas where personal travel planning was not taking place, car driver trips went up slightly between 2004 and 2006, but down slightly between 2004 and 2007.

Our analysis of the household travel survey data in Chapter 13 suggested that it was the shortest car driver trips in Worcester that were affected most. After allowing for population growth, we estimated that the overall distance driven by residents (at town level) fell by 1.9% between 2004 and 2008 (considering only trips of up to 50km).

In general, then, the household travel survey data are reasonably consistent with the changes in traffic levels observed at the count sites. Both data sources indicate that there may have been a small drop in overall traffic levels, which was generated by a much larger proportional reduction in short car driver trips. This may help to explain why some individual counters show quite large drops in traffic.

17.4.5 Summary and conclusions about changes in traffic in Worcester

From the analysis we draw the following conclusions:

- Traffic levels in Worcester continued to grow during the early part of the Sustainable Travel Town work (from 2004 until about 2006 or 2007). This was a continuation of pre-2004 trends.
- From about mid-2006 (but with the date showing some variation, depending upon which data set is examined), traffic volumes began to decline at a slow rate. Between 2006/7 and 2008/9, the automatic traffic counter data shows a statistically significant reduction in traffic of 2.6%, with a decline of 1.9% occurring before Quarter 4 in 2008. This compares to a national change of +0.1% before Quarter 4 in 2008.
- Meanwhile, the household travel survey suggests that car driver distance travelled may have reduced by 3% per resident, or 1.9% between October 2004 and October 2008 at a town-wide level (after allowing for population growth).
- The household travel survey suggests that there was a greater impact on car driver trips than on car driver kilometres, and that short car journeys were most affected. This may be consistent

with the fact that some individual counters (the New Road counter near the town centre and the Bransford Road counter) showed a more substantial reduction in the number of vehicles counted. This indicates that the effects on travel habits may be greater than the overall count data suggest.

- Bus service improvements (involving a combination of 'hard' and 'smart' measures) on a key commuter corridor between Worcester and Malvern show that the increase in bus patronage on that route was accompanied by a statistically significant decline in 12-hour traffic flows of 5% between 2004/5 and 2007/8, corresponding to a reduction of approximately 300,000 vehicles a year. Over the same period, bus passenger trips increased by approximately 600,000.
- Analysis of personal travel planning effects suggests particular evidence of a Phase 3 effect, on the west side of the city. In general, traffic reductions appear to have been greatest in the centre, south and west of the city.

Figure 17.34: Map of automatic traffic counters in Worcester

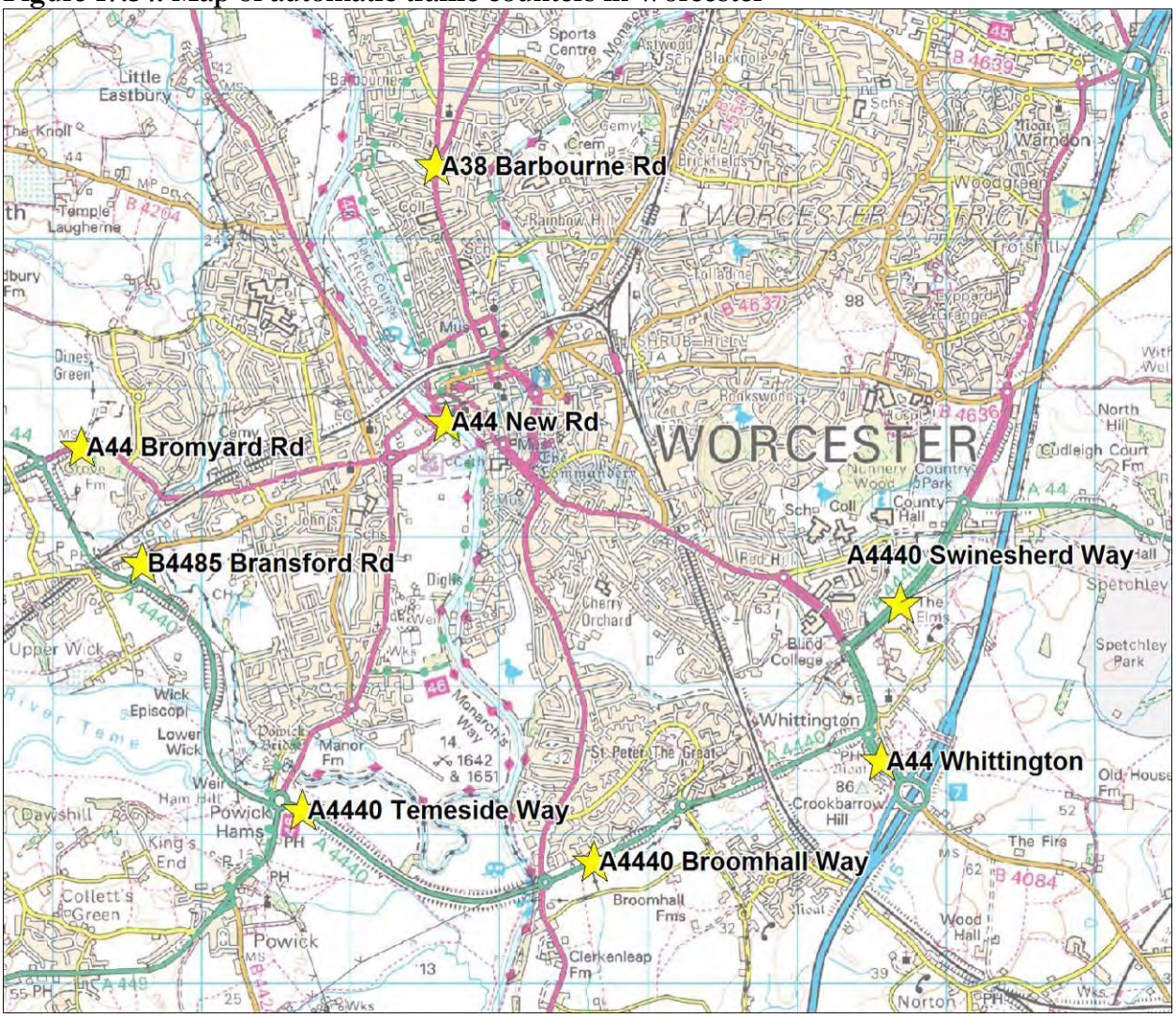
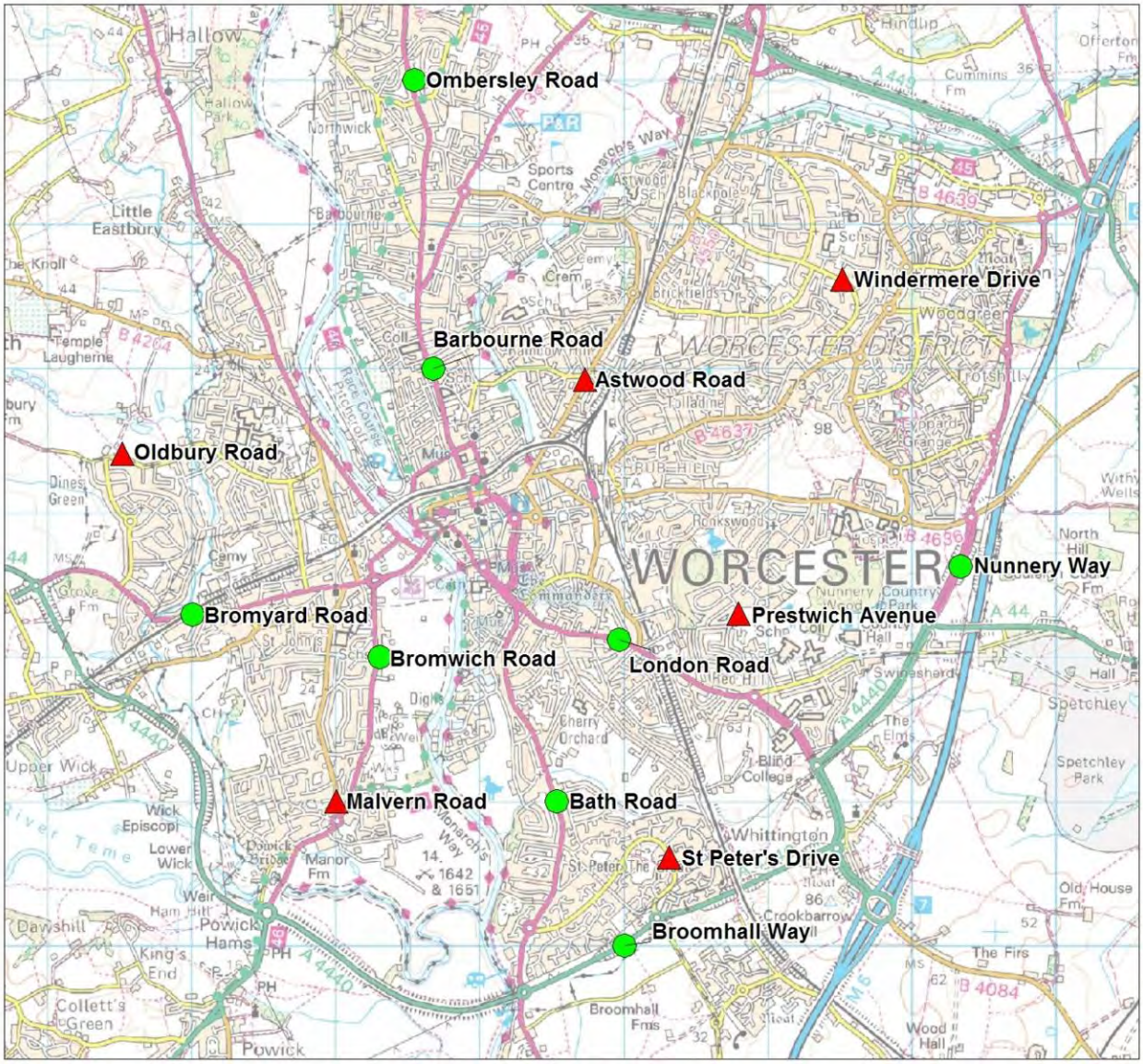


Figure 17.35: Map of relevant major and minor road NRTE count sites in Worcester



Notes: Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites.

Table 17.34: Annual traffic totals for automatic traffic counter sites in Worcester

	A38 Barbourne Rd	A4440 Swinesherd Way	A44 Whittington (m'way)	A4440 Broomhall Way	A4440 Temeside Way	A44 Bromyard Rd	B4485 Bransford Rd	A44 New Rd (Worcester Bridge)	Total including New Road	Total excluding New Road
1998/99				9222534	10767696					
1999/00				9714647	10992968					
2000/01					10934574					
2001/02					11191514					
2002/03	9454225									
2003/04				9553567						
2004/05	9311231	7383682	11247723	9357673	11749668	3723161	1490193			54263331
2005/06	9270983	7686714	11123910	9734163	11775917	3806421	1458319	15227367	70083794	54856427
2006/07	9397662	7605206	11244549	9911344	11834097	3821313	1459519	14819679	70093369	55273690
2007/08	9149088	7690763	11344028	9793252	11600086	3785308	1407156	14245460	69015141	54769681
2008/09	9168684	7591826	11195742	9761721	11406313	3810603	1344819	13974387	68254095	54279708
% change compared with the previous year										
2005/06	-0.4	4.1	-1.1	4.0	0.2	2.2	-2.1			1.1
2006/07	1.4	-1.1	1.1	1.8	0.5	0.4	0.1	-2.7	0.0	0.8
2007/08	-2.6	1.1	0.9	-1.2	-2.0	-0.9	-3.6	-3.9	-1.5	-0.9
2008/09	0.2	-1.3	-1.3	-0.3	-1.7	0.7	-4.4	-1.9	-1.1	-0.9
Index compared with 2004/5										
1998/99				98.6	91.6					
1999/00				103.8	93.6					
2000/01					93.1					
2001/02					95.2					
2002/03	101.5									
2003/04				102.1						
2004/05	100.0	100.0	100.0	100.0	100.0	100.0	100.0			100.0
2005/06	99.6	104.1	98.9	104.0	100.2	102.2	97.9			101.1
2006/07	100.9	103.0	100.0	105.9	100.7	102.6	97.9			101.9
2007/08	98.3	104.2	100.9	104.7	98.7	101.7	94.4			100.9
2008/09	98.5	102.8	99.5	104.3	97.1	102.3	90.2			100.0

Notes: Pale blue indicates traffic reduction. Pale green indicates lower traffic levels than in 2004/5.

Table 17.35: May-October average daily traffic totals for automatic traffic counter sites in Worcester

May-Oct average	A449 Barbourne Rd	A4440 Swinesherd Way	A44 Whittington (m'way)	A4440 Broomhall Way	A4440 Temeside Way	A44 Bromyard Rd	B4485 Bransford Rd	A44 New Rd
2004	25817	20509.33	31717.17	27290.67	33225	10673.5	4192.5	
2005	25703.67	21316.5	31403.5	27432	33048.17	10657.67	4028.167	41758
2006	25951.67	21311.83	31735.5	28263.83	33475.17	10671.17	4086.5	40733
2007	25479	21416	31788.5	27295.5	32437.17	10702.67	3989.5	39145.67
2008	25298.42	21104.33	31530.67	27490.33	31989.5	10799.5	3785.167	38370.17
% change compared with preceding year								
2005	-0.4	3.9	-1.0	0.5	-0.5	-0.1	-3.9	
2006	1.0	0.0	1.1	3.0	1.3	0.1	1.4	-2.5
2007	-1.8	0.5	0.2	-3.4	-3.1	0.3	-2.4	-3.9
2008	-0.7	-1.5	-0.8	0.7	-1.4	0.9	-5.1	-2.0
Index compared with the preceding year								
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
2005	99.6	103.9	99.0	100.5	99.5	99.9	96.1	
2006	100.5	103.9	100.1	103.6	100.8	100.0	97.5	
2007	98.7	104.4	100.2	100.0	97.6	100.3	95.2	
2008	98.0	102.9	99.4	100.7	96.3	101.2	90.3	

Notes: Pale blue indicates traffic reduction. Pale green indicates lower traffic levels than in 2004/5.

Table 17.36: Minor road manual count car and taxi data from the NRTE in Worcester

	Malvern Road	Windermere Drive	St Peter's Drive	Prestwich Avenue	Oldbury Road	Astwood Road	Sum of 2 counters with continuous data from 2000	Sum of 6 counters
Date of count	Sep/Oct	Sep/Oct	Jun/Jul	Sep	Jun	Aug/Sep		
2000	6305				2058	12353	14411	
2001	6010				2128	11181	13309	
2002	6292				2001	11864	13865	
2003	6265	4541	6610	1743	2259	12799	15058	34217
2004	5909	4352	6956	1668	2280	11297	13577	32462
2005	6125	4163	7287	1677	2068	14148	16216	35468
2006	6048	4697	7824	2353	2239	11620	13859	34781
2007	5970	4708	7497	2018	2094	10174	12268	32461
2008	5892	4795	7496	1943	2129	12350	14479	34605
% change compared with previous year								
2001	-4.7				3.4	-9.5	-7.6	
2002	4.7				-6.0	6.1	4.2	
2003	-0.4				12.9	7.9	8.6	
2004	-5.7		5.2	-4.3	0.9	-11.7	-9.8	
2005	3.7		4.8	0.5	-9.3	25.2	19.4	9.3
2006	-1.3	12.8	7.4	40.3	8.3	-17.9	-14.5	-1.9
2007	-1.3	0.2	-4.2	-14.2	-6.5	-12.4	-11.5	-6.7
2008	-1.3	1.8	0.0	-3.7	1.7	21.4	18.0	6.6
Index compared with 2004								
2000	106.7				90.3	109.3	106.1	
2001	101.7				93.3	99.0	98.0	
2002	106.5				87.8	105.0	102.1	
2003	106.0	104.3	95.0	104.5	99.1	113.3	110.9	
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2005	103.7	95.7	104.8	100.5	90.7	125.2	119.4	109.3
2006	102.4	107.9	112.5	141.1	98.2	102.9	102.1	107.1
2007	101.0	108.2	107.8	121.0	91.8	90.1	90.4	100.0
2008	99.7	110.2	107.8	116.5	93.4	109.3	106.6	106.6

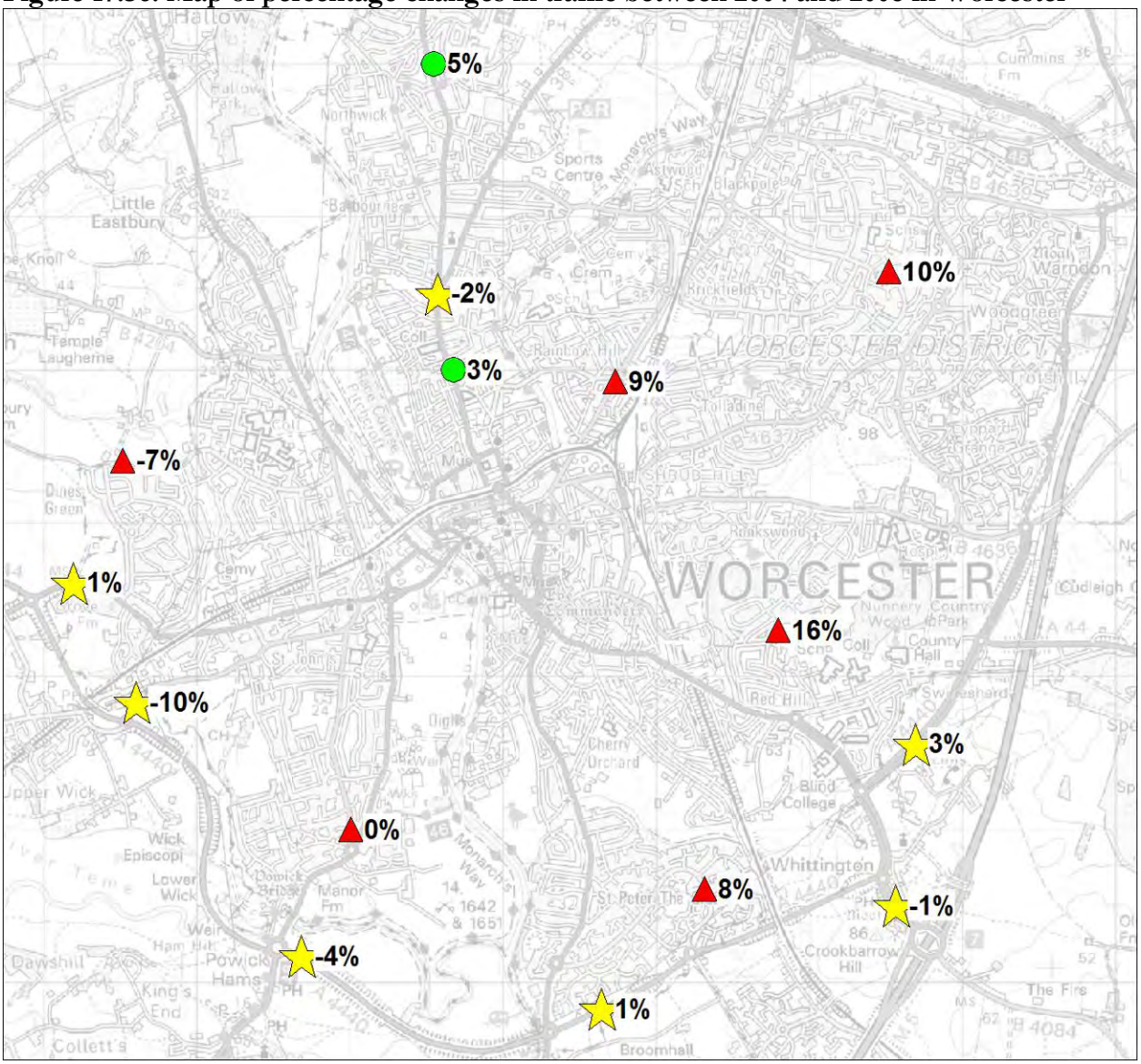
Notes: Data in red are interpolated figures. Pale blue indicates traffic reduction. Darker blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004. Dark green indicates that traffic levels were 10% or more below levels in 2004.

Table 17.37: Major road manual count car and taxi data from the NRTE in Worcester

	London Road	Barbourne Road	Ombersley Road	Bath Road	Bromwich Road	Broomhall Way	Bromyard Road	Nunnery Way	Total for 5 counters with data for 2001 to 2007
2000							8136	13423	
2001	10295		8076	12198	10280	17676	8105	13972	62217
2002	11228.5	16667	8739	12597	11404.5	17917	8146	15210	65691.5
2003	12162	17330.5	8654	12996	12529	18158	8386	16448	68418
2004	12255.5	17994	8569	13006.5	11641	18796.5	8478.5	16347	68974.5
2005	12349		8692.5	13017	10753	19435	8571	16246	69739.5
2006	11419.5		8816	12961.5		19124		16841.5	69162.5
2007	10490		8892.5	12906		18813		17437	68538.5
2008		18478	8969						
% change compared to previous year									
2002	9.1		8.2	3.3	10.9	1.4	0.5	8.9	5.6
2003	8.3	4.0	-1.0	3.2	9.9	1.3	2.9	8.1	4.2
2004	0.8	3.8	-1.0	0.1	-7.1	3.5	1.1	-0.6	0.8
2005	0.8		1.4	0.1	-7.6	3.4	1.1	-0.6	1.1
2006	-7.5		1.4	-0.4		-1.6		3.7	-0.8
2007	-8.1		0.9	-0.4		-1.6		3.5	-0.9
2008			0.9						
Index compared with 2004									
2000							96.0	82.1	
2001	84.0		94.2	93.8	88.3	94.0	95.6	85.5	90.2
2002	91.6	92.6	102.0	96.9	98.0	95.3	96.1	93.0	95.2
2003	99.2	96.3	101.0	99.9	107.6	96.6	98.9	100.6	99.2
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2005	100.8		101.4	100.1	92.4	103.4	101.1	99.4	101.1
2006	93.2		102.9	99.7		101.7		103.0	100.3
2007	85.6		103.8	99.2		100.1		106.7	99.4
2008		102.7	104.7						

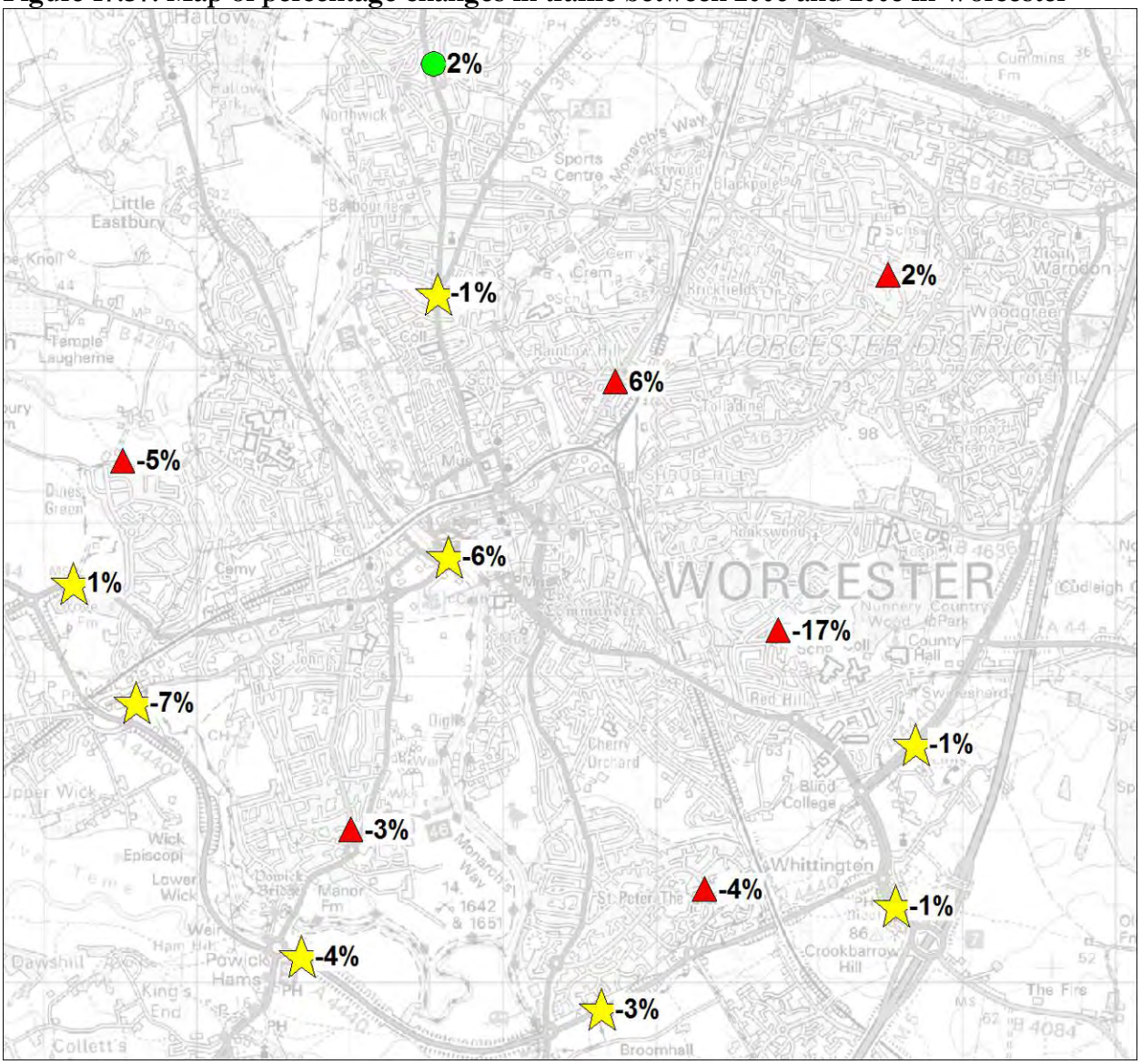
Notes: Data in red are interpolated figures. Dates of counts are not given, as these are variable between years. Pale blue indicates traffic reduction. Darker blue indicates traffic reduction of 10% or more. Pale green indicates lower traffic levels than in 2004. Dark green indicates that traffic levels were 10% or more below levels in 2004.

Figure 17.36: Map of percentage changes in traffic between 2004 and 2008 in Worcester



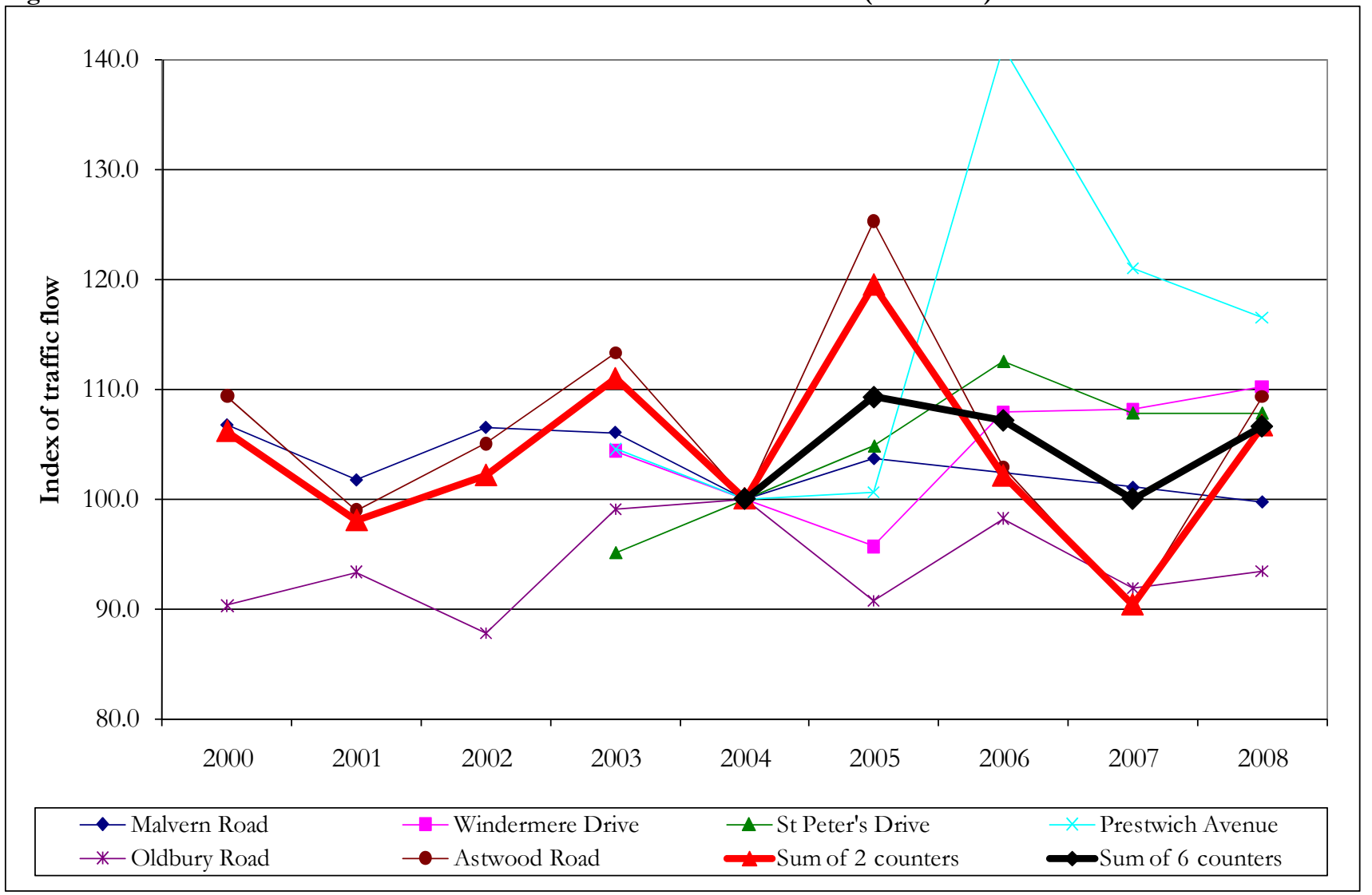
Notes: Figure for the New Road counter (-8%) is for the period 2005 to 2008. Yellow stars represent automatic traffic counter sites - data are the average for May to October. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites.

Figure 17.37: Map of percentage changes in traffic between 2006 and 2008 in Worcester



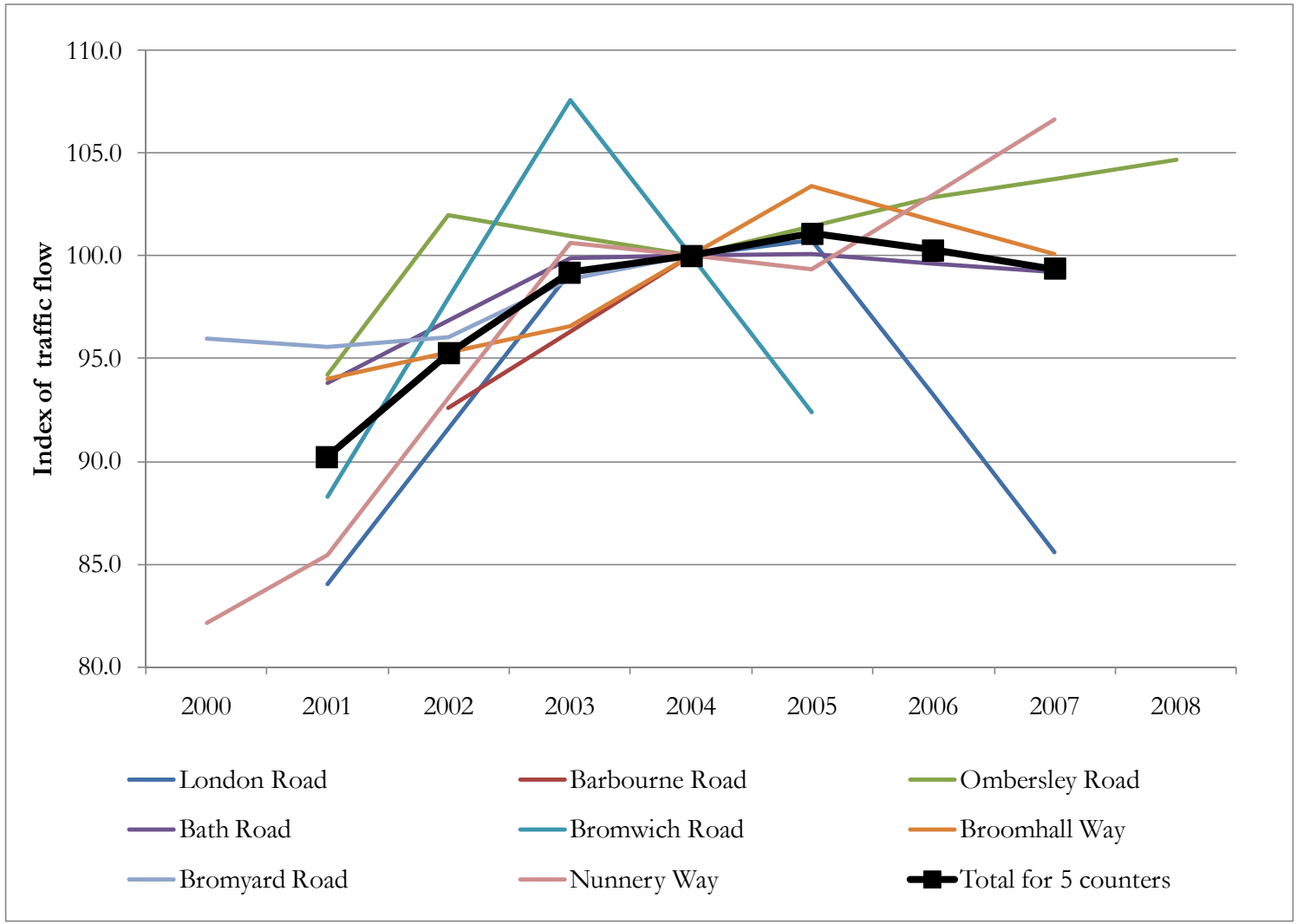
Notes: Figure for the New Road counter (-8%) is for the period 2005 to 2008. Yellow stars represent automatic traffic counter sites – data are the average for May to October. Red triangles represent minor road NRTE count sites. Green circles represent major road NRTE count sites.

Figure 17.38: Index of minor road manual count car and taxi data for Worcester (2004 = 100)



Note: this graph should be considered indicative, being based on manual counts which take place on a single day each year and are therefore less reliable than automatic counts

Figure 17.39: Index of major road manual count car and taxi data for Worcester (2004 = 100)



Note: this graph should be considered indicative, being based on manual counts which take place on a single day each year and are therefore less reliable than automatic counts

Figure 17.40: Data for individual counters in Worcester prior to any data interpolation

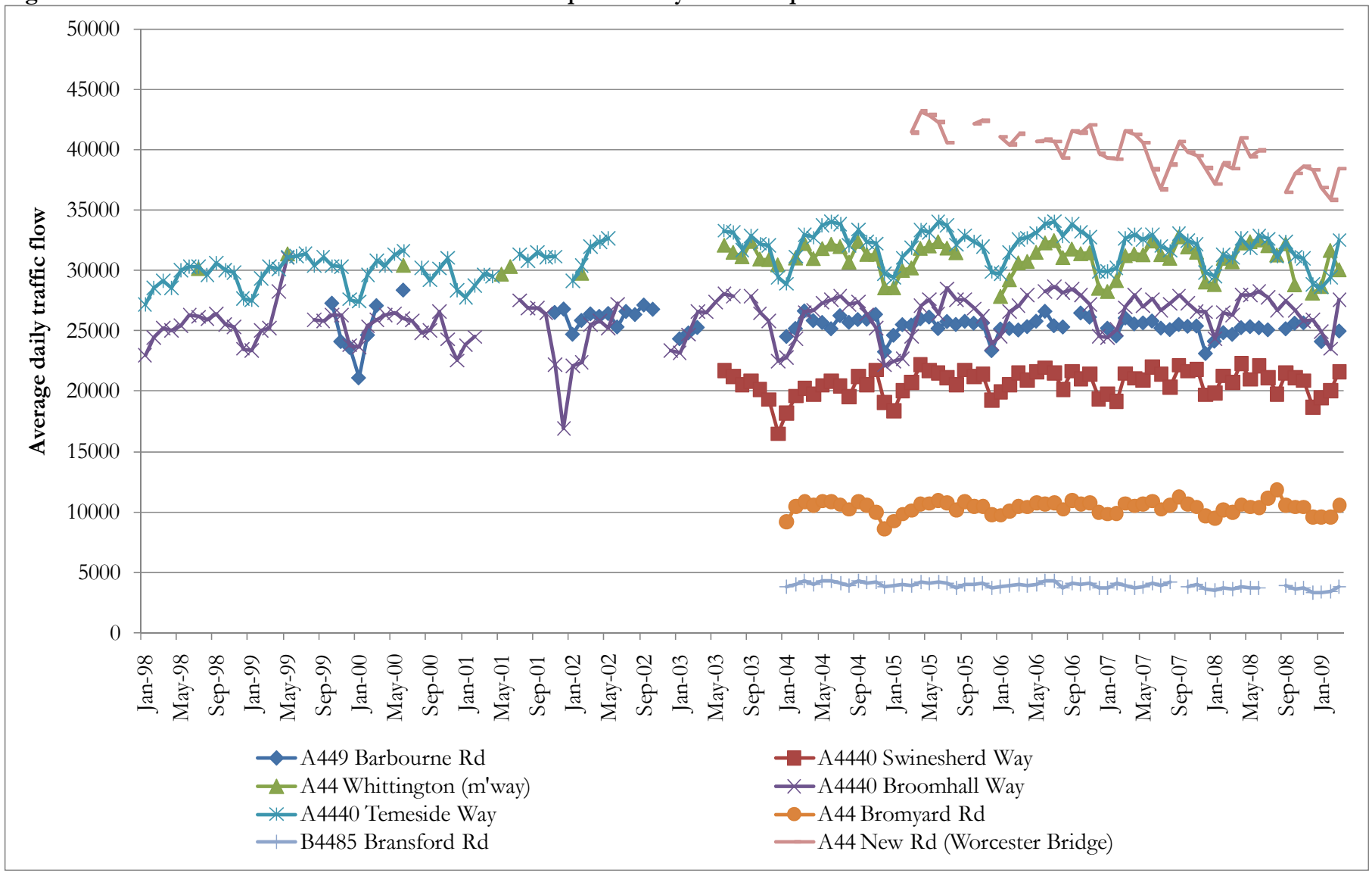


Figure 17.41: Data for individual counters in Worcester, indexed to earliest month of available data

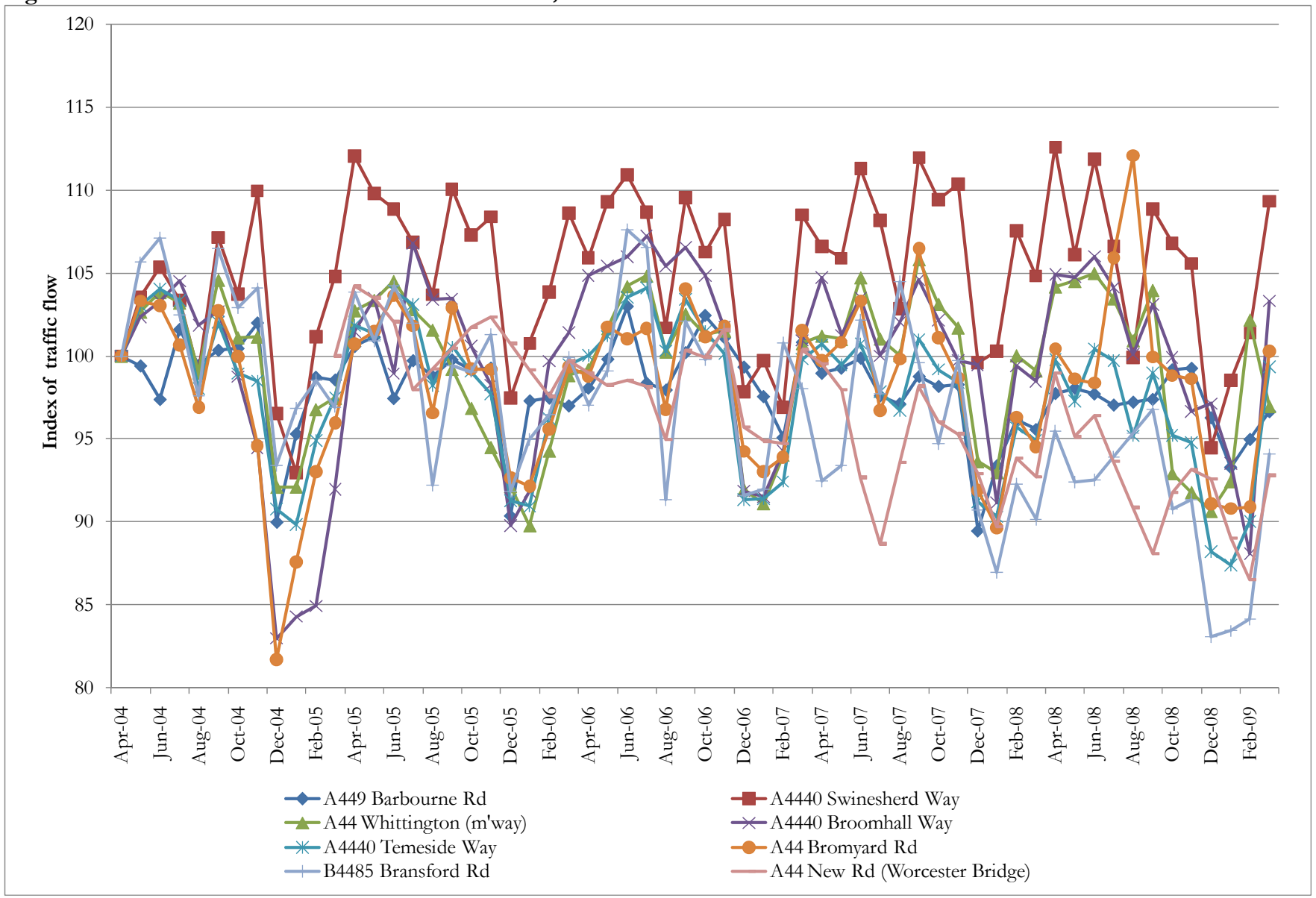


Figure 17.42: 12-month rolling average traffic counter data for Worcester, indexed to first available 12-month period of data

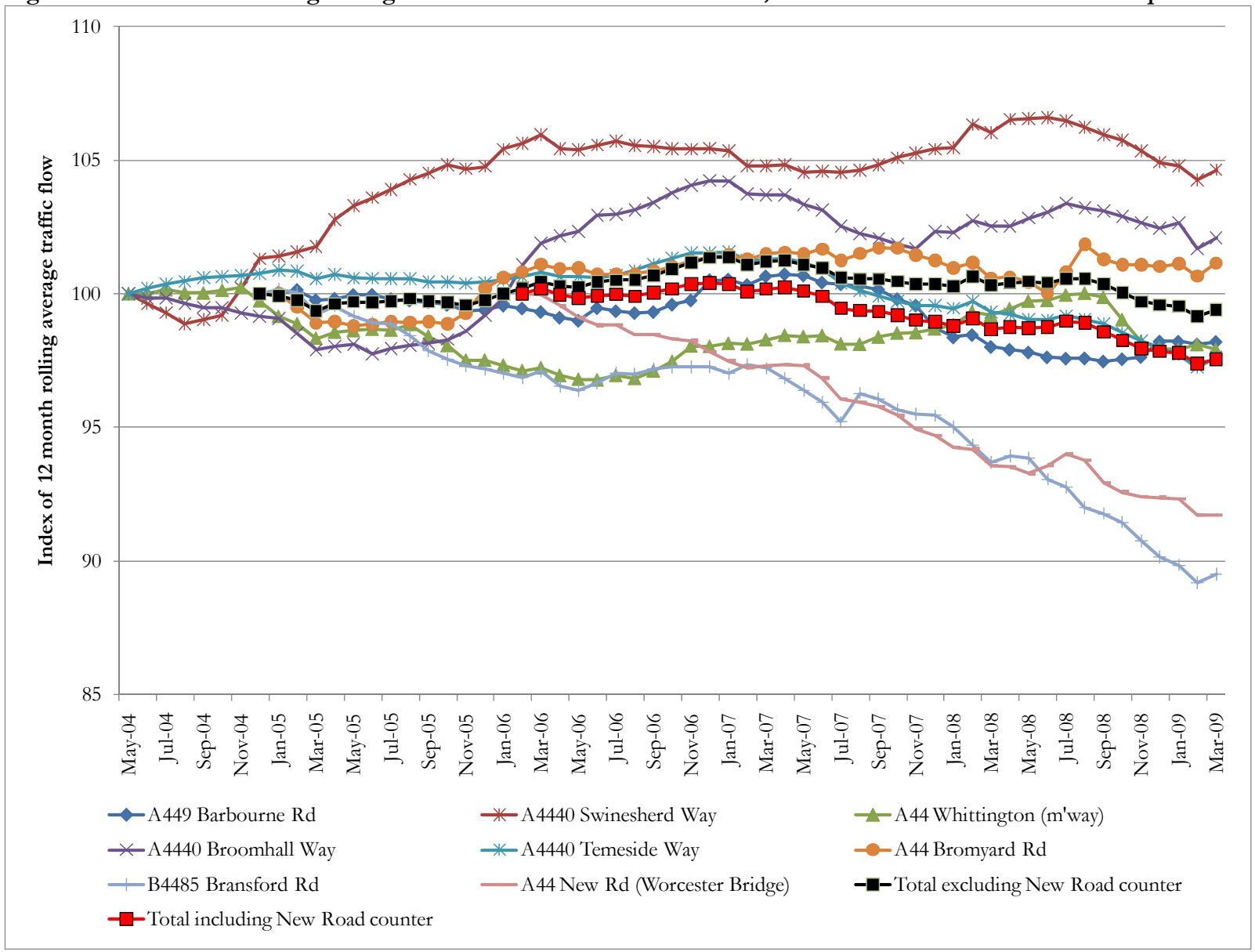


Figure 17.43: Index of changes in bus patronage and traffic flows relevant to Worcester's Route 44

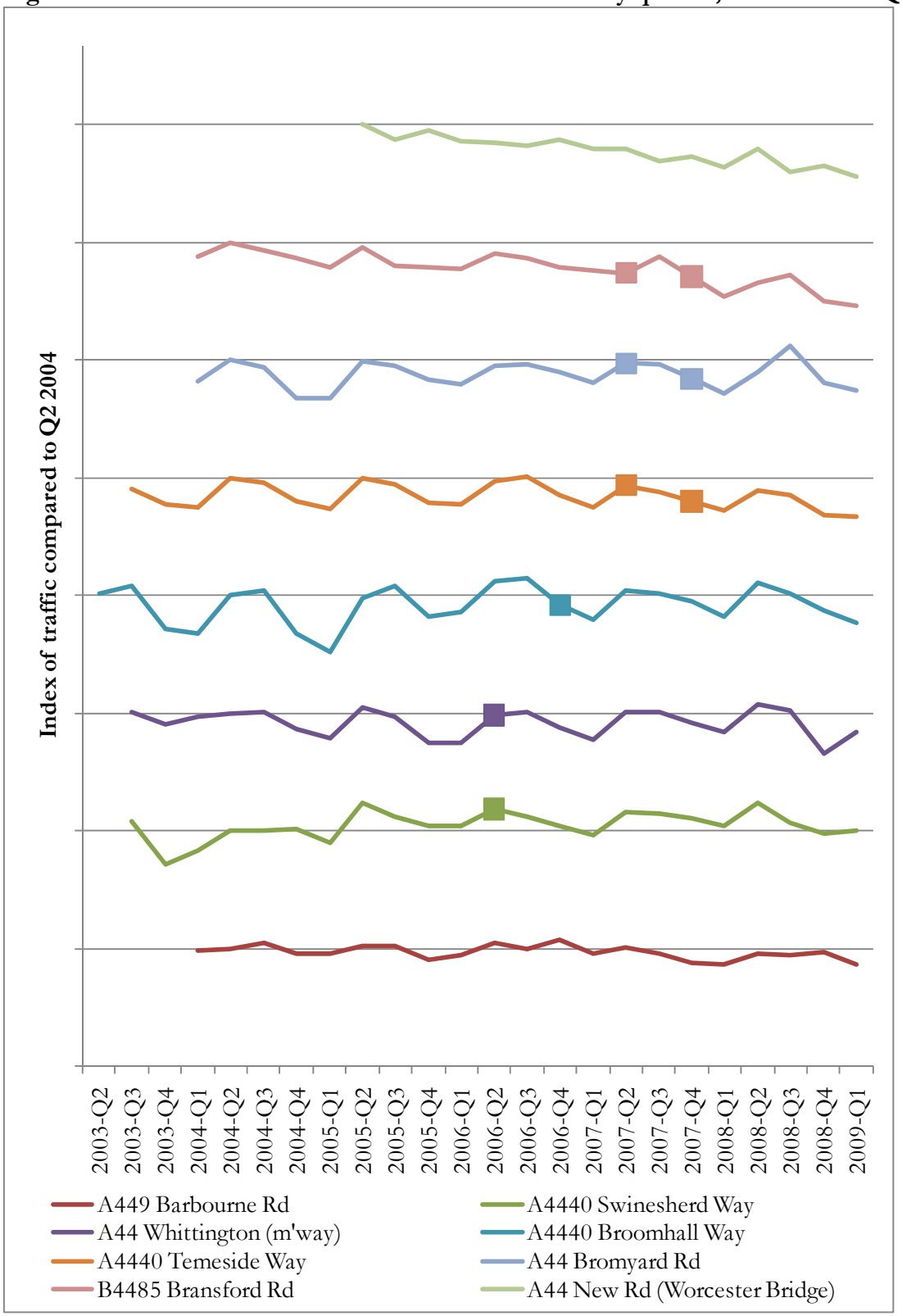
Table 17.38: Average quarterly traffic counter data for Worcester

	A38 Barbourne Rd	A4440 Swinesherd Way	A44 Whittington (m'way)	A4440 Broomhall Way	A4440 Temeside Way	A44 Bromyard Rd	B4485 Bransford Rd	A44 New Rd	Total excluding New Road
2003-Q2				27343					
2003-Q3		20869	31670	27847	32562				
2003-Q4		18648	30754	24918	31238				
2004-Q1	25485	19335	31322	24568	30994	10188	4067		145959
2004-Q2	25599	20366	31644	27196	33481	10781	4215		153283
2004-Q3	25996	20405	31675	27496	33083	10567	4131		153354
2004-Q4	25224	20456	30391	24571	31427	9722	4048		145840
2005-Q1	25237	19711	29563	23238	30774	9735	3939		142197
2005-Q2	25803	21809	32070	27035	33486	10765	4164	42763	155132
2005-Q3	25726	21140	31345	27906	32914	10604	3957	41095	153593
2005-Q4	24912	20648	29268	25678	31404	10243	3938	42078	146091
2006-Q1	25166	20653	29206	26061	31254	10104	3926	40924	146371
2006-Q2	25950	21507	31496	28133	33228	10614	4093	40829	155021
2006-Q3	25576	21096	31759	28395	33563	10645	4043	40505	155077
2006-Q4	26124	20595	30433	26552	31941	10459	3948	41034	150052
2007-Q1	25313	20122	29517	25508	30923	10152	3919	40027	145454
2007-Q2	25712	21351	31692	27536	32811	10694	3882	40062	153677
2007-Q3	25314	21295	31688	27282	32228	10663	4067	38714	152537
2007-Q4	24662	21058	30816	26810	31488	10266	3843	39237	148943
2008-Q1	24593	20615	30160	25715	30624	9871	3630	38136	145210
2008-Q2	25318	21795	32386	28084	32435	10467	3779	40103	154265
2008-Q3	25157	20796	31837	27342	32041	11189	3855	37631	152216
2008-Q4	25420	20232	28427	26128	30332	10154	3574	38313	144266
2009-Q1	24578	20390	30104	25347	30176	9925	3526	37048	144046
% change compared with equivalent quarter in the previous year									
2004-Q2				-0.5					
2004-Q3		-2.2	0.0	-1.3	1.6				
2004-Q4		9.7	-1.2	-1.4	0.6				
2005-Q1	-1.0	1.9	-5.6	-5.4	-0.7	-4.5	-3.1		-2.6
2005-Q2	0.8	7.1	1.3	-0.6	0.0	-0.2	-1.2		1.2
2005-Q3	-1.0	3.6	-1.0	1.5	-0.5	0.4	-4.2		0.2
2005-Q4	-1.2	0.9	-3.7	4.5	-0.1	5.4	-2.7		0.2
2006-Q1	-0.3	4.8	-1.2	12.2	1.6	3.8	-0.3		2.9
2006-Q2	0.6	-1.4	-1.8	4.1	-0.8	-1.4	-1.7	-4.5	-0.1
2006-Q3	-0.6	-0.2	1.3	1.8	2.0	0.4	2.2	-1.4	1.0
2006-Q4	4.9	-0.3	4.0	3.4	1.7	2.1	0.3	-2.5	2.7
2007-Q1	0.6	-2.6	1.1	-2.1	-1.1	0.5	-0.2	-2.2	-0.6
2007-Q2	-0.9	-0.7	0.6	-2.1	-1.3	0.8	-5.2	-1.9	-0.9
2007-Q3	-1.0	0.9	-0.2	-3.9	-4.0	0.2	0.6	-4.4	-1.6
2007-Q4	-5.6	2.2	1.3	1.0	-1.4	-1.8	-2.7	-4.4	-0.7
2008-Q1	-2.8	2.5	2.2	0.8	-1.0	-2.8	-7.4	-4.7	-0.2
2008-Q2	-1.5	2.1	2.2	2.0	-1.1	-2.1	-2.7	0.1	0.4
2008-Q3	-0.6	-2.3	0.5	0.2	-0.6	4.9	-5.2	-2.8	-0.2
2008-Q4	3.1	-3.9	-7.8	-2.5	-3.7	-1.1	-7.0	-2.4	-3.1
2009-Q1	-0.1	-1.1	-0.2	-1.4	-1.5	0.5	-2.9	-2.9	-0.8

Index compared with relevant quarter in financial year 2004/5									
2003-Q2				100.5					
2003-Q3		102.3	100.0	101.3	98.4				
2003-Q4		91.2	101.2	101.4	99.4				
2004-Q1	101.0	98.1	105.9	105.7	100.7	104.7	103.2		102.6
2004-Q2	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0
2004-Q3	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0
2004-Q4	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0
2005-Q1	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0
2005-Q2	100.8	107.1	101.3	99.4	100.0	99.8	98.8		101.2
2005-Q3	99.0	103.6	99.0	101.5	99.5	100.4	95.8		100.2
2005-Q4	98.8	100.9	96.3	104.5	99.9	105.4	97.3		100.2
2006-Q1	99.7	104.8	98.8	112.2	101.6	103.8	99.7		102.9
2006-Q2	101.4	105.6	99.5	103.4	99.2	98.5	97.1		101.1
2006-Q3	98.4	103.4	100.3	103.3	101.4	100.7	97.9		101.1
2006-Q4	103.6	100.7	100.1	108.1	101.6	107.6	97.5		102.9
2007-Q1	100.3	102.1	99.8	109.8	100.5	104.3	99.5		102.3
2007-Q2	100.4	104.8	100.1	101.3	98.0	99.2	92.1		100.3
2007-Q3	97.4	104.4	100.0	99.2	97.4	100.9	98.5		99.5
2007-Q4	97.8	102.9	101.4	109.1	100.2	105.6	94.9		102.1
2008-Q1	97.4	104.6	102.0	110.7	99.5	101.4	92.2		102.1
2008-Q2	98.9	107.0	102.3	103.3	96.9	97.1	89.6		100.6
2008-Q3	96.8	101.9	100.5	99.4	96.8	105.9	93.3		99.3
2008-Q4	100.8	98.9	93.5	106.3	96.5	104.4	88.3		98.9
2009-Q1	97.4	103.4	101.8	109.1	98.1	102.0	89.5		101.3

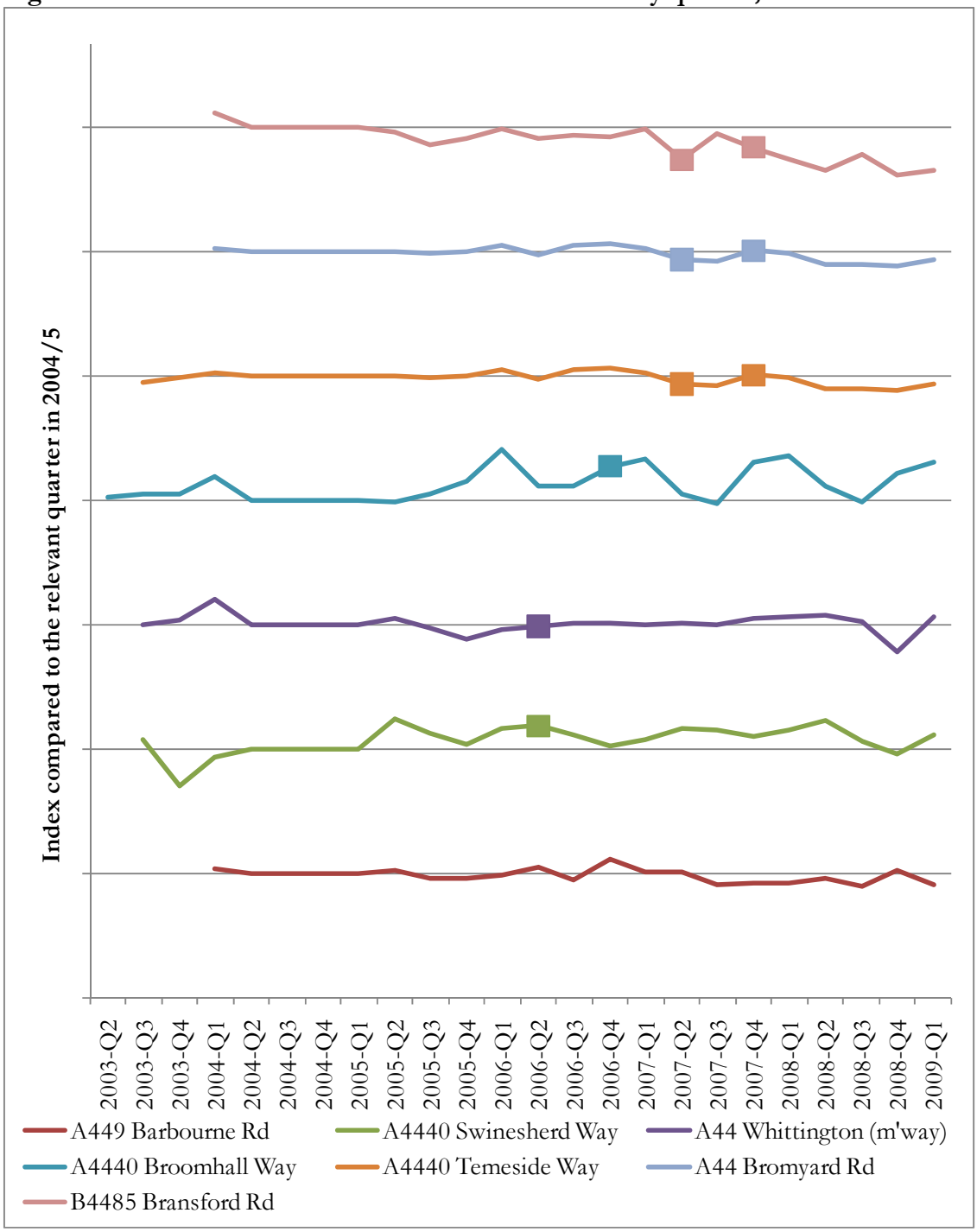
Notes: Pale blue indicates traffic reduction. Pale green indicates lower traffic levels than in 2004. Stronger green indicates that traffic levels were 10% or more below levels in 2004.

Figure 17.44: Indices of Worcester traffic counter data by quarter, referenced to Q2, 2004



Note: Large squares show periods when personal travel planning took place in the area of the traffic counter.

Figure 17.45: Indices of Worcester traffic counter data by quarter, referenced to 2004/5



Note: Large squares show periods when personal travel planning took place in the area of the traffic counter.

Figure 17.46: 12-month rolling average traffic counter data for Worcester with periods of personal travel planning marked

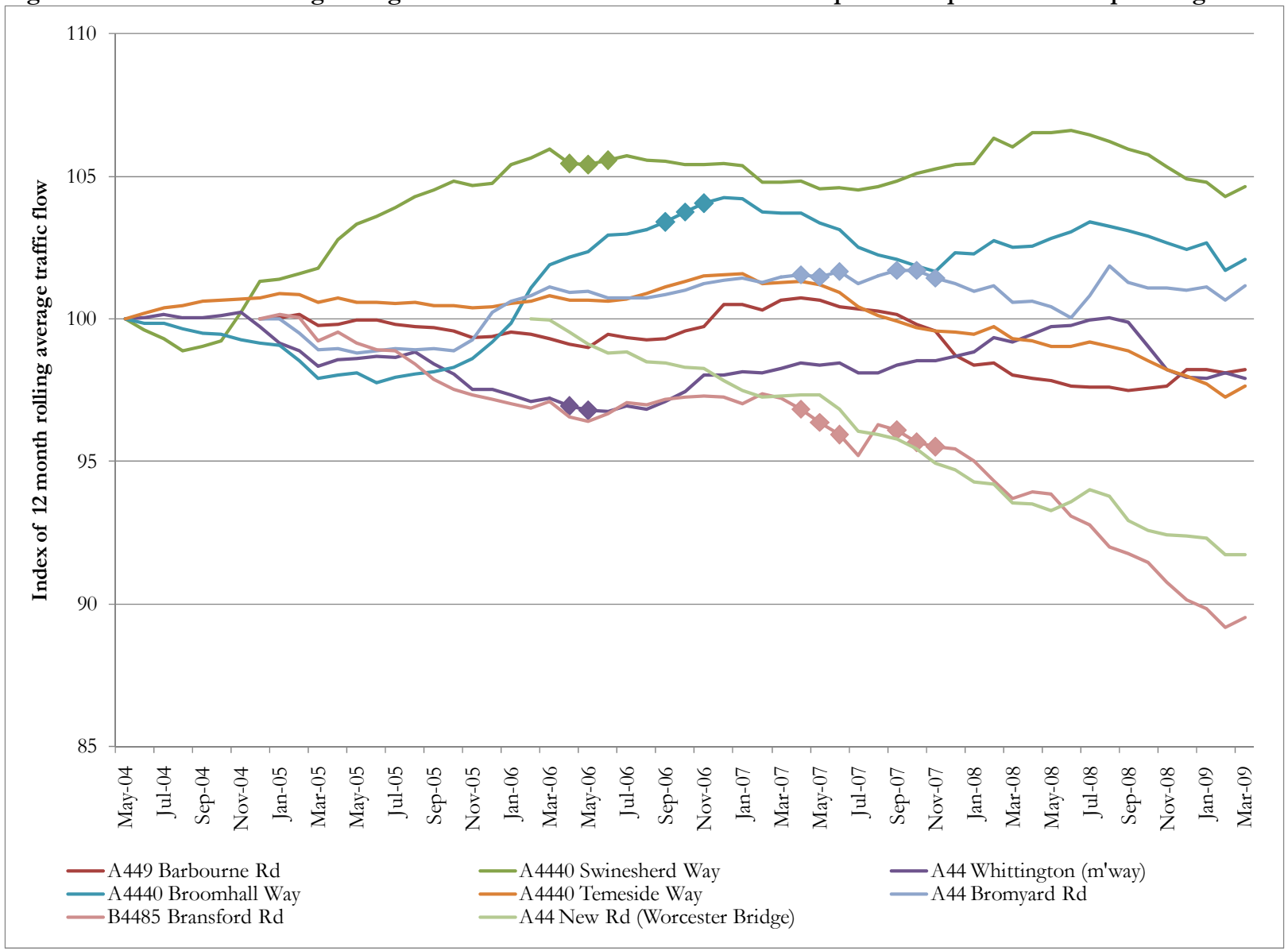
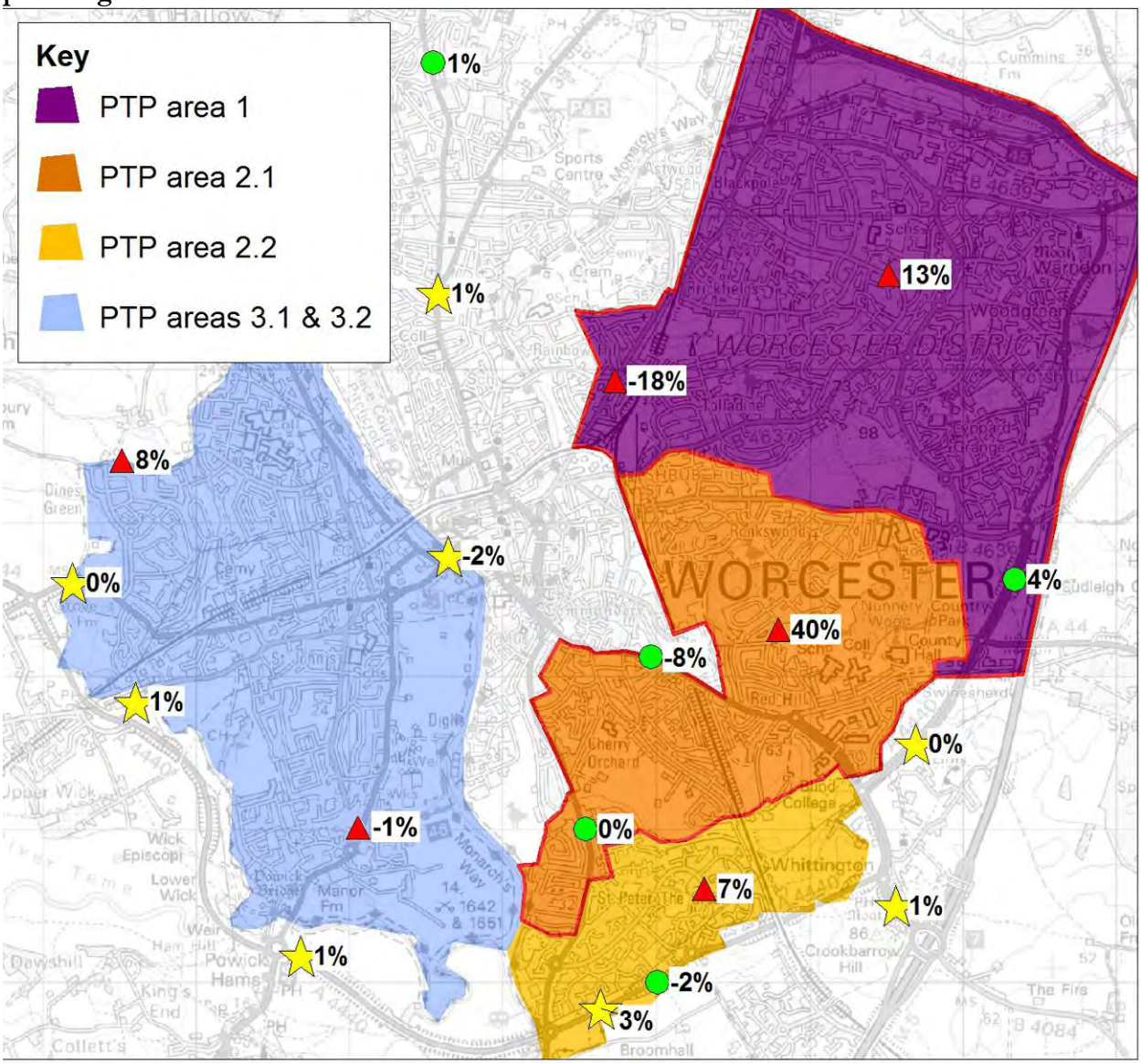


Table 17.39: Analysis of automatic traffic counter quarters data in Worcester in relation to personal travel planning effects

	Change in quarter compared to the preceding quarter		Change in quarter compared to quarter in the previous year		Change in following quarter		Change in the same quarter in following year	
	Target	*Control*	*Target*	*Control*	*Target*	*Control*	*Target*	*Control*
Phase 2.1: Q2 2006	+6.3%	+3.9%	-0.3%	-0.1%	-1.6%	-0.8%	+0.1%	-1.5%
Phase 2.2: Q4 2006	-6.5%	-1.6%	+3.4%	+1.3%	-3.9%	-2.8%	+1.0%	-1.9%
Phase 3.1: Q2 2007	+5.3%	+4.2%	-1.1%	-1.1%	-0.9%	-1.4%	-1.5%	+0.9%
Phase 3.2: Q4 2007	-2.9%	-1.2%	-1.6%	-1.5%	-3.2%	-1.2%	-3.4%	-2.8%

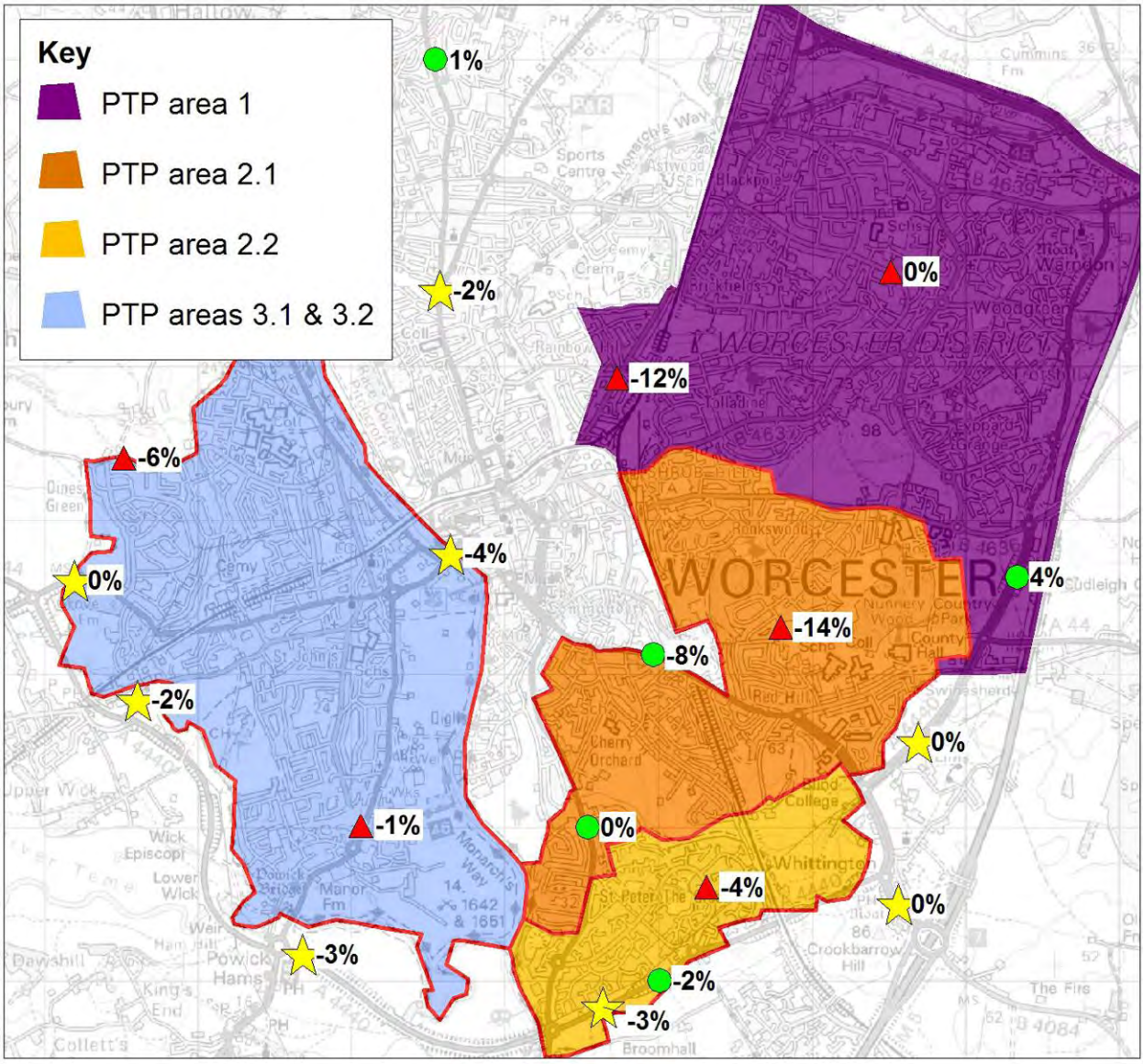
Notes: The target areas for each phase are given in Table 17.33. Green shading indicates where the target area has experienced less traffic growth – or more traffic decline – than the control area.

Figure 17.47: Map of changes in traffic in Worcester, 2005-2006, with personal travel planning areas marked



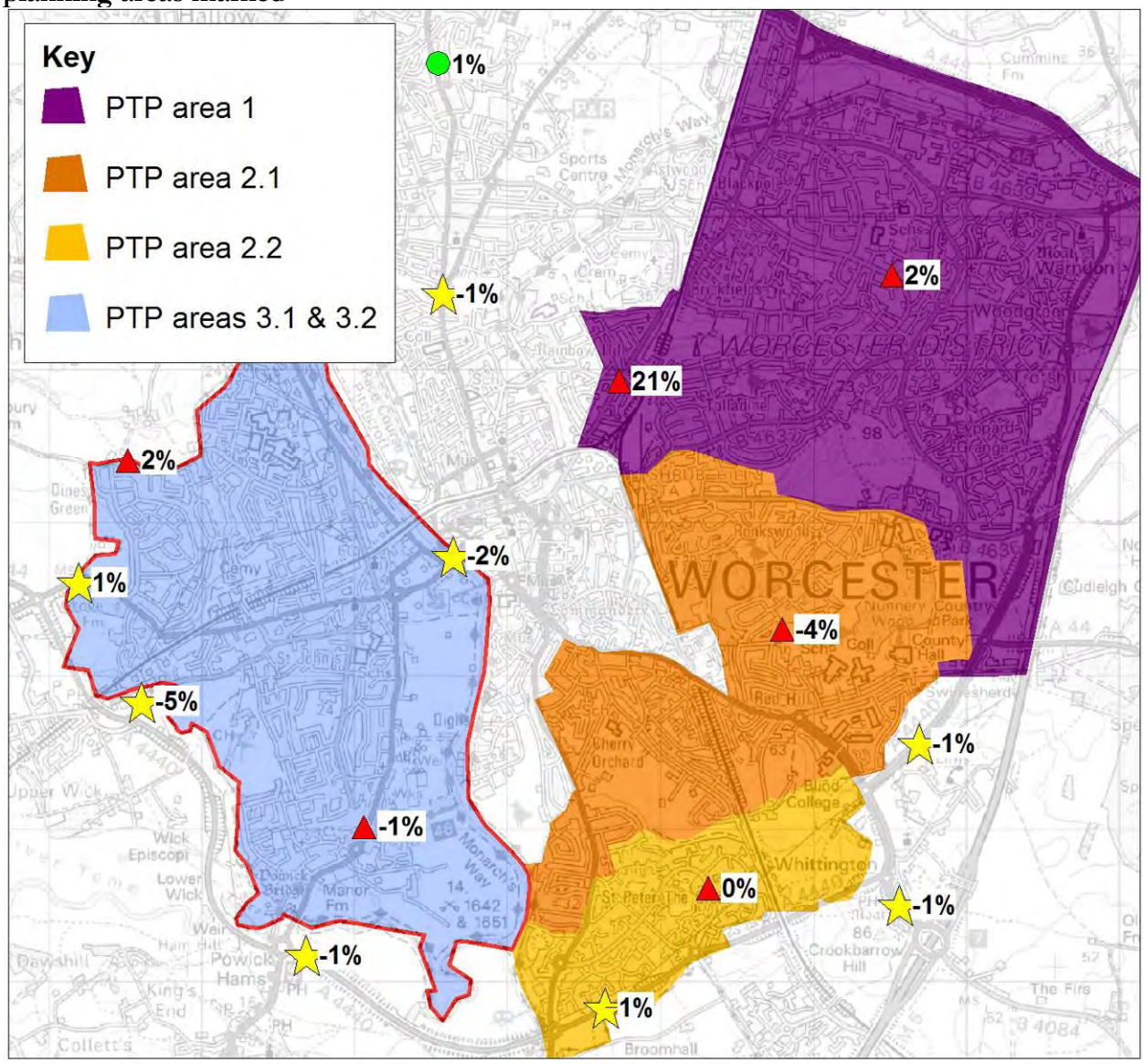
Notes: Data for major road count sites not shown due to degree of interpolation used. Yellow stars represent automatic traffic counter sites – data are the average for May to October. Red triangles represent minor road NRTE count sites. Data given are absolute changes in traffic, as opposed to percentage changes. Over this time period, changes expected from personal travel planning would have occurred in the Phase 1 and 2.1 areas.

Figure 17.48: Map of changes in traffic in Worcester, 2006-2007, with personal travel planning areas marked



Notes: Data for major road count sites not shown due to degree of interpolation used. Yellow stars represent automatic traffic counter sites – data are the average for May to October. Red triangles represent minor road NRTE count sites. Data given are absolute changes in traffic, as opposed to percentage changes. Over this time period, changes expected from personal travel planning would have occurred in the Phase 2.2 and 3 areas.

Figure 17.49: Map of changes in traffic in Worcester, 2007-2008, with personal travel planning areas marked



Notes: Data for major road count sites not shown due to degree of interpolation used. Yellow stars represent automatic traffic counter sites – data are the average for May to October. Red triangles represent minor road NRTE count sites. Data given are absolute changes in traffic, as opposed to percentage changes. Over this time period, changes expected from personal travel planning would have occurred in the Phase 3 area.

Table 17.40: Household travel survey results in Worcester

	Car driver
Trips per person per year 2004 (unweighted data)	465
Trips per person per year 2008 (unweighted data)	420
Overall change in trips per person per year based on unweighted data	**-10%***
Overall change in trips per person per year based on weighted data	**-7%***
Overall change in distance per person per year based on unweighted data	**0%***
Overall change in distance per person per year based on weighted data	**+2%***

Notes: * Trips of over 100km are excluded, meaning that results are slightly different from those reported in Chapter 13. Looking only at journeys of less than 50km, weighted and unweighted data suggest a reduction in car driver trips of between -8% and -10%, and a reduction in car driver distance of 3%.

Table 17.41: Socialdata & Sustrans assessment of the first three phases of personal travel planning work on car driver trips in Worcester

		% people travelling as a car driver daily or several times a week*		Soicaldata/Sustrans estimate of difference in trips per person per year between target and control
		Target	Control	
Phase 1	Autumn 2004	52	47	
	March/April 2006	44	49	
	% change	**-15%**	**+4%**	**-12%**
Phase 2.1	Autumn 2004	46	48	
	April/May 2007	38	47	
	% change	**-17%**	**-2%**	**-13%**
Phase 2.2	Autumn 2004	53	48	
	April/May 2007	47	47	
	% change	**-11%**	**-2%**	**-11%**

Notes: * The surveys actually recorded a number of categories, namely, 'daily, several times a week; several times a month; (almost) never'. The first categories have been used for the purposes of this table. The full range of categories was used by Socialdata & Sustrans to generate their estimates in the last column.

17.5 Summary and conclusions

Evidence from the household travel surveys
The household travel surveys consistently show reductions in car driver trips in the order of 7%-10% in the three towns between the baseline and ex-post surveys in Autumn 2004 and Autumn 2008 (trips under 50km).

For trips under 50km, between 2004 and 2008, the change in car driver distance was similar to the change in car driver trips in Darlington (6%-7%) and Peterborough (7%-10%), but less in Worcester (3%).

Town-wide changes in traffic
The manual and automatic traffic count data is broadly consistent with the household travel surveys, albeit with some complexities. Looking at the towns as a whole, the on-street change in traffic flows in both Peterborough and Worcester matches relatively well with what the household surveys suggest would be the case, *when population increases in both towns are factored in*.

Thus, in Peterborough we estimated that the town-wide change in car traffic (combining manual traffic data from inner and outer areas) was of the order of **-2.4%** between 2004 and 2008. This is consistent with a reduction in residents' car driver distance of 7-10% *per capita*, coupled with population growth of 6%.

In Worcester, we estimated that the town-wide change in 'all vehicle' traffic (across all automatic counters) was **-1.9%** between Q1-Q3 2006 and 2008. (Comparisons from 2004 are potentially misleading, given that only peripheral counters were operational at that time[21].) This is approximately consistent with a reduction in residents' car driver distance of 3% per capita (2004 to 2008) coupled with population growth of 1.1%.

In Darlington, the match between household survey data and traffic data is less good. We estimate that the town-wide change in 'all vehicle' traffic (across all automatic counters) was **-2.4%** (comparing the May-October averages for 2004 and 2008, which are consistent with the trend shown in the annual values). This is somewhat under half the change in residents' car driver distance shown by the household travel survey over the same period. We hypothesise that substantial employment growth in Darlington over this period (+9.6% between 2004 and 2008), particularly in peripheral areas of the town, has led to increased inward commuting by car by non-residents, and that this is probably a substantial part of the explanation for the disparity (borne out, perhaps, by increases in flows recorded at a number of peripheral counters over the period).

Comparison with national benchmark data
The effects of the changing economic situation towards the end of the Sustainable Travel Town period (i.e. from Q4 2008) have been carefully considered. In all three cases, we have concluded that the observed reduction in town-wide traffic levels was greater than any change in traffic volume on

[21] The seven counters in place in 2004 showed no change between 2004 and 2008, however, these were all located around the town periphery. Moreover, the consistent reduction that these peripheral counters did show from Q1 2007 onwards indicates that there was a town-wide change in traffic that occurred, albeit that any earlier changes may have primarily taken place in the inner part of the town.

urban roads nationally over an equivalent period, as shown by NRTE data. Thus the 2.4% reduction in 'all vehicle' traffic in Darlington (from May-October averages of automatic count data, 2004 to 2008) pre-dated the economic downturn and took place over a period when NRTE 'all vehicle' urban traffic showed 0% change (Q2/Q3 average for 2004 compared to 2008). Similarly, the 2.4% reduction in car traffic in Peterborough (estimated from manual count data in inner and outer areas, 2004 to 2008) took place over a period when NRTE urban car traffic showed a change of -0.5% (Q2/Q3 average for 2004 compared to 2008). The 1.9% reduction in 'all vehicle' traffic in Worcester (from nine month averages of automatic count data, Q1-Q3 2006 to 2008) took place over a period when NRTE 'all vehicle' urban traffic increased by 0.1%. Comparison of traffic data in the three towns with the national data for other time periods (for example, extending into the period of economic downturn) shows a similar picture of traffic reduction in the three towns exceeding any national reduction.

Thus the reduction in traffic in all the three towns of, broadly, 2%, can be taken as particular to the towns, and not reflective of wider national changes.

Once the economic downturn began, there is some evidence of a further effect on traffic in the three towns, particularly on trends at peripheral counters, with additional traffic reductions of 0.5-1%, over and above the 2% on-street reductions observed prior to that point. This is broadly in line with changes observed nationally.

Changes in traffic in the inner areas of the towns

All three towns experienced substantially greater reductions in traffic in their inner areas (i.e. the central areas and immediate surrounds). These reductions were in the order of 7-8%. We hypothesise that the Sustainable Travel Town work may have been particularly effective at influencing car driver trips in these areas, perhaps because congestion and parking problems were greater and/or because the alternatives to the car were more attractive.

Changes in traffic on minor roads

There is some indication in all three towns that traffic levels on minor roads have been more affected than traffic levels on major roads.

Timing of changes

The timing of the traffic changes seems to have been different in the three towns. In Worcester, reductions in the inner area appear to have been taking place throughout the period of available data (from March 2005 onwards). Meanwhile, outside the inner area, there appear to have been fairly consistent reductions occurring from early 2007 onwards. In Peterborough, the primary change in traffic appears to have occurred between 2005 and 2006. In Darlington, there is evidence of early traffic reductions (between 2004 and 2005), followed by stability, and then further reductions from 2007 onwards.

Contribution of personal travel planning

In all three towns, detecting the effects of the personal travel planning activity is not straightforward, though there are indications of effects for particular phases in each place.

Table 17.42: Changes in traffic during the period of Sustainable Travel Town designation

	Darlington	Peterborough	Worcester
Household surveys*			
Trips per person	-7% to -10%	-8% to -10%	-8% to -10%
Distance per person	-6% to -7%	-7% to -10% (-1.7 to -4.5% at town level, after allowing for population growth)	-3% (-1.9% at town level, after allowing for population growth)
Manual and automatic counts#			
Inner area	-5.3% to -6.7%	-7%	-8% between 2005/6 (start of available data) and 2008/9
Outer area~	+1.6% to -0.2%	-1%	Growth until 2006/7, then fall of -1.0% to -1.8%
Overall change	-2.4% to -3.2%	-2.4%	Growth until 2006/7, then fall of -1.9% to -2.6%
Timing of change	Initial effect, followed by more gradual reductions	Most of the change appears to have occurred between 2005 and 2006	Most of the reductions outside the central area appear to have occurred between 2006 and 2008
Location of change	Greatest reductions in the central area. Possibly differential effects in different parts of the city	Greatest reductions in the central area	Greatest reductions in central, south and west parts of the town. Particular reduction on a corridor between Worcester and Malvern
Possible explanations for change	Employment growth of 9.6% between 2004 and 2008, concentrated around the periphery of the town. Clearest personal travel planning effect shows in the inner counters for Phase 2, which affected the central part of the city	Population growth of 6.1% between 2004 and 2007, and employment growth of 7.5% between 2004 and 2008. Clearest effect from personal travel planning activity from Phase 3, to the west of the city	Population growth of 1.1% between 2004 and 2007. Clearest effect from personal travel planning from Phase 3, which affected the south and west of the town

Notes: * Household survey figures are for ex post survey in Autumn 2008, compared to baseline survey in Autumn 2004; base = all trips under 50km; range shows variation between weighted and unweighted data. Where no range is given, figures for weighted and unweighted data were the same. # Where ranges are given in the annual and automatic count data, the larger reductions shown include the effects of the changing economic situation, whilst the smaller numbers do not (except for the values for inner Darlington, where this reverses as there was some traffic growth towards the end of the period, though this is probably due to changes in roadworks). Where ranges are not given, the timing of the data means that the values generated were not affected by the changing economic situation. In Darlington and Worcester, the 'outer' area was taken to be the periphery of the town. In Peterborough, it was defined as the area outside the inner area.

Annex

A17.1 Darlington traffic data

Table 17.43: Raw major road count data for Darlington

	Easting	Northing	2000	2001	2002	2003	2004	2005	2006	2007	2008
Coniscliffe Road	425000	514230	5016	5694	5981	6268	6467	6666	6581.5	6497	
Croft Road	428000	510910	6056		5817				5969		
Darlington Bypass	432680	515050	13346		15963				13677		
A1	425850	517000	17865	20385	28323	24055	19788	27013	24549.5	22086	
St Cuthbert's Way	429100	514220	16887					14516			
Woodland Road	428000	515050			13700				14172		
Bridge Road, east of A66m r/about	427050	512570			11409						
St Augustine's Way	428839	514828	12379							12157	
West Auckland Road	424000	521040	3482		3462				3745		
North Road	429070	516000	15360	16532	16903	17274	15998	13416	11806	13167	13760
St Cuthbert's Way	429138	514771			22561						
Stockton Road	432000	516460	16364							14965	
A1, nr Coatham Mundeville	428000	520450	21066	31055	26379		23502		32330		25821
Darlington Bypass	430000	512398	11306	12262.5	13219	13599.5	13980	14831	14128.5	13426	
St Cuthbert's Way	429199	514593		26454							23620
Durham Road	428950	520000	13216		13658	14597		13020		12581	
A6072, Bishop Auckland	425000	522843	7409		8283		8601		8793		8244
Salters Lane North	430000	517100	12244	11842	11440	11299	11158	11328	11234.5	11141	
West Auckland Road	426000	518900	9749			10931				11469	
Grange Road	428000	512803		10180			10699				
West Auckland Road	427500	516000	13467	13561	13313.5	13066	13998	13519			
A67	420500	516070	5201							5467	
Coniscliffe Road	427000	513620				8812				8083	
A67	434730	514100	5760		5931			5866			6133
Sadberge Bypass, NE of Darlington	433911	516469	16218	17682		19162		19611		19838	

Table 17.44: Automatic traffic counter data for Darlington (sites 1-28)

	1	2	4	5	8	10	11	12	13	14	15	17	18	20	22	23	24	25	26	27	28
May-04	18267	24324	9363	6778	8301		22645	16668	28906	11144	15775	4491	23102	3672	14438	15106	9380	22997	15904	10846	11636
Jun-04	18380	25021	9287	6738	8411		22651	16490	28919	11365	15582	4174	22972	3579	14336	15087		22915	15561	10720	11629
Jul-04	18164	25593	9150	6715	8309		22926	16617	29546	11060	15246	3997	22816	3604	14257	14861		23019	15819	10801	11734
Aug-04	17545	24763	9012	6692	8147		22377	16213	28900	11189	13962	3896	21912	3395	13591	13947		22991	15616	10454	11297
Sep-04	19084	24461	9550	6668	8240		23084	16864	29756	11426	14709	4734	23244	3589	14339	15063		22964	14460 5	11038	11802
Oct-04	18920	25770	8871	6645	8095		23011	16879	29955	11341	15468	4439	23435	3502	14450	14560		22937	13305	10962	11526
Nov-04	17802	25789	8022	6222	7904		23438	15299	30778	11457	15783	4525	23488	3493	14093	14889	22655	11858	15413	10177	11669
Dec-04	17005	24001	6926	6802	7628		22246	15481	29067	10877	15278	4131	22777	3085	13482	14079	17376		15127	6363	10745
Jan-05	16938	24240	8239	6831	7157		21769	14237	28417	10547	14357	4211	22120	3319	14275	13187	18659		14961		11143
Feb-05	16774	24419	7202	6859	7342		22632	15397	29260	11008	15015	4156	22628	3414	13521	13290	19941	22062	15303	9149	11316
Mar-05	17850	25321	6755	6888	7858		22081	15278	20038	11257	15319	4222	22716	3568	14209	14450	21214	17182	15062	19372	11418
Apr-05	18894	24656	9087	6905	8205		22266	15533		11558	15627	4459	23253	3895	14743	15385	22188	15342	15803	20205	12194
May-05	18218	24730	9245	6922	8296		21654	14972		11311	14111	4381	22842	3825	14421	15359	22183	15437	15231	19592	11751
Jun-05	18792	25144	9309	6781	8306		20604	15364		11382	15928	4316	23216	3858	14688	15562	22517		15631	5871	11942
Jul-05	18452	24258	8959	6748	8220		21924	15220		11103	15811	3927	23013	4050	14524	15138	22411		15555		11765
Aug-05	17125	24755	9180	6715	8027		21600	14659		10538	15720	3605	21787	3678	13296	13997	20704				11226
Sep-05	18503	24987	8831	6682	8081		21937	15788		10132	15630	4455	23231	3847	14271	14081	21659	21833			11630
Oct-05	18493	24049	8956	6614	7957		21942	16395	15717	9915	15539	4208	23058	3839	14269	14122	20636	18880			11646
Nov-05	19502	23942 5	8675	6751	7987		21799	15666	22715	9699	15448	4588	23859	3883	14678	14097	19613		15023	19742	11654
Dec-05	17660	23836	8335	6251	7798		20966	14640		9482	15207	4002	22760	3316	14127	13789	19230	20211	14697	18422	10804
Jan-06	17805	24212	8531	6331	7609		21187	14237		9265	15195	4109	22081	3603	13639	13705	19899	20900	14386	12710	11003
Feb-06	18506	24307	8968	6510	7954		22029	15432		9295	15305	4115	22726	3788	14210	14229	21320	21793	16285		11533
Mar-06	18956	24310	9094	6693	7857		21870			9364	14874	4435	23150	3809	14188	14665	21155	21351	15830		11861
Apr-06	18355	24580	9272	6627	8137		22128			9301	15969	3973	22628	3913	14147	14531	20842	21408	15418		11607
May-06	18271	24756	9573	6771	8198		22060			9526	15882	3883	22928	3918	14274	14754	21314	21757	15061	18742	11571
Jun-06	18871	24874	9688	6877	8339		22247			9517	16268	3794	23110	3971	14396	15289	21785	21686	15099	18168	12002
Jul-06	18597	23573	9151	6852	8470		21981			9288	15588	3705	22759	3873	14197	15078	21640	21636	15137	19638	11703
Aug-06	17694	24464	9451	6362	7884		21395		19488	8722	14874	3320	21903	3708	13784	14975	20260	20860	15174	19159	11205
Sep-06	19220	23374	9104		8304		21887		27706	9001	15969	3940	23169	4004	14750	14871	21409	18978	15805	20160	11746
Oct-06	19828	23374	8858		8140		21834		27988	9449	15882	3914	23522	4147	14599	14768	19737	20484	15916	20405	11717
Nov-06	19794	24438	7880		8131		22076	16666	27936	9511	16268	4164	23590	3968	14932	15397	19768	21955	16094	20553	11895
Dec-06	17930	25107	8974		8234		20750	16919	26846	8320	15588	4325	22845	3420	14179	15045	19799	21144	15191	18491	10902
Jan-07	17698	23205	8054	6864	7861		21037	14164	26636	10324	14710	3665	21270	3693	13350	14692	20290	21168	13817	17229	11026

Feb-07	18644	24038	8522	6749	7931	16685	21881	15802	27354	10834	15397	3781	22449	3864	14170	14384	20764	21722	15399	19412	11150
Mar-07	19118	24468	8914	7134	8328	17157	22227	16310	27832	11093	15978	4007	23163	4037	14747	15161	21248	22027	15892	20326	11614
Apr-07	18396	24103	8898	6978	8459	17249	22300	14944	27538	10403	15374	3607	22382	3970	14445	14921	21361	21855	15268	19160	11456
May-07	18303	24204	9181	7162	8487	17228	21729	15546	27440	10672	15619	3827	22326	3886	14366	14880	21370	21475	15328	19390	11322
Jun-07	18868	24644	10142	6991	8634	17566	22419	15358	27536	10788	16080	3831	22717	3937	14734	15333	21602	17374	15628	19737	11706
Jul-07	19335	23942	10074	6818	8656	17573	22268	11936	27650	10662	15702	3565	22699	4156	14693	15153	21609	21766	15720	19597	11853
Aug-07	18330	22833	9697	6548	8537	16737	21611	12285	27769	9943	15089	3292	21800	3925	14016	14315	20595	21032	15310	19087	11413
Sep-07	19301	24048	10203	7176	8567	17466	22220	12721	27888	10859	16072	3705	22871	4034	14800	15202	21350	16315	15801	19903	11965
Oct-07	19113	24384	10112	6932	8718	16977	22428	13322	28034	10745	15969	3700	23015	2412	14850	14959	22562	22495	15594	19646	11632
Nov-07	19350	25292	10010	7002	8616	17798	23272	12877	29320	10644	16317	3914	22857	3823	15139	15153	21781	22711	13543	17034	11941
Dec-07	17851	23658	9609	6549	8314	17488	21848	14724	27132	10525	15473	3816	22518	3307	14264	14298	18770	18475	14422	18267	11169
Jan-08	17573	24408	9491	6631 5	8012	17179	21172	14787	24044	9842	14523	3518	21374	3514	13356	13646	20354	21187	14982	18421	11323
Feb-08	18579	24838	9348	6714	7710	16870	23232	12092	29104	10100	15438	3642	22234	3775	14302	14739	22082	22408	12227	14259	12162
Mar-08	18094	24679	9462	5503	7649	16561	22263	9775	26720	10022	15159	3603	21852	3678	13993	14162	21344	21856	13508	16200	11795
Apr-08	19718	25279	9836	6845	8081	17988	24119	9552	30020	10132	15670	3502	22166	3584	14607	14890	22633	23924	12300	16293 3	12373
May-08	20076	25130	9766	7299	8410	17746	23933	9340	29404	9814	15439	3546	21436	3214	14499	15132	22489	23418	12258		12073
Jun-08	20722	25581	9795	7028	8291	17786	24005	9702	29752	10140	15761	3589	22407	3264	14786	15440	22463	23560	12441		12258
Jul-08	20219	25251	9803	6840	8301	17654	24024	9549	29518	10033	15325	3387	21995	3164	14396	15064	22292	23375	12141		11859
Aug-08	19164	24921	9256	6348	7965	16406	22254	12805	27308	10147	14956	3127	21246	2905	13891	14004	21322	21855	12800		9015
Sep-08	20351	24591	9417	6947	8368	17121	22651	14466	27298	10515	15757	3659	22389	3059	14584	14873	21193	22233	11898	11350	11799
Oct-08	20369	25205	9028	6651	7942	16891	22841	14514	28041	10488	15727	3583	22800	2983	14509	14650	20688	22352	11549	10885	11966
Nov-08	20179	25079	9196		8062	16466	22841	14838		10527	16179	3703	23594	2988	14867	14428	20277	22201	11468	11086	12310
Dec-08	16017	23198	7638		8076	15139	21234	13720		9744	14994	3486	23519	2728	13726	14205	18704	21338 5	11386	11974	11019
Jan-09	17351	22492	8269		7982	15236	21090	14039		10079	14396	3469	22398	3208	13168	13982	18613	20476	11304	10534	11404
Feb-09	17571	22550	8520		7832	15333	21921	14468		10097	14948	3769	20419	3449	13750	14765	19065	20618	11182	10550	11966
Mar-09	18152	23603	9113		8699	16877	20891	15142		10197	15866	4307	20639	3716	14647	16299	20202	20874	11719	11050	12304
Apr-09	16947	23056	8855		8551	16609	22275	14270		9967	15184	3738	20162	3429	14117		19755	21637	11401 7	10663	11700
May-09	15956	24401	8800	4606	8594	16417	22504	14315		9955	15461	3572	21062	3071	14208		19308	21984		10684	11526
Jun-09	17914	24043	8922	7059	8588	16983	22404	14977		10112	16053	2815	22465	3369	14767		19736	21802			11951
Jul-09	17704		8701	6760	8486	17041	22452	14977		9966	15490	3757	22050	3327	14297		19309	21660			11808

Table 17.45: Automatic traffic counter data for Darlington (sites 30-66)

	30	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	50	52	54	55	66
May-04	13087	9125	7820	5190	3508	10706	2712	17317		6912	10221	14574	20095	26939	23592						
Jun-04	12950	9131	7689	5100	3466	10585	2679	17117		6846	10069	14421	19985	27614	23592						
Jul-04	12831	8963	7848	5004	3417	11229	2623	17518		6780	9833	14354	5228	27644	23720						
Aug-04	12401	8398	7838	4746	3179	11008	2376	17473		6761	9285	12924			23198						
Sep-04	13283	8974	7741	5099	3377	11302	2592	17861		6741	10013	14259			23858						
Oct-04	12575	8894	7560	4679	3310	11953	2571	17480		6721	9952	14008		22764	23356						
Nov-04	12829	9036	7605	4260	3352	12001	2515	17880		6966	10688	14454		22671	23209						
Dec-04	11902	8766	7305	3841	3187	11570	2193	16872		6470	9748	13459			22406						
Jan-05	11587	8437	7192	4862	3006	10786	2295	16498		6453	9819	13539	20360.7	26628	21796						
Feb-05	11685	8560	7410	5336	2972	10941	2328	16714		6381	10227	13688	19739	26926	22504				22078		
Mar-05	12783	8638	7632	5384	3134	11052	2490	17264		6689	10221	14195	20195		21025		1220	1602	22688		
Apr-05	13682	8861	7927	4190	3404	11058	2678	17339		7082	10317	15053	21148	27457	20913	16013.7	1034	2130	22914		
May-05	13585	8748	8001		3389	10889	2690	17021		7011	10180	14803	20549	26707	20092	15782		976	22914		
Jun-05	13709	8983	8147		3467	10999	2648	17259		7155	10123	15322	21095	14452	20325	15916			23261		
Jul-05	13409	8772	7775		3378	11377	2574	17425		6745	5313	14693	20827		21154	16343			23222		
Aug-05	12674	8273	7215		3273	11091	2445	16741		6286		13851	18986		21206	16182			22087		
Sep-05	13145	8931	7573	4046	3422	11445	2580	17307		6817		14591	20504	24897	22481	17328			22757		
Oct-05	12809	8719	7577	4014	3340	11630	2559	17443		6933		14225	20171		22690	17876			22846		
Nov-05	12782	8939	7486	5018	3354	11137	2718	17933		6447		14246	21368	22967	22912	18159	1254	2618	22642		
Dec-05	11880	8535	7134	4848	3177	12449	2448	17481		6603		13606	19763	18729	21708	17227	810	2116	20137		
Jan-06	12137	8369	7179	4423	3114	11410	2083	16685		6759	8570.7	13900	20006		21225	16903	1057	2219	20860		
Feb-06	12616	8640	7486	5403	3139	11806	2514	17078		6669	9394	14276	20658		22259	17362.5	804	2251	22462		
Mar-06	12921	8910	7364	5473	3251	12168	2690	17217		7111	9105	14543	21127	22013	22426	17822	550	2403	22454		
Apr-06	12971	8551	7490	5417	3318	12207	2661	17433		6984	7213	14854	20381	27657	22276	17608	583	2303	22346	8973.7	
May-06	13047	8784	7622	5434	3403	12200	2642	17559		7120	9429	14828	20767	26751	22266	17673	581	2351	22323	8640	
Jun-06	13468	9002	7672	5523	3483	12265	2691	17524		7289	7056	15073	21205	27061	22341	17639	614	2420	22296	9138	
Jul-06	13309	8737	7630	5512	3477	12455	2733	17514		6990	9054	14525	20814	26887	22428	17776	619	2300	22640	9143	
Aug-06	12275	7932	7169	5127	3178	12034	2541	16938		6313	8419	13774	19808	26042	22055	17943	549	2154	21746	8487	
Sep-06	13090	8823	7662	5201	3439	12343	2743	17721		6872	9175	14507	21794	27565	23053	18110	599	2403	22749	9285	
Oct-06	12974	8645	7724	5274	3391	12397	2898	17894		6689	9256	14528	22062	27643	23000	18277	587	1842	22980	9189	
Nov-06	12896	8922	7643	5409	3450	12514	2736	17751		6732	9691	14156	21764	28136	23200	18444	574	1280	22626	9414	
Dec-06	11984	8648	7251	5274	3244	11904	2299	17608		6331	9241	13693	20426	26209	21122	16925.5	519	1829	20893	8898	
Jan-07	11699	8163	7089	4954.5	3045	11674	2345	17465		6577	9358	13710	19922	24744	20679	15407	539	2378	20799	8705	19191
Feb-07	12417	8581	7402	4635	3214	12038	2499	17322	19561	6768	9181	14346	20979	26496	21873	13743	576	2260	22050	8967	19807
Mar-07	13145	8921	7537	5170	3411	12449	2702	17749	20017	7054	9585	14766	21546	27439	22569	13597	601	2267	22459	9420	20630

Apr-07	13095	9117	7543	5350	3370	12404	2618	17229	20044	6917	9491	14795	20729	26719	22930	12864	610	2129	22101	9215	20387
May-07	13130	8867	7654	5086	3442	12482	2591	17714	19718	6973	9406	14544	20767	26997	22337	12798	628	2053	22116	9167	20144
Jun-07	13360	9142	7710	5234	3440	12542	2613	17322	19779	6977	9454	14546	21275	27642	22839	12916	643	2178	22199	9173	18866
Jul-07	13376	8851	7642	5168	3272	12546	2854	17568	19892	6819	9351	14611	21652	27202	22632	12889	635	2114	22435	9287	19224
Aug-07	12880	8205	7293	4808	3199	12075	2796	17060	19211	6339	8666	13870	20484	26149	21803	12552	589	1933	21570	8622	19155
Sep-07	13353	8926	7531	5059	3464	12629	2847	17740	19860	7067	9293	14456	21723	27413	22555	13140	630	2136	22506	9288	18822
Oct-07	13166	8659	7929	5175	3575	12607	2715	17789	20035	7351	9513	14269	22469	26974	22320	13283	638	2159	22477	9275	19341
Nov-07	13311	8830	7284	4950	3489	12856	2573	18083	20603	7032	10525	14718	21673	27208	22085	12140	612	2280	23023	9566	19849
Dec-07	12198	8494	7067	4268	3195	12247	2216	16976	19138	6061	9200	13387	20094	27560	20930	12440	537	1889	20264	8852	16786
Jan-08	11799	8125	6732	4842	3042	11569	2337	16564	19774	6718	8864	13601	19720	26104	20554	12425	507	1870	20493	8408	17863
Feb-08	12889	8434	7100	5041	3308	12037	3276	17913	21430	7191	10180	14750	20778	25861	20829	12388	507	1976	20810	9167	20086
Mar-08	12397	8310	6894	5012	3196	12639	2784	17506	20840	7011	9630	14233	20216	26112	20706	12444	545	1926	20708	8865	20442
Apr-08	13426	8380	7447	5024	3256	12161	2553	18186	22435	7648	11257	15352	20392	25795	20442	12068	519.7	1299	20832	9369	22142
May-08	13668	8430	7721	4990	3235	12089	2641	17997	22075	7951	11319	15484	19608	25435	20136	11934		1209	20658	9634	23245
Jun-08	13731	8660	7849	5078	3292	12144	2671	18000	22341	7969	11381	15525	20400	26112	20624	12222		1153	20636	9483	23221
Jul-08	13573	8365	7657	4984	3231	12095	2649	17928	22056	7778	11080	15262	19802	25564	20425	12117		1194	20639	9423	23224
Aug-08	12743	8357	7168	4814	3121	11738	2393	17068	19668	7242	8876	14103	18804	25221	20652	12208		1152	20408	8565	22984
Sep-08	13227	8394	7537	5084	3295	12033	2590	16276	19683	7644	9474	14935	20134	26460	21405	12679		1159	18746	8928	23350
Oct-08	12970	8474	7532	5166	3350	12283	2749	16233	19683	7534	9175	14769	19893	26512	21352	12800		1174	18528	9109	24642
Nov-08	12823	8555	7559	5347	3467	12370	2647	16129	19773	7324		14427	20334	26943	21425	12959		1198	18140	9201	23343
Dec-08	11704	8256	6962	5067	3286	12064	2296	15221	18722	7115		13037	19078	26323	19830	12313		1101	16153	8480	20651
Jan-09	11885	8025	7145		2848	11310	2784	14982	18227	6906		13399	20168	20091	19750				16505	8373	21647
Feb-09	12340	8680	8135		2739	11824	2703	15566	18913	6798		13892	20310	20862	20672				16278	8640	22491
Mar-09	13720	9474	8605		3067	12101	2850	16005	19575	7493		15326	21269	22143	21466				17793	9307	24007
Apr-09	13149	8778	8347		3065	11850	2653	15744	19180	7150		14795	20126	21221	20869				17463	9090	23040
May-09	12856	8503	8021		3264	11744	2687	15504	18919	7486		14645	19119	21150					17446	8853	
Jun-09	13245	8543	8024		3358	12200	2694	15511	19113			14823	21157	21572					17571	9194	
Jul-09	12965	8374	7849		3154		2573	15574	19081			14828	20578	21284					17412	8753	

A17.2 Peterborough traffic data

Table 17.46: Raw major road count data for Peterborough

Combined direction	Longthorpe Parkway	A15 Rivergate	Bourges Boulevard	Glinton	Paston Parkway	Boongate	Drakes Mere	Frank Perkins Parkway	A1260 Nene Parkway	Fletton Parkway	Total
Mar-06	23349	22798	29334	18727	26439	24939					97849
Apr-06	22623	22643	28026	18191	26229	24189					95069
May-06	23238	22715	28579	18797	26546	24583					97160
Jun-06	23218	23063	27742	18752	26349	24072					96061
Jul-06	23408	23038	28223	18838	26294	24346					96763
Aug-06	22591	22220	27708	17954	24817	23720					93070
Sep-06	23548	22850	28627	19165	26070						97410
Oct-06	23971	22498	28978	19278	25274						97501
Nov-06	24692	25367	29560	19564	25996		2687				99812
Dec-06	23170	28235	28322	18576	24481		2543				94549
Jan-07	21856	28235	26796	18552	24496		2662				91700
Feb-07	22352	29982	27748	19209	25539	24317	2820				94848
Mar-07	22837	31729	28346	19688	25775	26089	3223				96646
Apr-07	22000	33475	27764	18500	25866	23767	3145				94130
May-07	22279	33642	28069	18615	25655	23982		51980	52971	52606	94618
Jun-07	22825	35447	28478	19180	26433	24516		53065	54154	53662	96916
Jul-07	22684	34824	28317	18890	26164	24527		52530	54195	53157	96055
Aug-07	22371	34245	27433	18017	25280	23161		49234	53804	47620	93100
Sep-07	23725	33565	28250	18807	25573	23456	4107	49645	54431	47852	96355
Oct-07	23534	32740	29631	19485	25221	24314	4339	50921	55674	48595	97871
Nov-07	23862	33530	31170	20383	24627	24314	5145	50674	56317	47849	100043
Dec-07	22151	31697	29861	18697	22428	22808	4484	47761	51060	45523	93137
Jan-08	21483	29756	28160	19022	23395	22566	4745		52503	46526	92061
Feb-08	22476	30167	28955	19630	24576	23878	5396		54987	47530	95638
Mar-08	22713	26835	28385	18346	24609	24156	5131	49244	54199	44865	94053
Apr-08	23031	30219	29307	18955	26229	25061	5665	51177	56493	48419	97521
May-08	21852	32998	29311	18440	25834	24205	5312	50561	53545	50059	95437

Jun-08	22278	35777	29449	18743	25909	24208	5165	49853	54343	48919	96378
Jul-08	22406	33462	29716	18797	26317	24479	4941	50922	53746	50234	97236
Aug-08	20932	32078	28453	17344	24178	22475	4398	48443	50707	48251	90906
Sep-08	19919	34824	30029	18838	26722	24122	4929	52362	46927	50634	95508
Oct-08	21168	33139	30143	18649	26321	25180	4979	54753	47312	53268	96281
Nov-08	21785	31797	30395	18766	26223	23899	5054	50715	52272	50099	97169
Dec-08	22440	32201	31597	19245	25812	24261	4950		52755	49413	99093
Jan-09	20073	29281	27664	17685	24004	22492	5069		49207	47042	89426
Feb-09	19665	29931	27500	17418	24153	22183	5042		48909	47335	88737
Mar-09	21550	31756	29122	18624	26150	24071	5743		52787	51591	
Apr-09		31468	28955	18373	25853	23314	5657	51246	52114	50961	
May-09		32450	28705	18397	25556	22480	5747	46406	52934	46711	
Jun-09		33815	29222	19577	25259	22270	6154	43887	58070	45158	
Jul-09		35134	29651	20341	27790	22104	6159	38319	58380	43751	
Aug-09		33182	28418	17850	23923	20498	5752	37641	54042	42381	
Sep-09		33658	29392	17850	26082	21257	6381	41849	57144	43850	

Notes: Orange shading indicates roadworks. Red text indicates interpolated values. In relation to Paston Parkway, two data values have been replaced with interpolated text to avoid distortion caused by the roadworks.

Table 17.47: Data from individual count sites in Peterborough

		2004	2005	2008
Urban screenline	Westfield Road	13374	13308	14284
	Mayors Walk	5514	5834	5440
	A1179 Thorpe Road	16046	16222	16293
	A605 Oundle Road	9434	9635	8102
	A15 - London Road	6405	6031	5867
	Fletton High St	5291	5581	5159
	A15 Town Bridge	25249	23483	20533
New city screenline	Lincoln Road		13997	11828
	Park Road		7176	6231
	Broadway		2029	1909
	Eastfield Road		7136	7698
	Bishops Road		6083	5385
Minor NRTE counts	Fulbridge Road	6225	6093	5882
	Orton Goldhay	264	231	317
	Shrewsbury Avenue	6259	6842	6338
	Bretton Way	5891	7704	5833
	Star Road	1776	1712	1574
	Coneygee Road	4295	4243	3960
	Donaldson Drive	485	442	471
	Wistow Way	1195	1073	978
	Hartwell Way	1590	1588	2216
	Bretton Parkway	5452	7666	5146
	Thorpe Road	3003	3204	3672
	Eye Road	3287	4034	2439
	David's Lane	5337	5879	5358
	St Margaret's Road	552	453	674
	Exeter Road	1210	1351	1511
Major NRTE counts	Bourges Boulevard	28173	28092	28259
	A1139	37784	38407	37874
	Soke Parkway	28295	26738	31644
	Frank Perkins Parkway	26458	29243	18771
	Lincoln Road	24592	23287	22632
	Fletton Parkway		25230	20522
	Soke Parkway		23120	27567
	Fletton Parkway		24223	25066
	Fletton Parkway		33138	34351
	Paston Parkway	18044		20275
	Oundle Road	9711		10719

Note: Data are 12-hour manual counts of cars and taxis.

A17.3 Worcester traffic data

Table 17.48: Raw major road count data for Worcester

Road Name at CP	2000	2001	2002	2003	2004	2005	2006	2007	2008
London Road		12388	13387	14386	14660.5	14935	13774.5	12614	
Droitwich Road	12306					12828			
Sansome Walk					6742				
Hylton Road					20504				
New Road				19232					
City Walls Road			20582						
Tybridge Street		17844							20570
All Saints' Road			19756						
Barbourne Road			20395		21869				22514
Ombersley Road		9907	10598	10566	10534	10712	10890	10934	10978
Bath Road		14197	14599.5	15002	14930.5	14859	14826.5	14794	
Deansway			17310						
Worcester Northern Link Road	17637					19080			
Foregate Street		6093					6023		
North Parade						18991			
Droitwich Road				13190					
Sidbury					25423				
Bromwich Road		12108	13266.5	14425	13582	12739			
Croft Road		20174							
Bridge Street					18661				
Broomhall Way		22554	22764.5	22975	23832	24689	24297.5	23906	
N/A		35302					33764		
N/A				11101					
Hylton Road			12809				12977		
Bromyard Road	9846	9990	9960	10195	10366.5	10538			
Nunnery Way	15446	16136	17450	18764	18619	18474	19393	20312	

Table 17.49: Automatic traffic counter data for Worcester

	A38 Barbourne Rd	A4440 Swinesherd Way	A44 Whittington (m'way)	A4440 Broomhall Way	A4440 Temeside Way	A44 Bromyard Rd	B4485 Bransford Rd	A44 New Rd (Worcester Bridge)
Jan-98				22972	27180			
Feb-98				24472	28571			
Mar-98				25241	29114			
Apr-98				25029	28560			
May-98				25400	29992			
Jun-98				26327	30293			
Jul-98			30129	26158	30289			
Aug-98				25948	29607			
Sep-98				26375	30610			
Oct-98				25505	30041			
Nov-98				25322	29814			
Dec-98				23510	27656			
Jan-99				23398	27523			
Feb-99				25044	29350			
Mar-99				25233	30298			
Apr-99				28279	30137			
May-99			31355	31028	31101			
Jun-99				29326	31156			
Jul-99				27624	31383			
Aug-99				25923	30433			
Sep-99				25824	31132			
Oct-99	27317			26334	30364			
Nov-99	24143			26300	30292			
Dec-99	23650			23807	27619			
Jan-00	21130			23647	27422			
Feb-00	24676			25375	29600			
Mar-00	27120			25904	30796			
Apr-00				26329	30386			
May-00				26462	31333			
Jun-00	28405		30399	26054	31641			
Jul-00				25856	30929.5			
Aug-00				24849	30218			
Sep-00				25028	29176			
Oct-00				26580	30160			
Nov-00				24292	31028			
Dec-00				22551	28339			
Jan-01				23821	27785			
Feb-01				24508	28772			
Mar-01					29688			
Apr-01					29492			
May-01			29669		30110			
Jun-01			30301		30728			
Jul-01				27528	31345			
Aug-01				26854	30800			
Sep-01				26892	31529			
Oct-01				26438	31103			
Nov-01	26552			22229	31151			
Dec-01	26835			16928	30136.5			
Jan-02	24742			22127	29122			
Feb-02	25892		29739	22403	30436			

Mar-02	26437			25532	31974			
Apr-02	26225			25853	32339			
May-02	26462			25211	32665			
Jun-02	25349			27235				
Jul-02	26632							
Aug-02	26378							
Sep-02	27169							
Oct-02	26815							
Nov-02	26000							
Dec-02	25185			23375				
Jan-03	24370			23193				
Feb-03	24864			24699				
Mar-03	25311			26566				
Apr-03				26537				
May-03				27399				
Jun-03		21737	32082	28093	33286			
Jul-03		21220	31485	27859	33131			
Aug-03		20558	31126	27847	31677			
Sep-03		20830	32398	27835	32879			
Oct-03		20121	30929	26454	32211			
Nov-03		19328	30883	25813	32070			
Dec-03		16495	30449	22488	29432			
Jan-04	24560	18181	*30730*	22813	28886	9227	3839	
Feb-04	25221	19596	31010	24341	31153	10467	4040	
Mar-04	26674	20228	32227	26549	32943	10871	4322	
Apr-04	25877	19782	30973	26690	32709	10558	4043	
May-04	25722	20479	31797	27322	33701	10908	4271	
Jun-04	25199	20838	32163	27575	34034	10877	4331	
Jul-04	26289	20444	31967	27895	33800	10628	4142	
Aug-04	25734	19576	30665	27181	32072	10230	3947	
Sep-04	25965	21196	32394	27412	33378	10844	4304	
Oct-04	25993	20523	31317	26359	32365	10554	4160	
Nov-04	26391	21750	31332	25208	32218	9987	4208	
Dec-04	23289	19094	28525	22147	29697	8626	3777	
Jan-05	24663	18387	28528	22498	29386	9247	3915	
Feb-05	25546	20016	29976	22668	31046	9823	3984	
Mar-05	25503	20731	30186	24547	31889	10134	3919	41414
Apr-05	26024	22168	31823	27079	33313	10635	4199	43154
May-05	26170	21724	32017	27618	33146	10717	4079	42867
Jun-05	25215	21534	32371	26408	34000	10942	4213	42269
Jul-05	25803	21139	31844	28507	33717	10750	4123	40579
Aug-05	25558	20514	31460	27601	32129	10196	3729	*41095*
Sep-05	25816	21767	*30730*	27611	32897	10867	4020	*41611*
Oct-05	25660	21221	*29999*	26847	32400	10474	4005	42127
Nov-05	25688	21441	*29268*	26226	31960	10472	4095	42383
Dec-05	23387	19282	*28537*	23961	29853	9784	3713	*41724*
Jan-06	25177	19932	27806	24511	29745	9730	3839	41065
Feb-06	25221	20542	29202	26605	31477	10094	3899	40409
Mar-06	25100	21486	30611	27068	32541	10488	4039	41298
Apr-06	25376	20956	30726	27983	32716	10431	3922	*40993*
May-06	25826	21624	31489	*28133*	33102	10744	4007	40687
Jun-06	26648	21940	32274	28282	33867	10667	4350	40806
Jul-06	25453	21501	32470	28618	34058	10735	4308	40639
Aug-06	25347	20119	31051	28133	32811	10217	3693	39323
Sep-06	*25928*	21667	31757	28435	33820	10983	4127	41554

Oct-06	26508	21020	31372	27982	33193	10681	4034	41389
Nov-06	26161	21407	31446	27157	32753	10746	4108	42068
Dec-06	*25703*	19357	28480	24517	29878	9950	3703	39645
Jan-07	25245	19728	28218	24420	29888	9822	3719	39292
Feb-07	24605	19174	29125	25161	30231	9913	4074	39222
Mar-07	26090	21465	31209	26943	32649	10720	3963	41568
Apr-07	25607	21085	31350	27953	32938	10528	3739	41227
May-07	25686	20948	31286	27027	32543	10645	3776	40578
Jun-07	25842	22020	32439	27628	32953	10908	4130	38380
Jul-07	25255	21395	31295	26692	32006	10210	3950	36721
Aug-07	25131	20344	30990	27238	31637	10538	4224	38760
Sep-07	25557	22146	32779	27916	33041	11241	4027	40661
Oct-07	25403	21643	31942	27272	32443	10674	3830	39774
Nov-07	25430	21831	31501	26613	32193	10419	4032	39468
Dec-07	23153	19699	29004	26546	29828	9704	3668	38468
Jan-08	24169	19837	28798	24329	29539	9463	3516	37157
Feb-08	24880	21274	30983	26533	31298	10169	3731	38856
Mar-08	24731	20735	30699	26284	31036	9982	3644	38394
Apr-08	25293	22272	32267	28002	32638	10604	3861	40984
May-08	25375	20987	32371	27959	31817	10412	3735	39397
Jun-08	25286	22127	32521	28292	32851	10386	3740	39928
Jul-08	25113	21090	32046	27795	32617	11181	3797	38779
Aug-08	25156.5	19766	31263	26717	31133	11833	3855	37631
Sep-08	25200	21531	32203	27514	32373	10552	3913	36483
Oct-08	25660	21125	28780	26665	31146	10433	3671	38003
Nov-08	25685	20885	28426.5	25796	31002	10413	3692	38585
Dec-08	24914.5	18685	28073	25924	28848	9615	3359	38352
Jan-09	24144	19488	28629	24957	28587	9587	3373	36872
Feb-09	24577.5	20056	31649	23510	29445	9599	3402	35833
Mar-09	25011	21627	30033	27574	32495	10590	3803	38439