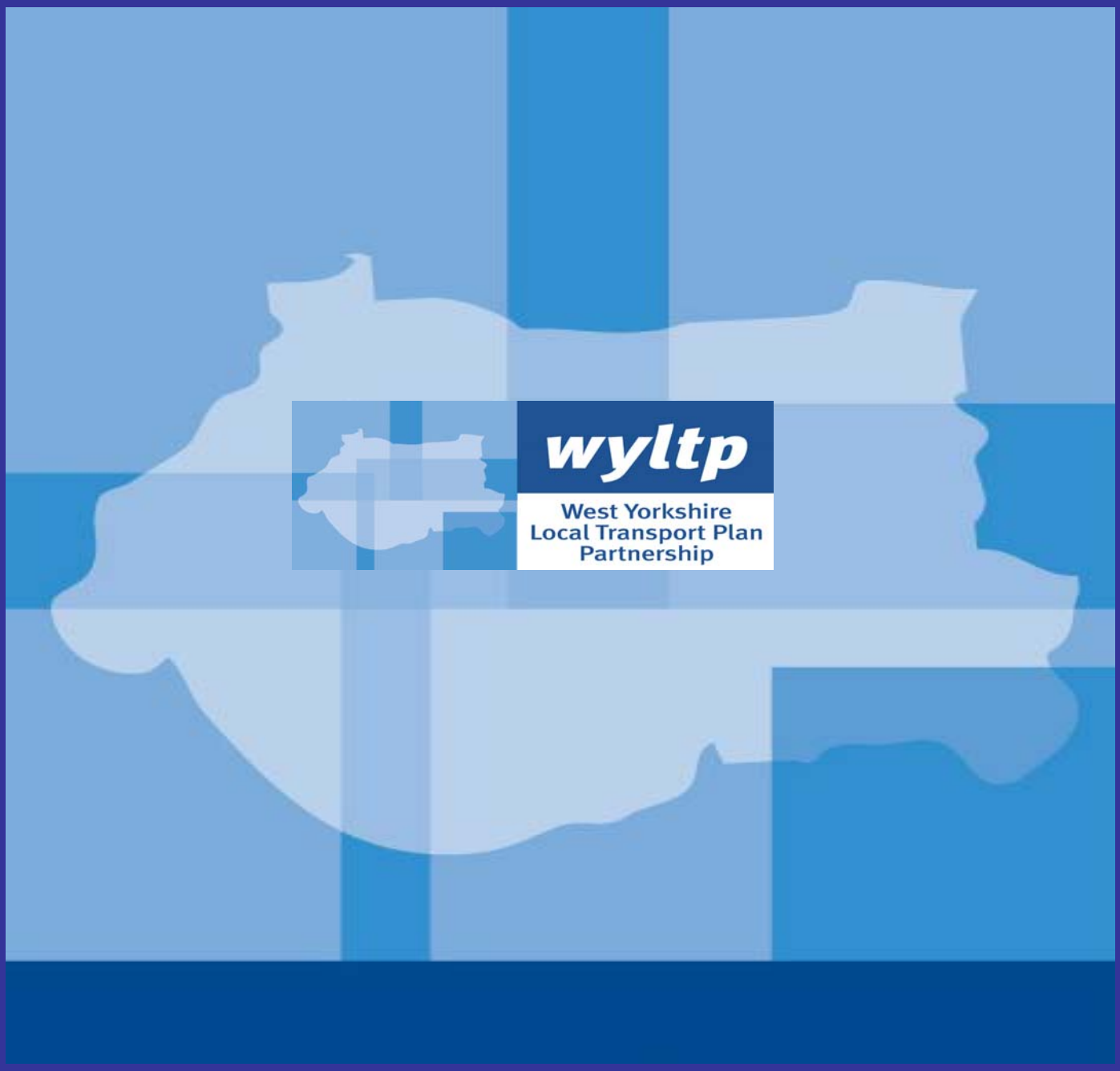

West Yorkshire

Local Transport Plan 2

Monitoring Report for 2006/07

August 2007

WEST YORKSHIRE LOCAL TRANSPORT PLAN

2006/07 – 2010/11

2007 MONITORING REPORT

The West Yorkshire Local Transport Plan Partnership

AUGUST 2007

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CHAPTER 1 INTRODUCTION

1.1 This report provides detailed information on the 46 key and background indicators which have been identified to effectively monitor both the Local Transport Plan (LTP) and associated national and local strategies. Not all indicators have associated targets; background indicators are used to inform the overall performance of the LTP strategy whereas key indicators relate directly to LTP or national targets. These indicators are summarised in Table 1.1

1.2 Where relevant the appropriate Best Value Performance Indicators (BVPI) are included. Progress is also reported against the Department for Transport's (DfT) Mandatory Indicators.

1.3 Data is obtained from a variety of published sources, national databases or specifically developed data collection exercises.

1.4 The indicators used are subject to continuing review and revision.

1.5 The remainder of this report is structured around indicators developed to monitor the 4 shared priorities of the LTP plus Asset Management with an initial section devoted to monitoring economic changes.

1.6 The data presented updates that given in the Baseline Data Report for the West Yorkshire Local Transport Plan 2006/07-2010/11 (LTP2) and an initial indication of progress towards LTP2 targets is also provided.

Ref	Indicator (DfT Mandatory, *Local Key*, or Background Trend Indicator)	LTP2 Objective (*)	Additional Shared Priority for Key Indicators (**)
ECONOMIC BACKGROUND			
E1	Unemployment Rates	O1	
E2	Local Trade Levels/Vacant Premises	O1	
E3	Central Area Rental Values	O1	
E4	Town Centre Footfall	O1	
SHARED PRIORITY : DELIVERING ACCESSIBILITY			
A1	**Non Car Travel Time to Hospitals**	O2	C,AQ
A2	**Bus Service Punctuality**	O2, O3	C,AQ
A3	**Satisfaction with Bus Services (BVPI 104)**	O2, O3	C,AQ
A4	**Cycle Flows**	O3	S,C
A5	***Satisfaction with LTP funded Public Transport Facilities***	O2	C,AQ
A6	AccessBus Patronage	O2	
A7	Pedestrian Crossing Facilities Meeting BVPI 165	O2	
A8	Age of Bus Fleet	O2,O3	
SHARED PRIORITY : TACKLING CONGESTION			
C1	**Average Journey Time Per Person Per Mile on Key Routes**	O3	A,S,AQ
C2	**Town/City Centre Morning Peak Period Traffic Flows**	O3	A,AQ
C3	**Mode Share for Journeys to School**	O3	A,S,AQ
C4	**Public Transport Patronage (BVPI 102)**	O3	A,S,AQ
C5	***AM Peak Cycle Trips to Centres of Leeds, Wakefield and Halifax***	O3	A,S,AQ
C6	***AM Peak Period Modal Split to Main Urban Centres***	O3	A,S,AQ
C7	***Peak Period Rail Patronage to Leeds***	O3	A,S,AQ
C8	***Quality Bus Corridor Patronage***	O3	A,S,AQ
C9	Peak Period Journey Time Variability on Key Routes	O3	

C10	% of Network Below Reference Speed in Peak Periods	O3	
C11	Peak Spreading Index	O3	
C12	Morning Peak Period Car Occupancy	O3	
C13	Mode Share for Travel to Work	O3	
C14	Travel Distance to Work	O3	
C15	Generalised Costs for Private and Public Transport	O3	
C16	Cost of Travel	O3	
C17	All Day Commuter Parking Supply & Cost	O3	
SHARED PRIORITY : SAFER ROADS			
S1	**All Road User Casualty Trends**	O4	
S2	**Casualty Trends for Children**	O4	
S3	**Slight Casualty Rates**	O4	
S4	***Casualty Trends for Different Road User Groups***	O4	
S5	Town Centre Car Park Spaces with CCTV Cameras	O4	
S6	Rail/Bus Stations with CCTV Cameras	O4	
S7	Town and City Centre Streets with CCTV Cameras	O4	
SHARED PRIORITY : BETTER AIR QUALITY			
AQ1	**NO_2 Levels in AQMA's**	O5	C
AQ2	**Area Wide Traffic Flows**	O5	C
AQ3	***Area Wide Road Transport Emissions - NOx, CO_2***	O5	C
AQ4	Air Quality Monitoring in Town and City Centres	O5	
AQ5	Area Wide Road Transport Emissions : PM_{10}	O5	
AQ6	Low Noise Road Surfacing	O5	
SHARED PRIORITY : ASSET MANAGEMENT			
AM1	**Principal, Non Principal and Unclassified Road Condition (BVPI's 223, 224a and 224b)**	O6	C, S
AM2	**Footway Condition (BVPI 187)**	O6	C,S
AM3	***Structures with Weight and/or Width Restrictions***	O6	A,S
AM4	***Bus Shelters Meeting Modern Standards***	O6	A,S

*** LTP2 Objectives**

O1. To develop and maintain an integrated transport system that supports economic growth in a safe and sustainable way and enhances the overall quality of life for the people of West Yorkshire

O2. To improve access to jobs, education and other key services for everyone

O3. To reduce delays to the movement of people and goods

O4. To improve safety for all highway users

O5 To limit transport emissions of air pollutants, greenhouse gases and noise

O6. To improve the condition of the transport infrastructure

**** Shared Priorities**

A Delivering Accessibility

C Tackling Congestion

S Safer Roads

AQ Better Air Quality

M Effective Asset Management

Table 1.1. DfT Mandatory, Local Key and Background Trend Indicators, Local Transport Plan Objectives and Shared Priorities

CHAPTER 2 ECONOMIC BACKGROUND

Role of Transport

2.1 The Regional Economic Strategy for the Yorkshire and the Humber region recognises that transport issues have a direct effect on the economic well being of the area. An efficient transport system with high quality facilities providing appropriate access links to district centres, workplaces, retail centres, local communities and the other amenities in the region is vital to have an affect on business success. However, there must be a commitment to minimise the negative aspects of transport investment to ensure sustainable development and quality of life.

2.2 A fundamental concern in the region's first Spatial Strategy (RSS), approved in December 2004 and based on a selective review of RPG12, is to establish crucial links between regeneration, economic, social and environmental planning, and sustainability. The RSS seeks to build on the economic success of Leeds spreading to other parts of the region, setting out advice for the sub-region in terms of transport. Within the RSS, the Regional Transport Strategy link with land-use and the impact of transport policies can be linked with changes in the indicators, and districts will continue to identify key areas for analysis, enabling the contribution of transport investment to regeneration and economic growth to be assessed with confidence during future years.

2.3 Investment in local transport infrastructure can be an important stimulus in regional economic development. Opening up market and employment opportunities benefits local businesses and workers, and infrastructure changes affect the cost of travel and so influence supplier and consumer behaviour. Continued improvement to local access, together with environmental enhancements to the district centres, is reflected in the indicators for vitality, regeneration and economic growth that can be monitored consistently at a local level across five metropolitan districts.

Background Indicator E1: Claimant Count and Unemployment Rates

2.4 Release of the 2001 Census 'workplace' data has enabled a baseline for local area and sub-regional work patterns, and provides information for more confident transport planning.

2.5 Recent trends in unemployment at national level, regional level and for the individual centres in West Yorkshire are indicated in Table 2.1. The figures show the rates calculated as proportion of estimated resident population of working age, based on is those residents who were economically active.

2.6 The figures indicate a continued downtrend in unemployment across West Yorkshire following a n increase in 2006.

Area	2001	2002	2003	2004	2005	2006	2007
Great Britain	2.8	2.7	2.7	2.5	2.4	2.7	2.5
Yorkshire and the Humber	3.4	3.1	3.0	2.7	2.5	3.0	2.8
Bradford	4.1	4.0	3.9	3.3	2.9	3.5	3.4
Calderdale	3.3	3.1	3.0	2.5	2.2	2.8	2.9
Kirklees	2.8	2.6	2.6	2.2	2.1	2.5	2.6
Leeds	3.1	2.9	3.0	2.6	2.7	3.1	2.9
Wakefield	3.1	2.8	2.7	2.3	2.3	2.8	2.5

Table 2.1 Unemployment Rates Calculated as Proportion of Estimated Resident Population of Working Age. March Figures

2.7 Transport has a role to play in influencing business to locate in West Yorkshire and improving people's access to jobs and amenities. Improving end to end journey times and bringing business together helps reduce travel related non-productive time. Transport investment will broaden the access of employers to available labour markets and a successful and sustainable transport policy promoting confidence will continue to contribute towards falling unemployment levels.

2.8 Monitoring of economic activity and working patterns in West Yorkshire will continue throughout LTP2.

Background Indicator E2: Local Trade Levels / Vacant Premises

2.9 Viability is a measure of the capacity to attract ongoing investment, for maintenance and improvement and to respond to changing needs. The response of owners and tenants to changing demands and sustaining the vitality and viability of shopping areas depends on flexibility in the use of retail floor space. Increased provision of retail space is important to encourage new businesses into the area and allow existing businesses to expand. The result of both is to create a multiplier effect on spending/income/investment. Overall it is a sign of investor confidence and the transport system needs to meet the expectations and needs of the retailers, suppliers and customers.

2.10 Retailer's interest in locating in the area is a valuable indicator of viability and vacancy levels, particularly vacancy in prime retail areas, provides an effective insight into the performance of the cities and towns of West Yorkshire. Table 2.2 shows the latest data on the availability and occupancy of retail floor space in the main centres. The vacancy rate indicator is most useful as a ratio, particularly in view of the increase in provision.

District	Year	Floor space		Vacant Floor		Vacant Units	
		000m^2	No.	000m^2	%	No.	%
Bradford	2000	Na	Na	Na	Na	Na	Na
	2001	131	515	14	11	108	21
	2002	Na	Na	Na	Na	Na	Na
	2003	112	499	19	17	116	23
	2004	Na	517	Na	Na	113	21.9
	2005	Na	533	Na	Na	132	24.8
	2006	Na	478	Na	Na	78	16.3
Halifax	2000	55	510	9	11.7	38	7.5
	2002*	59	629	5	8.4	81	12.8
	2002*	96	821	10	10.4	104	12.7
	2003	Na	Na	Na	Na	Na	Na
	2004	Na	Na	Na	Na	Na	Na
	2005	Na	Na	Na	Na	Na	Na
	2006	Na	Na	Na	Na	Na	Na
	2007	99	762	9	9.2	99	13
Huddersfield	2000	80	705	16	19.5	94	13.3
	2002	87	739	11	12.8	117	15.8
	2003	83	732	6	7.5	90	12.3
	2004	82	730	6	7.0	74	10.5
	2005	81	724	4	5.5	66	9.1
	2006	56	719	11.0	12.0	77	10.7
Leeds	2000	180	956	15.8	8.8	125	13.0
	2001	180	950	19.8	11.0	129	13.6
	2002	201	1006	23.9	11.9	143	14.2
	2003	201	1004	22.8	11.3	148	14.7
	2004	203	1012	21.8	10.7	141	13.9
	2005	204	1002	21.3	10.4	141	14.1
Wakefield	2000	75	574	9	12.6	51	8.9
	2002	72	556	6	7.7	32	5.7
	2004	72	555	4	5.1	23	4.1
	2005	73	556	1	1.1	8	1.4
	2006	72	556	1	1.3	9	1,6

Table 2.2: Availability and Occupancy of Retail Floor Area

Note: No inference can be drawn from a comparison of the absolute figures since each centre has been defined according to local circumstances

Bradford figures affected by Broadway redevelopment

** Halifax town centre was redefined in 2002. The figures shown set out the corresponding results for the new area. It is intended to re-survey in Autumn 2005/ Spring 2006*

2.11 An increase in the provision of retail trading space and a decrease in vacancy rates for floor space and units as local trade improves.

2.12 Key areas such as diversity of use and retailer demand for premises need to be examined and analysed regularly in future years. The data on availability and occupancy of retail floor space will continue to be presented on an annual basis.

Background Indicator E3: Central Area Rental Values

2.13 The rental values of commercial premises in district centres can be taken as a measure of the marketability of the property and provide an indication of retailer desire to locate within an area. Data presented in Tables 2.3 to 2.5 is extracted from Valuation Office Property Market Report's (VOPMR), a national publication which collates rental values of commercial property in major towns and cities throughout the country. The main centres in West Yorkshire are included and comprehensive district centre audits provide rents and yields both from the VOPMR and from private sector specialist businesses

	Rental Values £/m²														
Location	**Type 1 25 - 75m²**			**Type 2 150 – 200m²**			**Type 3 Circa 500m²**			**Type 4 Circa 1000m²**			**Type 5 Multi Storey**		
	July 04	Jan 06	Jan 07	July 04	Jan 06	Jan 07	July 04	Jan 06	Jan 07	July 04	Jan 06	Jan 07	July 04	Jan 06	Jan 07
Bradford	66	65	70	47	60	65	47	53	52.5	41	48	48			
Halifax	60	65	70	55	60	65	45	50	52.5	40	45	48	23	25	30
Huddersfield	65	70	75	60	65	70	50	55	60	45	50	55	25	30	35
Leeds	65	70	75	65	65	68	50	55	58	50	55	55			30
Wakefield	60	66	70	60	64	65	50	60	58	50	50	50			

Table 2.3: Rental Values for Industrial Premises

Note: Property types as defined in Valuation Office Property Market Report

	Rental Values £/m²								
Location	**Type 1 ZPI**			**Type 2 ZPI**			**Type 3 GIA**		
	July 04	**Jan 06**	**Jan 07**	**July 04**	**Jan 06**	**Jan 07**	**July 04**	**Jan 06**	**Jan 07**
Bradford	1,300	1,300	1,300	750	750	750	200	200	200
Halifax	1,000	1,100	1,200	500	500	550	150	200	200
Huddersfield	1,100	1,200	1,350	550	550	650	225	230	200
Leeds	3,000	3,250	3,250	800	850	850	230	245	245
Wakefield	1,200	1,250	1,250	550	600	600	150	175	180

Table 2.4: Rental Values for Shops

Note: Property types as defined in Valuation Office Property Market Report

	Rental Values £/m²								
Location	**Type 1**			**Type 2**			**Type 3**		
	July 04	**Jan 06**	**Jan 07**	**July 04**	**Jan 06**	**Jan 07**	**July 04**	**Jan 06**	**Jan 07**
Bradford	120	135	115	120	130	120	120	125	85
Halifax	110	150	150	110	150	150	80	100	100
Huddersfield	120	150	160	120	150	160	85	100	110
Leeds	190	215	230	220	225	235	175	180	195
Wakefield	145	145	145	150	150	150	120	110	110

Table 2.5: Rental Values for Offices

Note: Property types as defined in Valuation Office Property Market Report

2.14 Increasing rental values indicates an improving economic environment in district centres.

2.15 Information on this indicator will be gathered from the VOPMR and will continue to be reported in future years against the base values of 2004

Background Indicator E4: Pedestrian Activity

2.16 In shopping areas, the level of pedestrian activity gives a good indication of the health of the retail sector of the economy. The methodology of pedestrian surveys undertaken varies from centre to centre. By repeating surveys at the same sites and on the same days of the week, the results can be converted to a single figure for each centre which can be compared year on year with the base figure.

2.17 Table 2.6 shows the change since 2004, the base year for LTP2.

Centre	Date	Flow	Index
Bradford	Nov-2004	486,200	100
	Nov 2005	476,700	98
	Nov 2006	440,900	91
Halifax	Sept-2004	1,244,800	100
	Sept 2005	1,246,100	100
	Sept 2006	1,291,200	104
Huddersfield	Apr-2004	81,700	100
	March 2005	85,900	105
	March 2006	84,900	104
Leeds	May / June 2004	573,400	100
	May / June 2005	616,000	107
	May / June 2006	594,000	104
	May / June 2007	626,700	109
Wakefield	March-2004	311,000	100
	March 2005	304,700	98
	March 2006	331,800	107
	March 2007	308,300	99

Table 2.6 Pedestrian Activity In Centres

Notes on Table 2.6 : No comparison can be made between centres as different survey methodologies apply.

2.18 Increased pedestrian activity in shopping areas would indicate a strong economy and assist in the retention and development of strong centres.

2.19 Pedestrian activity will continue to be monitored and will be presented on an annual basis.

Commentary

2.20 Although no single indicator can effectively measure how well centres are performing in terms of their attraction, accessibility and amenity, a selection of indicators can provide a view of performance and offer a means of assessing vitality and viability. Using this broad-based audit process, we can identify strengths and weaknesses of the town centres.

2.21 It is considered that the local performance indicators associated with the trend monitoring in this report are related to transport issues. Town centre audits are proving vital in underpinning strategic decisions about the continued development of the centres. A wider range of local indicators may emerge which reflect the impact of measures funded through the local transport plan expenditure as more comprehensive town centre audits are developed in the future.

CHAPTER 3 DELIVERING ACCESSIBILITY

Introduction

3.1 The following 8 indicators have been developed to monitor our progress towards the "Delivering Accessibility" strategy in LTP2. Progress towards LTP2 targets will be measured using 4 mandatory and 1 local key indicators. The remaining three indicators are background trend indicators which will help assess overall progress for this key strategy area.

Mandatory Indicator A1 : Non Car Travel Times to Hospitals

3.2 The Accession software has been used to calculate accessibility statistics for each 2001 census output area in West Yorkshire. Public Transport information is based on a 2004 data set supplied by DfT.

3.3 The base year (2005) calculation for this indicator shows that 89.5% of households without access to a car are within 30 minutes of a hospital. By 2006 this proportion had fallen to 82% with a further fall to 78% in 2007.

3.4 Contraction of the bus network following service changes, the latest being in April 2007, continue to affect this indicator. Minor changes in timings of particular routes can have a significant effect on access to hospitals. This is compounded by the fact that DfT's recommended software package, Accession, does not allow interchanges when calculating access times.

Mandatory Indicator A2 : Bus Service Punctuality

3.5 Table 3.1 shows bus service punctuality , defined as the percentage of scheduled services less than 1 minute early or five minutes late, since 2000/01 with the LTP2 baseline of 2003/04 highlighted. The table shows a continuing increase in punctuality rates since 2003/04.

Year	Punctuality
2000/01	88.7
2001/02	88.5
2002/03	90.0
2003/04	87.1
2004/05	86.8
2005/06	--- *
2006/07	90.6

* no data – change to AVL (real time system) data.

Table 3.1 Bus Service Punctuality, 2000/01 to 2006/07

3.6 Data is collected using the Real Time Positioning equipment being fitted to West Yorkshire buses which allow us to measure punctuality using a much larger

sample size : 1.8 million records supplemented with 17,210 manual observations of reliability.

3.7 Additionally surveys indicate that, for frequent services (those with a headway of less than 15 minutes) the excess waiting time in 2005/04 was 1.29 minutes. This had improved to 1.07 minutes by 2006/07.

Mandatory Indicator A3 : Satisfaction with Local Bus services (BVPI 104)

3.8 Every three years the public are asked to indicate whether they were satisfied or dissatisfied with the provision of bus services overall. The latest results (2003/04) indicate that 54% were happy with bus services . This figure provides the baseline against which future progress will be monitored.

	2003/04	2004/05	2005/06	2006/07
Percentage of users satisfied with Local Bus Services	54%	-	-	66.4%

Table 3.2 (BVPI104) Percentage of Users Satisfied with Local Bus Services

3.9 The results of the survey in 2006/07 indicated 66.4% of respondents are now satisfied with local bus services – a significant increase on the 2003/04 baseline. We are, therefore, well on track to meet our target.

Mandatory Indicator A4 : Area Wide Cycle Flows

3.10 The West Yorkshire authorities are committed to encouraging cycling, for both commuting and leisure trips, through the provision of a high quality cycle network and through the inclusion of improvements for cyclists in the integrated corridor schemes.

3. 11 In response to the challenge of a national cycling target a methodology for measuring cycle flows throughout the area has been developed using National Traffic Census data. This survey is considered to be more indicative of wider cycle use than central area cordon counts and includes counts on all principal roads and a sample of minor roads counted for a 12 hour weekday over a 3 year cycle

3.12 To establish the level of cycling within West Yorkshire use was made of the database of 12 hour manual classified counts. Each site is typically counted at least once every three years, although from time to time the list of sites changes slightly and some sites are counted more frequently. Following a trial of the methodology in Leeds the process has been extended to the whole of West Yorkshire for LTP2.Once again, only the sites which have at least one count during all of the three year periods is included in the statistic. This ensures that the dataset is a consistent set in terms of its constitution for the entire reporting period**.**

3.13 Table 3.3 shows the average number of cyclists observed across all 148 survey sites. The index shows the change in the level of cycling since 2000 relative to a base year finishing in 2004 and indicating that there has been a reversal in the downward trend in overall cycling levels since 2004.

WEST YORKS	**2000-2002**	**2001-2003**	**2002-2004**	**2003-2005**	**2004-2006**
Average Flow	40.1	39.7	38.9	38.8	40
Count	148	148	148	148	148
% base	103	102	100	100	103
BRADFORD					
Average	42.3	41.0	40.0	38.6	39.7
Count	25	25	25	25	25
% base	106	103	100	97	99
CALDERDALE					
Average	29.3	29.8	29.6	29.0	28
Count	22	22	22	22	22
% base	99	101	100	98	95
KIRKLEES					
Average	33.4	31.4	27.9	27.8	28
Count	26	26	26	26	26
% base	120	113	100	100	101
LEEDS					
Average	49.0	49.3	48.5	47.4	48
Count	55	55	55	55	55
% base	101	102	100	98	99
WAKEFIELD					
Average	33.3	33.7	35.6	40.4	42
Count	20	20	20	20	20
% base	94	95	100	113	118

Table 3.3 Volume of Bicycle Counts Across West Yorkshire 2000 – 2006.

3.14 Changes in cycle flows for West Yorkshire will be updated annually and reported in progress reports, although the data wioll be rebased to a three year cycle based on 2002-2004 which will increase the sample size. Research will continue into the development of more robust cycle monitoring techniques including investigating the latest advances in automatic cycle counters.

Local Key Indicator A5 : Satisfaction with LTP Funded Public Transport Facilities

3.15 Before and After monitoring of schemes implemented since 2004/05 have been used to develop an indicator of satisfaction with LTP funded public transport schemes.

3.16 Monitoring of all schemes introduced during LTP2 will continue will be reported in future Monitoring Reports.

Year	Number of Schemes	Satisfaction Rate
2004/05	7	87%
2005/06	2	88%
2006/07	1	96%

Table 3.4 Satisfaction with LTP Funded Public Transport Schemes Completed Since 2004/05

Background Indicator A6 : AccessBus Patronage

3.17 AccessBus patronage data relates to the use of the specialised door-to-door service for people unable to use conventional public transport, operating under contract to Metro in all districts. Current data collection includes the number of passenger trips made annually and in 1995 320,000 passenger trips were made.

3.18 Metro is implementing a strategy for improved access to mainstream public transport services. The door-to-door nature of the AccessBus service and the extra assistance given by drivers, particularly in relation to shopping activities, means that demand for the service has increased with a 60% increase in patronage between 1995/96 and 2001/02. Patronage levels have increased by around 2% since 2004/05.

3.19 AccessBus patronage trends since 1995/96 are shown in Figure 3.1

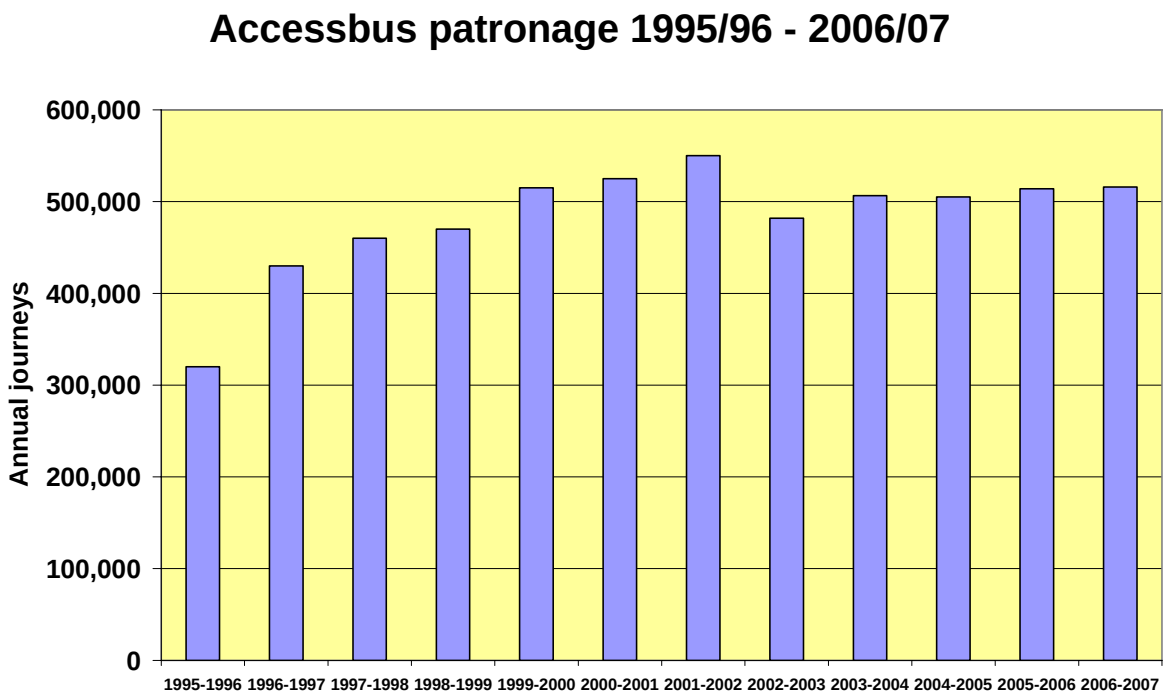


Figure 3.1 AccessBus Patronage Trends

Background Indicator A7 : Pedestrian Crossing Facilities Meeting BVPI 165

3.20 Data is presented from 2002/3 in line with the introduction of Performance Indicator BV165. Progress made in improving facilities at controlled crossings is shown below in Table 3.5.

Bradford								
Type	**With dropped kerbs, tactile paving and tactile indicators**							
	2002/03		**2003/04**		**2005/06**		**2006/07**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Pelican/Puffin	52	46	139	97	148	99	165	100
Signal Control	25	34	83	94	90	97	100	97

Calderdale								
Type	**With dropped kerbs, tactile paving and tactile indicators**							
	2002/03		**2003/04**		**2005/06**		**2006/07**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Pelican/Puffin	16	57	38	100	38	100	42	100
Signal Control	16	50	36	94	35	92	38	100

Kirklees								
Type	**With dropped kerbs, tactile paving and tactile indicators**							
	2002/03		**2003/04**		**2005/06**		**2006/07**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Pelican/Puffin	24	48	29	63	71	93	74	96
Signal Control	42	76	71	93	82	100	84	99

Leeds								
Type	**With dropped kerbs, tactile paving and tactile indicators**							
	2002/03		**2003/04**		**2005/06**		**2006/07**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Pelican/Puffin	98	49	200	92	220	96	203	85
Signal Control	151	57	210	92	217	94	169	70

Wakefield								
Type	**With dropped kerbs, tactile paving and tactile indicators**							
	2002/03		**2003/04**		**2005/06**		**2006/07**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Pelican/Puffin	63	80	86	95	95	98	97	99
Signal Control	31	42	49	86	58	90	65	95

Table 3.5 Provision at Controlled Crossings

3.21 the significant decrease in the number of crossings in Leeds is a result of an external audit and the introduction of more stringent conditions regarding compliance with BV 165.

3.22 The progress of upgrading of controlled crossings and installation of new crossings will be reflected in future reporting.

Background Indicator A8 : Age of Bus Fleet

3.23 The age of the bus fleet is monitored through web based data set against a national target of 8 years. The returns presented in Table 3.6 shows a 7.4% reduction in the age of bus fleet in West Yorkshire since 2004.

	March 2004	**March 2005**	**March 2006**	**March 2007**
Age of bus fleet	9.4	8.6	8.6	8.7

Table 3.6 Age of Bus Fleet

3.23 The age of the bus fleet will continue to be monitored annually.

CHAPTER 4 TACKLING CONGESTION

Introduction

4.1 The following 17 indicators have been chosen to monitor our progress towards the "Tackling Congestion" strategy in LTP2. Progress towards LTP2 targets is measured using 4 mandatory and 4 local key indicators. The remaining 9 indicators are background trend indicators which will help assess overall progress for this key strategy area.

Mandatory Indicator C1: Average Journey Time Per Person Mile on Key Routes.

4.2 The table below shows the 2005 base year number for this indicator which is calculated from data collected on site (vehicle occupancies, bus journey times) and data supplied by DfT from the iTIS data base on 13 selected routes across West Yorkshire which are shown in Figure 4.1.

4.3 It has not been possible to update this indicator due to delays in the supply of non-stopping vehicle journey times from DfT.

Year	Person Miles (Throughput)	Av. Journey time (secs) per person mile
2005 (Base)	141,326	221.8
2011 (target)	147,386	237.0

Table 4.1 Throughput and Average Journey Time Per Person Mile on Key Routes.

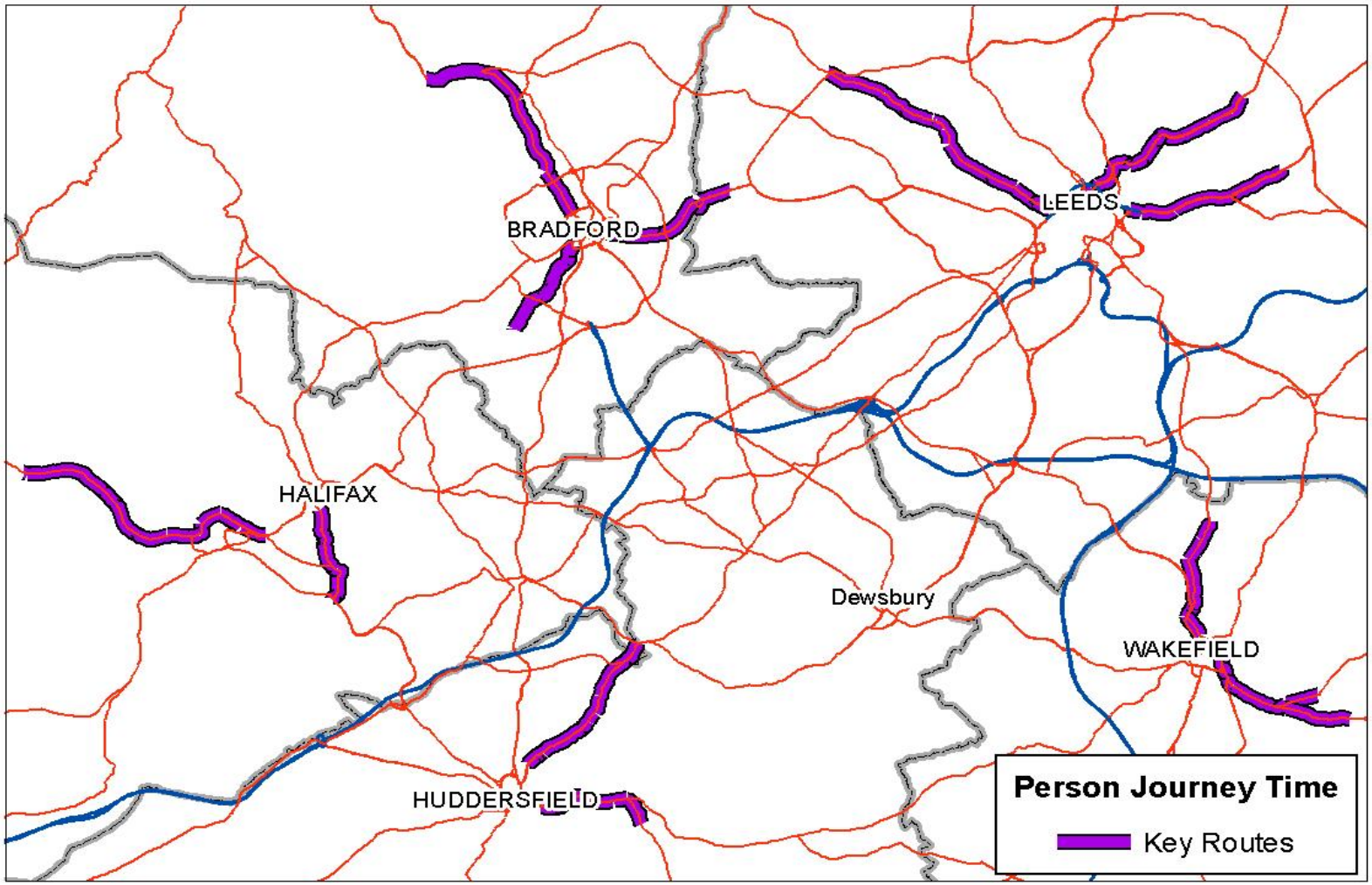


Figure 4.1 Key Routes Used for Monitoring Person Journey Time Indicator

Mandatory Indicator C2 : Town/City Centre Morning Peak Period Traffic Flows

4.4 Traffic flows throughout West Yorkshire have been monitored since 1979 as part of the Long Term Monitoring Programme (LTMP). Automatic traffic counters have been used to collect data on cordons around the main urban areas on a two year programme. Figures 4.2 to 4.6 show the locations of the cordons around the five main centres of Bradford, Halifax, Huddersfield, Leeds and Wakefield.

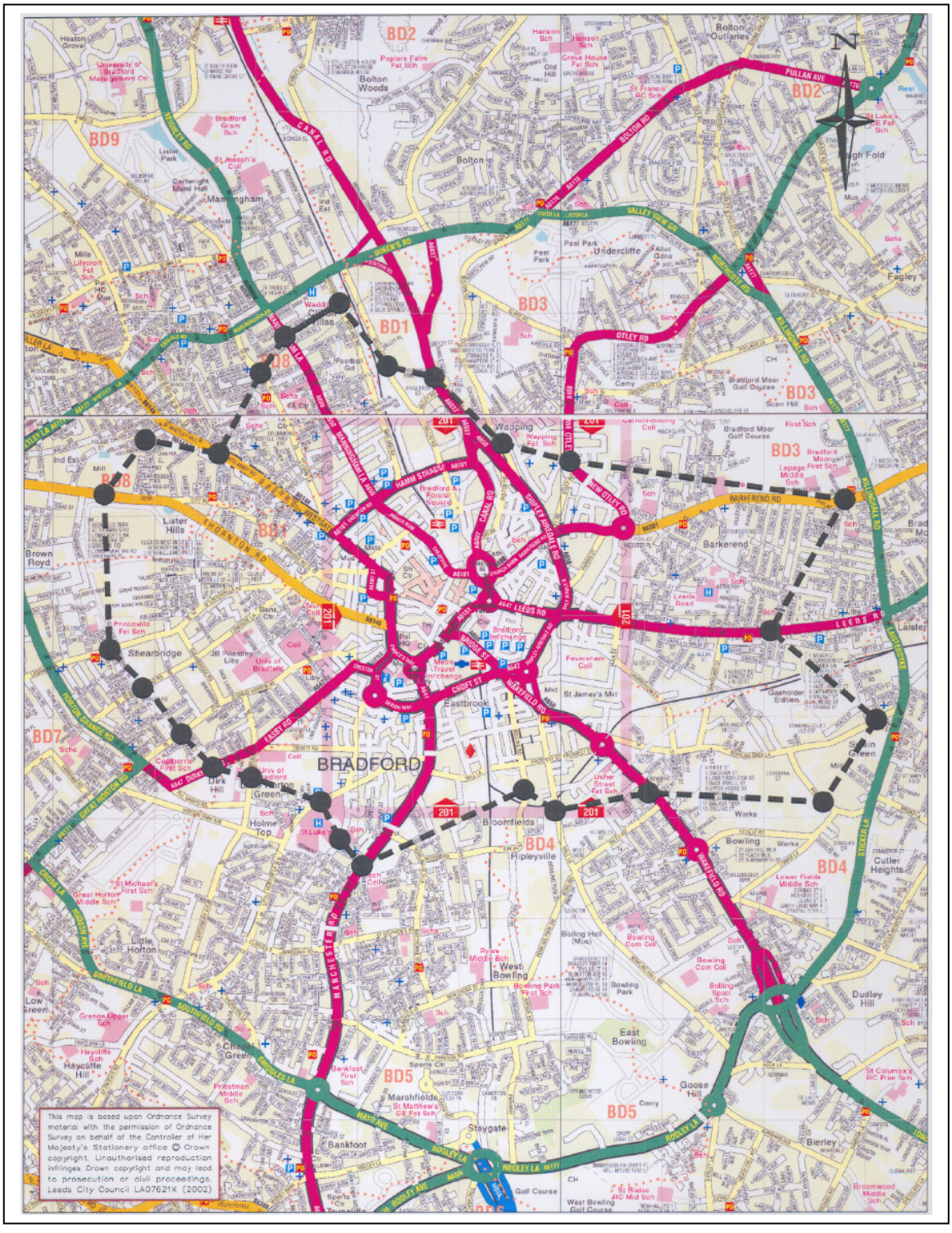
4.5 Data are presented for the morning peak period (0700 to 1000) in Tables 4.2 to 4.6 and show the changes in traffic flow since 2000/01 with the 2003/04 baseline for LTP2 highlighted. Flows can change markedly from year to year as a result of network changes, new developments and the method of data collection, hence a 3 year moving average will be a more robust indicator of the underlying trend and this will be reported as sufficient data becomes available.

Year	AM Peak Period Traffic Flow (0700 to 1000)	Peak Period Index (2003=100)
2001	46,790	103
2003	45,530	100
2005	46,370	102
% Growth 2003 - 2005	+2%	

Table 4.2 Bradford Central Cordon - AM Peak Period Inbound Traffic Flows

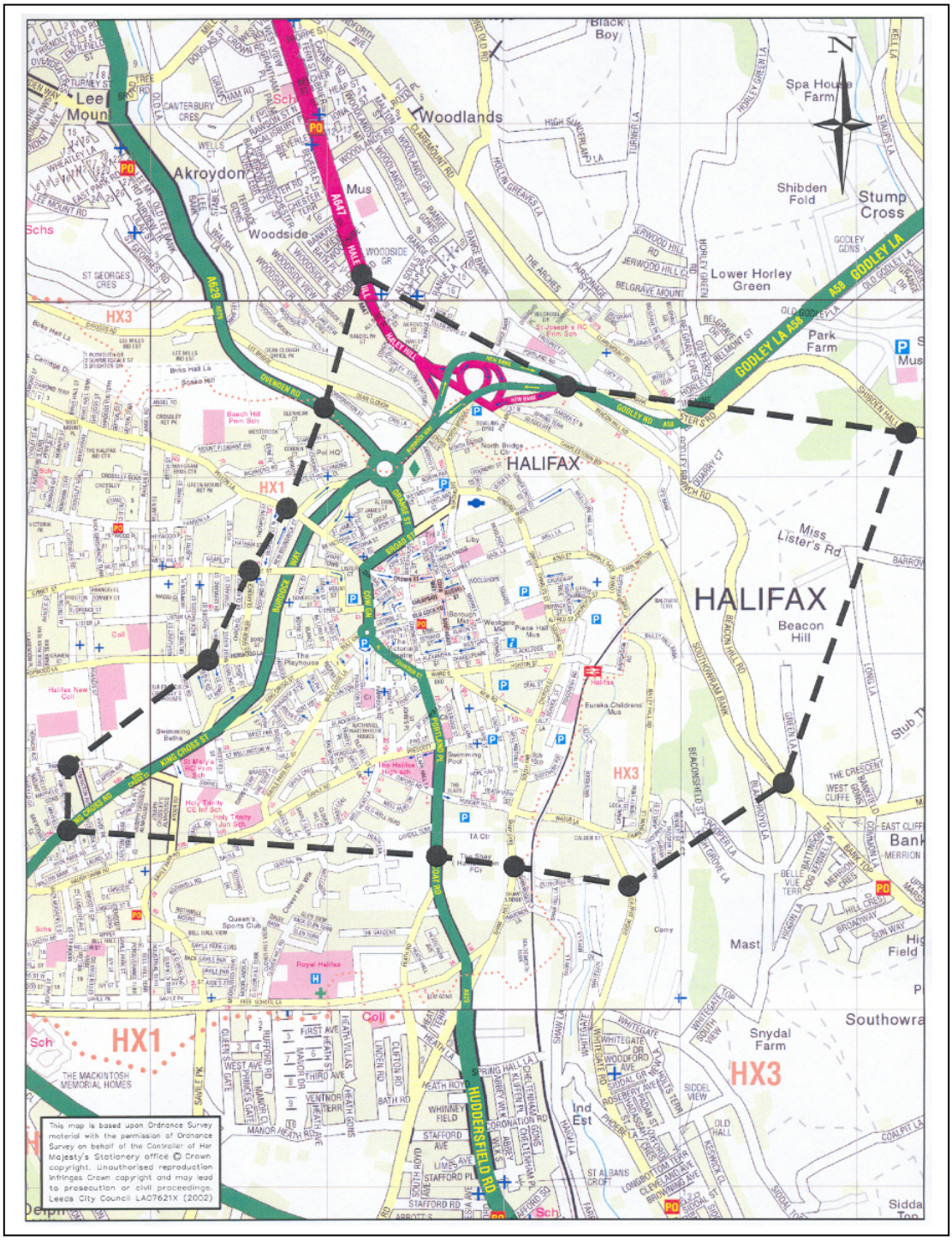
Year	AM Peak Period Traffic Flow (0700 to 1000)	Peak Period Index (2003=100)
2001	22,090	94
2003	23,580	100
2005	23,450	99
% Growth 2003 - 2005	-1%	

Table 4.3 Halifax Central Cordon - AM Peak Period Inbound Traffic Flows



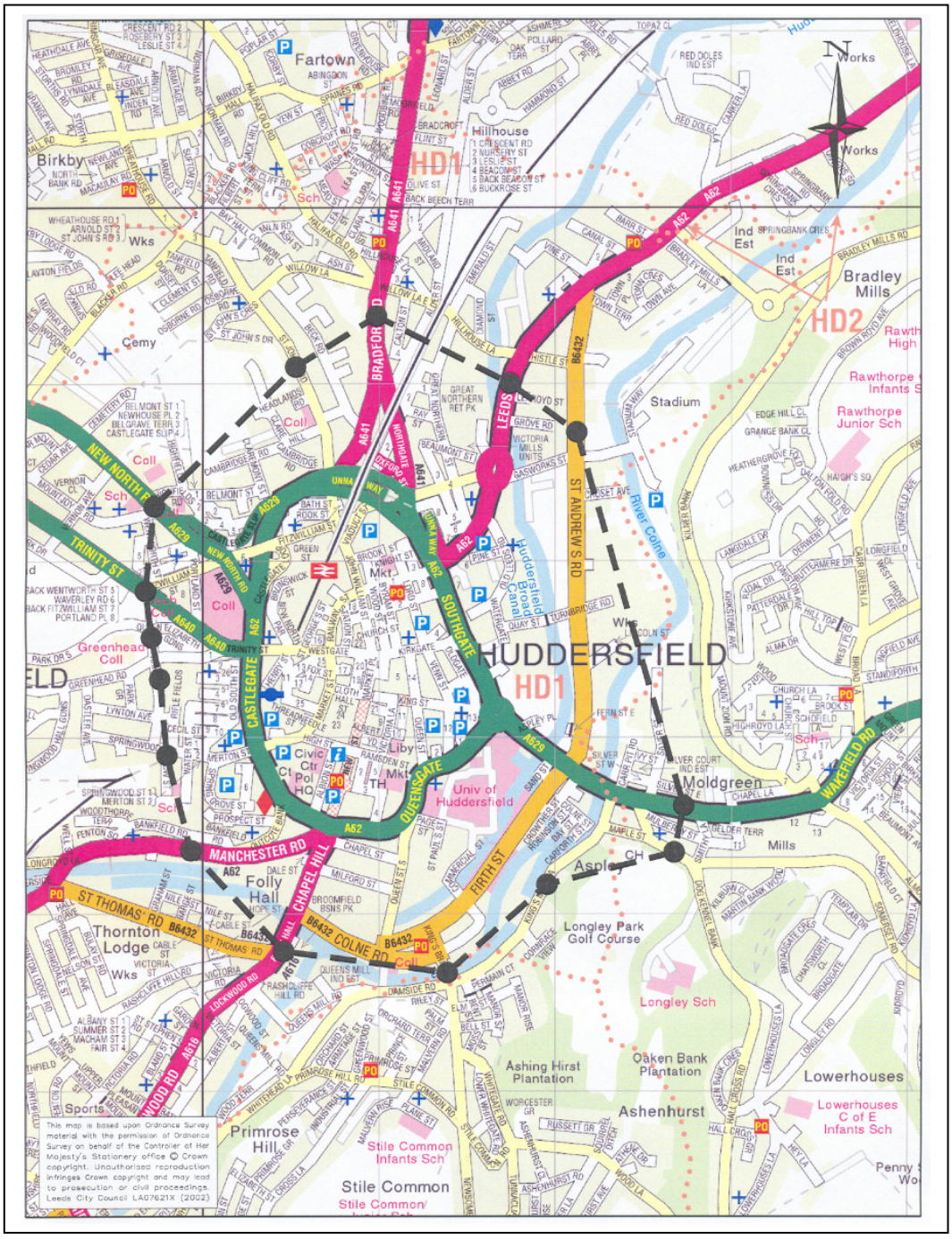
- ATC Count Location

Figure 4.2 Traffic Counting Cordon : Central Bradford



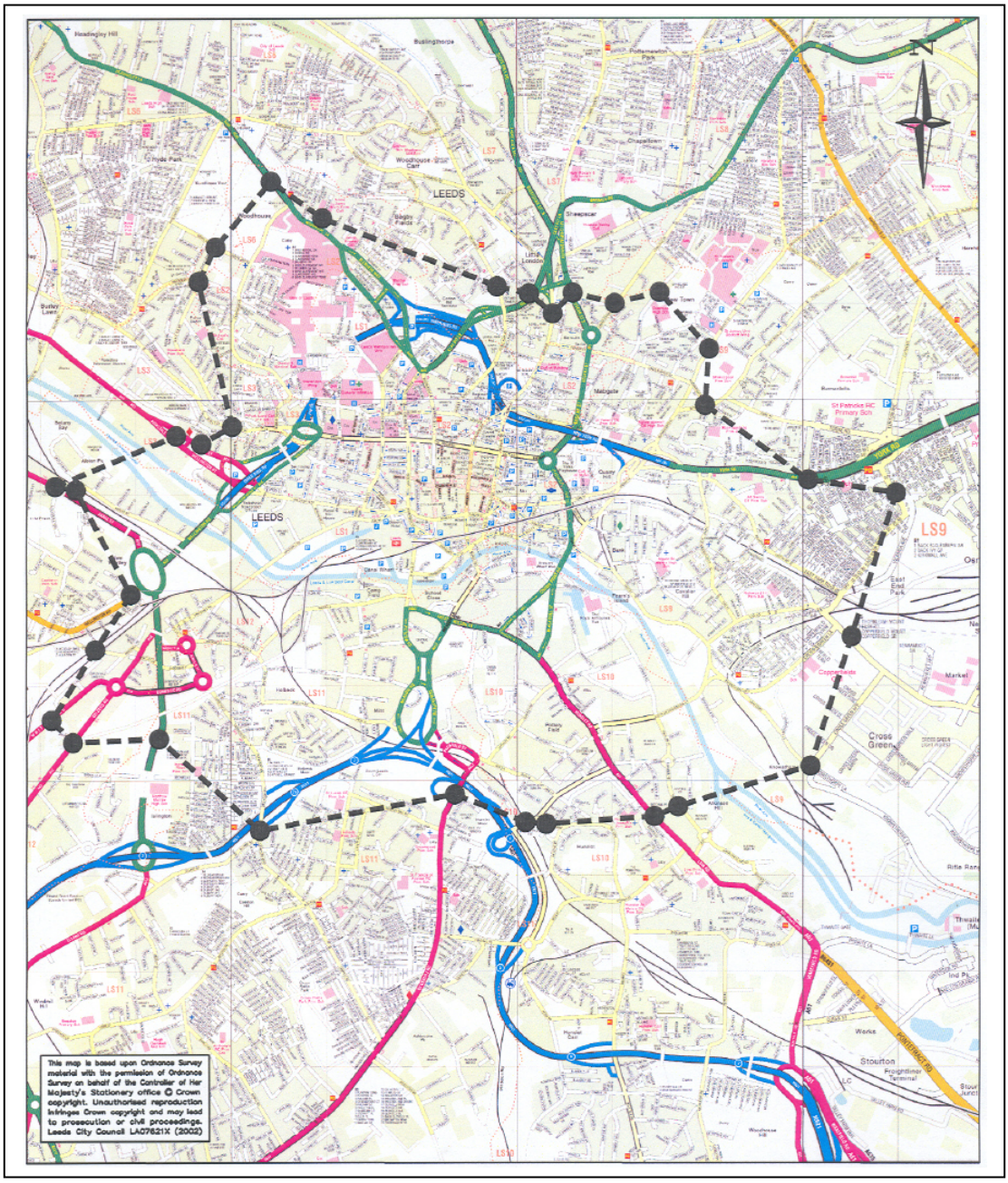
- ATC Count Location

Figure 4.3 Traffic Counting Cordon : Central Halifax



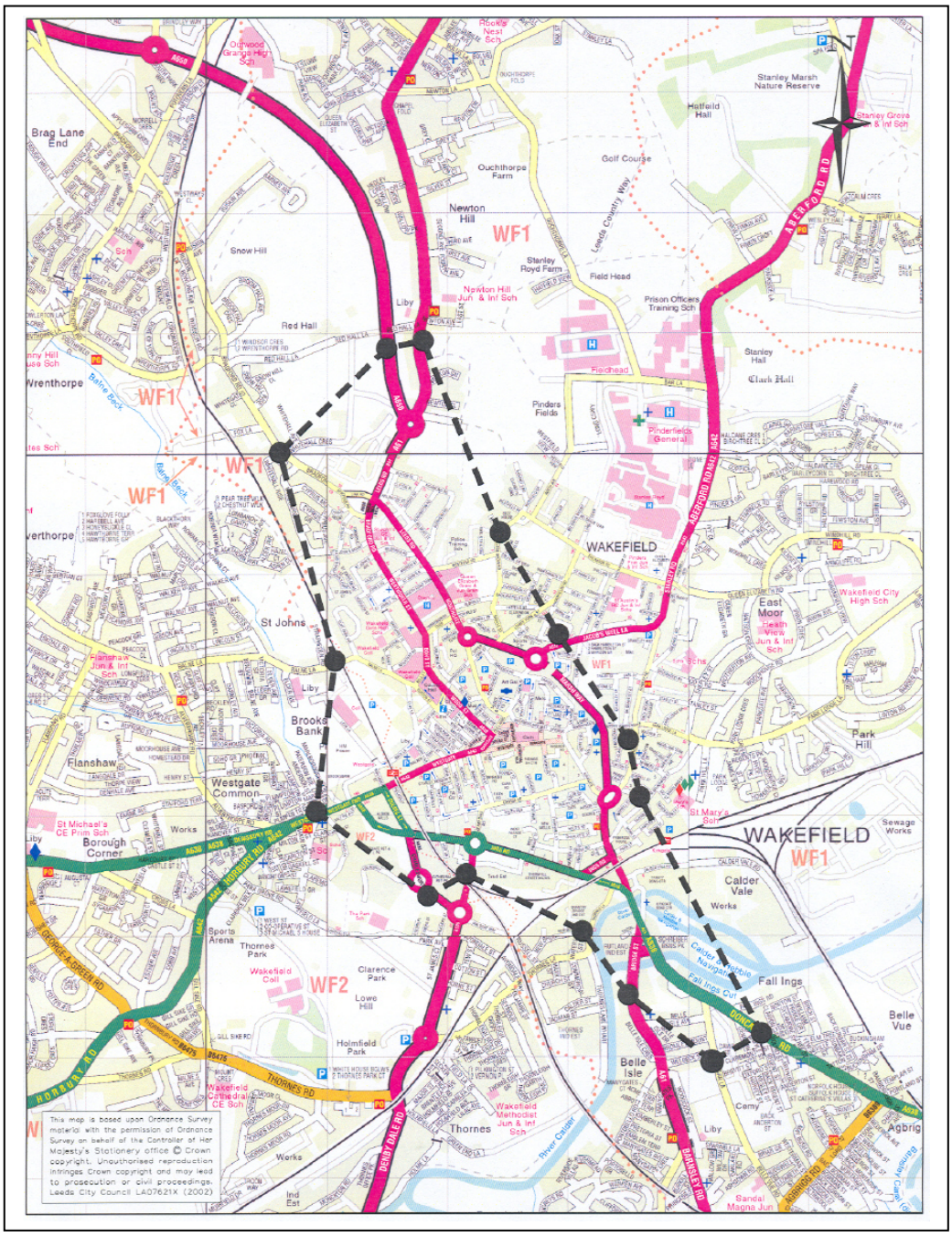
- ATC Count Location

Figure 4.4 Traffic Counting Cordon : Central Huddersfield.



- ATC Count Location

Figure 4.5 Traffic Counting Cordon : Central Leeds.



- ATC Count Location

Figure 4.6 Traffic Counting Cordon : Central Wakefield.

Year	AM Peak Period Traffic Flow (0700 to 1000)	Peak Period Index (2003=100)
2001	31,220	100
2003	31,110	100
2005	31,380	101
% Growth 2003 - 2005	1%	

Table 4.4 Huddersfield Central Cordon – AM Peak Period Inbound Traffic Flows

Year	AM Peak Period Traffic Flow (0700 to 1000)	Peak Period Index (2004=100)
2000	93,540	95
2002	96,990	99
2004	98,210	100
2006	97,030	99
% Growth 2004 – 2006	-1%	

Table 4.5 Leeds Central Cordon – AM Peak Period Inbound Traffic Flows

Year	AM Peak Period Traffic Flow (0700 to 1000)	Peak Period Index (2004=100)
2000	26,340	93
2002	29,580	105
2004	28,230	100
2006	28,160	100
% Growth 2000– 2006	No change	

Table 4.6 Wakefield Central Cordon – AM Peak Period Inbound Traffic Flows

4.6 Although it is too early to determine accurate post-2004 trends indications are that traffic growth in the main centres is on track to meet our LTP2 targets..

Mandatory Indicator C3 : Mode Share For Journeys to School

4.7 Data on mode share of journeys to school has been collected for several years using a school administered “Hands up “ survey and coordinated by Regional school travel Plan advisors. The WYLTP Monitoring Group had identified several issues with the statistical validity of this data, not the least being the difficulty in obtaining reliable year on year comparisons. Plans were in hand for the Monitoring

Group to take over the organisation of the survey and data processing to enable more rrigid monitoring of a mandatory target during LTP2.

4.8 However, DfT and DfES introduced a question on usual mode of travel to school in the annual School Census survey and revised guidance from DfT indicated that this data source should be used for this indicator with 2006/07 as the base line.

4.9 Collection of mode share data is mandatory for schools with travel plans but only voluntary for those schools without travel plans. DfT requirements are that the base line for the LTP2 should include all schools with travel plans, and 50% of schools without travel plans.

4.10 In general the response rate to the travel to school question in School Census was good, with almost 100% of travel plan schools and 80% of non travel plan schools responding across West Yorkshire. However, detailed examination of the data revealed that, within schools response rates varied with sometimes only a small proportion of pupils completing the survey.

4.11 DfT have supplied clean data from the survey , excluding those children under 5 and over 16, with instructions that this dataset should be used for the baseline data .

4.12 Thus the 2006/07 base year is based on DfT supplied data from 91% of schools with travel plans and 79% of those without travel plans, a total of almost 220,000 pupils.

4.13 Table 4.7 below summarises the usual mode of travel for pupils aged 5 to 16 in West Yorkshire in 2006/07

Usual Mode of Travel	**Number of pupils**	**% of total**
Car [1]	64,372	29.7
Car Share [2]	5,835	2.7
Public Transport [3]	42,104	19.4
Walking	103,528	47.8
Cycling	742	0.3
Other	323	0.1
Total	216,904	100

Source : DfT/DfES School Census 2006/07

Notes :
1. includes vans and taxis
2. car share is defined by DfT/DfES as “travel in a car with a child/children from a different household
3. includes service buses, dedicated school buses, other buses and train

*Table 4.7 Usual Mode of Travel to School, All Pupils Aged 5 to 16, West Yorkshire 2006/07***.**

4.14 Changes in mode of travel and progress towards the LTP2 target will be reported annually.

Mandatory Indicator C4 : Public Transport (Bus) Patronage (BVPI 102)

4.15 Patronage of bus services in West Yorkshire is monitored through use of a continuous on board survey. This data is extrapolated to provide annual figures for countrywide bus patronage as presented in Table 4.8. The data is shown indexed to the LTP2 base year of 2003/04

	2000/ 2001	**2001/ 2002**	**2002/ 2003**	**2003/ 2004**	**2004/ 2005**	**2005/ 2006**	**2006/ 2007**
Passenger Journeys per year (millions)	201.6	202.0	203.6	199.1	195.7	194.8	196.9
Index to 2003/04	101.3	101.5	102.3	100	98.3	97.7	98.9

Table 4.8 West Yorkshire Bus Patronage, 2000/01 to 2006/07

4.16 There are a number of factors affecting bus patronage. Higher than anticipated fare increases due to higher insurance, fuel costs and drivers wages has fed through into passenger journey decline. However, there are indications that this trend is being reversed as 2006/07 showed the first increase in absolute numbers for 4 years.

Local Key Indicator C5 : AM Peak Cycle Trips to Centres of Leeds, Wakefield and Halifax

4.17 Cycle trips crossing the central cordons of Halifax, Leeds and Wakefield are monitored as part of the morning peak modal split surveys (see Key Indicator C6). Data is collected on three separate weekdays and cycles are recorded on road, on the footway and off road at the cordon points.

Centre	Number of Cycles in Morning Peak Period (0730-0930)					
	2000	2002	2004	2005	2006	2007
Halifax	52	51	54	53	36	57
Leeds	441	430	571	628	681	728
Wakefield	155	141	72	105	81	78

Table 4.9 Morning Peak Period Cycle Flows to Central Halifax, Leeds and Wakefield

4.18 . All three centres have recorded increases in the number of peak period cyclists since 2004. The table indicates that in Leeds the agreed target of a 20% increase by 2010/11 has been achieved, however care must be taken when interpreting this trend as cycling statistics can be volatile.

Local Key Indicator C6 : AM Peak Period Modal Split to Main Urban Centres

4.19 In addition to absolute volumes, modal split is recognised as a key indicator of the impact of the Transport Plan measures. Previously the main source of this data was the national census which, with a ten-year cycle, is useful for assessing long-term trends. To further refine the monitoring of mode choice, and to establish a robust baseline against which future changes could be measured, local modal split surveys were carried out in major centres during 1998 and further surveys undertaken in 1999 at a number of other district centres.

4.20 The surveys recorded persons travelling in private vehicles, on foot and by bicycle and also those travelling by bus. Rail patronage data were obtained from the Metro continuous ticketing survey. The survey points coincided with those used for the central cordon automatic traffic count programme (see Figures 4.2 to 4.6 above). For monitoring LTP2 additional sites will be added to these cordons to record persons walking or cycling on off-road routes where applicable. Revised data will be reported from 2006

4.21 Following a successful pilot in Leeds in 2004 [1] a more statistically robust monitoring regime was introduced across West Yorkshire in 2005 and mode split counts were undertaken in the main centres over 4 days for the morning peak period (0730-0930) inbound to the city centre. At the same time the frequency of data collection was increased to annually.

4.22 Tables 4.10 to 4.14 below show the results of the modal split surveys in the main centres since 2000. Note the figures in the cells may not total 100 due to rounding.

4.23 Changes will be reported against the LTP2 baseline of 2004.

Year	***Total persons Crossing cordon***	***% Modal Split***					
		Walk	***Cycle***	***Motorcycle***	***Car***	***Bus***	***Train***
2004	49,898	4	<1	<1	74	16	5
2005	50,123	4	<1	<1	74	16	6
2006	49,270	4.2	0.2	0.3	73.0	16.2	6.1
2007	50,166	4.6	0.2	0.3	71.9	15.9	7.1

Table 4.10 Modal Split – AM Peak (0730-0930) Inbound to Bradford : 2004 - 2007

Year	***Total persons Crossing cordon***	***% Modal Split***					
		Walk	***Cycle***	***Motorcycle***	***Car***	***Bus***	***Train***
2004	25,318	4	<1	<1	73	18	4
2005	26,768	5	<1	<1	74	17	4
2006	26,000	4.0	0.1	0.4	73.5	17.1	4.9
2007	26,970	4.4	0.2	0.4	69.1	21.1	4.8

Table 4.11 Modal Split – AM Peak (0730-0930) Inbound to Halifax : 2004 - 2007

[1] Estimating Confidence Intervals for Transport Mode Share : Clark.S & McKimm J : Journal of Transportation and Statistics, Vol 8, No.2 : 2005

Year	Total persons Crossing cordon	% Modal Split					
		Walk	Cycle	Motorcycle	Car	Bus	Train
2004	34,027	5.9	0.2	0.4	66.1	21.9	5.5
2005	33,914	6.6	0.3	0.4	63.9	23.2	5.6
2006	34,581	5.7	0.3	0.4	62.4	22.8	8.4
2007	34,852	6.5	0.4	0.4	61.1	23.2	8.5

Table 4.12 Modal Split – AM Peak (0730-0930) Inbound to Huddersfield :2004 - 2007

Year	Total persons Crossing cordon	% Modal Split					
		Walk	Cycle	Motorcycle	Car	Bus	Train
2004	120,400	3.1	0.5	0.5	57.7	27.8	10.3
2005	121,183	3.5	0.5	0.5	57.3	26.0	12.2
2006	122,390	3.3	0.6	0.5	56.5	25.9	13.3
2007	114,339	2.8	0.6	0.5	56.6	24.4	15.0

Table 4.13 Modal Split – AM Peak (0730-0930) Inbound to Leeds :2004 - 2007

Year	Total persons Crossing cordon	% Modal Split					
		Walk	Cycle	Motorcycle	Car	Bus	Train
2004	33,570	2	<1	1	73	16	9
2005	38,399	3	<1	<1	72	16	9
2006	34,140	3.8	0.3	0.3	72.6	11.7	11.3
2007	28,339	3.4	0.3	0.3	68.2	12.8	15.0

Table 4.14 Modal Split – AM Peak (0730-0930) Inbound to Wakefield :2004 - 2007

4. 24 Car mode share continues to fall in all centres.

Local Key Indicator C7 : AM Peak Period Rail Patronage to Leeds

4.25 Table 4.15 below shows the number of passengers arriving at Leeds station using trains operated by Northern during the weekday morning peak period (0730-0930) since 1979.

	2002	2003	2004	2005	2006	2007
Passengers	10,147	9,585	10,209	11,863	16,244	17,196

2000 and 2001 figures are excluded due to number of bus substitutions and service suspensions associated with Leeds 1st , Hatfield accident, strikes and staff shortages

Table 4.15 AM Peak Period Rail Patronage to Leeds, 1999 to 2005

4.26 The table indicates that the target of a 20% increase by 2010/11 has already been exceeded.

Local Key Indicator C8 : Quality Bus Corridor Patronage

4.27 Patronage figures have been monitored on Quality Bus Corridors and the trend in passenger numbers has been compared with that on the network as a whole as shown in Table 4.16.

Year	QBC Trend	W Yorks Trend
2000/01	+3%	+1.1%
2001/2	+4%	+0.2%
2002/3	+3%	+0.74%
2003/4	+3%	-2.16%
2004/5	+2%	-1.71%
2005/6	- 1.35%	-0.45%
2006/7	+2.15%	+ 1.08%

Table 4. 16 Bus Patronage on Quality Bus Corridors Compared With West Yorkshire Trend

4.28 The table shows that, with the exception of 2005/06 patronage growth on Quality Bus Corridors continues to exceed that on the network as a whole.

Background Indicator C9 : Peak Period Journey Time Variability on Key Routes

4.29 This indicator is under development.

Background Indicator C10 : Proportion of Network Below Reference Speed in Morning Peak Period.

4.30 The following table show the percentage of the primary urban network operating below different proportions the speed limit in the morning peak. The statistics are derived from C-Jams data supplied by DfT .

	Proportion of network operating below x% of speed limit (cumulative)					
percentage of Speed Limit	Bradford	Calderdale	Kirklees	Leeds	Wakefield	West Yorkshire
50%	30	21	26	27	12	25
60%	48	37	42	45	27	42
70%	66	53	63	66	46	61
80%	81	65	78	81	70	77
90%	92	84	93	92	87	91
100%	97	92	98	95	95	96

Table 4.17 Proportion of Primary Urban Network Operating Below Set Percentages of Speed Limit , 2006

4.31 For the purposes of assessing network efficiency, a figure of 70% of the speed limit has been taken as a benchmark for LTP2. The table shows that over 60% of the network is operating at or below this level, and over one quarter of the network is operating at less than 50% of the posted speed limit. Table 4.18 shows changes relative to the benchmark of 70% since 2003 and suggests that conditions have remained stable over 3 years..

	Proportion of network operating below 70% of speed limit					
Year	Bradford	Calderdale	Kirklees	Leeds	Wakefield	West Yorkshire
2003	67	50	63	68	52	63
2006	66	53	63	66	46	61

Table 4.18 Proportion of Primary Urban Network Operating Below 70% of Speed Limit , 2003 and 2006

Background Indicator C11 : Peak Spreading Index

4.32 Traffic flows are collected using automatic counters on cordons around the main urban centres in west Yorkshire , (see Mandatory Indicator C2 above and Figures 4.2 to 4.6)

4.33 By examining the ratio of peak hour to peak period flows through time an understanding of the extent of peak spreading can be gained.[2] A fall in the value of this ratio would illustrate peak spreading. Peak spreading can result from motorists choosing to travel earlier (or later) as a result in changes in work practices or being forced to travel earlier (or later) due to congestion. Tables 4.19 to 4.23 show trends in this index since 1999/2000 with the LTP2 baseline of 2003/04 highlighted.

YEAR	AM Peak Period Inbound Traffic Flows		
	0700 - 1000 (P1)	0800 - 0900 (P2)	Ratio P2/P1
1999	45,600	18,550	0.406
2001	46,790	18,690	0.399
2003	45,530	18,240	0.401
2005	46,370	18,230	0.393

Table 4.19 Bradford Central Cordon : Peak Spreading Ratio, 1999-2005

[2] Hounsall, NB : Transport Planning Systems, 1991, Vol.1 No.3

YEAR	AM Peak Period Inbound Traffic Flows		
	0700 - 1000 (P1)	0800 - 0900 (P2)	Ratio P2/P1
1999	22,890	9,360	0.409
2001	22,090	8,970	0.406
2003	23,580	9,480	0.402
2005	23,450	9,330	0.398

Table 4.20 Halifax Central Cordon : Peak Spreading Ratio 1999-2005

YEAR	AM Peak Period Inbound Traffic Flows		
	0700 - 1000 (P1)	0800 - 0900 (P2)	Ratio P2/P1
1999	31,490	12,280	0.390
2001	31,220	12,230	0.392
2003	31,110	12,280	0.395
2005	31,380	12,100	0.386

Table 4.21 Huddersfield Central Cordon : Peak Spreading Ratio 1999-2005

YEAR	AM Peak Period Inbound Traffic Flows		
	0700 - 1000 (P1)	0800 - 0900 (P2)	Ratio P2/P1
2000	93,540	35,790	0.383
2002	96,990	36,840	0.380
2004	98,280	36,560	0.372
2006	97,030	35,700	0.368

Table 4.22 Leeds Central Cordon: Peak Spreading Ratio 2000-2006

YEAR	AM Peak Period Inbound Traffic Flows		
	0700 - 1000 (P1)	0800 - 0900 (P2)	Ratio P2/P1
2000	26,340	10,380	0.394
2002	29,580	11,750	0.397
2004	28,230	10,840	0.384
2006	29,150	11,330	0.389

Table 4.23 Wakefield Central Cordon : Peak Spreading Ratio 2000-2006

4.34 From 2006 traffic flows crossing the central cordons of the main centres will be reported annually and changes will be reported against the LTP2 baseline of 2003/04

Background indicator C12 : Morning Peak Period Car Occupancy

4.35 As part of the morning peak period mode split surveys (see Key Indicator C6 above) the opportunity was taken to record the occupancy of cars and taxis crossing the cordons which will allow trends in vehicle occupancy to be observed in future years. The results of the 2005 occupancy surveys are presented in Table 4.24.

	2005		2006		2007	
	Ave. Occupancy	% single occupant	Ave. Occupancy	% single occupant	Ave. Occupancy	% single occupant
Bradford	1.28	77.5	1.28	77.5	1.29	76.9
Halifax	1.29	77.0	1.28	78.7	1.27	77.3
Huddersfield	1.27	77.6	1.26	--	1.24	--
Leeds	1.23	80.2	1.23	80.3	1.22	80.1
Wakefield	1.29	61.2	1.26	78.0	1.27	76.0

Table 4.24 Car Occupancy in Main Centres, 2005 to 2007

4.36 Table 4.25 shows the changes in average car occupancy for the major centres since 2005.

Centre	Time Period	Direction	Average Car Occupancy	
			2005	2007
Bradford	am peak	Inbound	1.28	1.29
Halifax	am peak	Inbound	1.29	1.27
Huddersfield	am peak	Inbound	1.27	1.24
Leeds	am peak	Inbound	1.23	1.22
Wakefield	am peak	Inbound	1.29	1.27

Table 4.25 Average Car Occupancy Changes, 2005 to 2007

4.37 It is hoped that there will be a trend towards a greater number of occupants per car, showing evidence of ride sharing rather than individuals driving alone. It is unlikely that any significant change will occur in the short term but the impact of Travel Plans and travel awareness initiatives should lead to an increase in car sharing in the future.

4.38 Changes in this indicator will be reported annually against a 2005 baseline.

Background Indicator C13 : Mode Share for Travel to Work

4.39 The Travel to Work survey initiated by the West Yorkshire Travel Plan Officers Group in 2004 takes place annually in March. This year (2007) a total of over 38,400 employees took part from companies developing or implementing travel plans across the county.

4.40 Table 4.26 shows changes in mode share for the journey to work since 2004 which shows a continuing rise in the numbers walking to work and a slight rise in those commuting alone by car.

Year	Sample Size	% by mode									
		Car				Bus	Train	PTW	Walk	Cycle	Other/not given
		Alone #	With pupil #	share	Lift *						
2004	---	45	3	14	--	16	9	1	7	2	3
2005	24,000	45	5	13	--	17	10	1	6	1	2
2006	36,000	46	4	15	--	15	10	1	6	2	1
2007	38,485	51	---	11	2	15	10	1	8	2	0

 # merged in 2007
** given a lift by a driver who then returns home*

Table 4.26 West Yorkshire Travel to Work Survey: Mode Share 2004 - 2007

Background Indicator C14 : Travel Distance to Work

4.42 Table 4.27 shows the changes in the distance travelled to work in West Yorkshire taken from the 1991 and 2001 Censuses. The table shows a 39% increase in the distance travelled over the 10 year period.

	1991			2001			1991-2001 Total km % Change
	Workplace Pop[n.]	Workplace Distance	Total Km	Workplace Pop[n.]	Workplace Distance	Total Km	
Bradford	166,810	6.8	1,135,976	173,454	8.4	1,457,014	28
Calderdale	70,100	6.1	429,012	72,682	8.0	581,456	36
Kirklees	121,270	6.5	793,106	131,483	8.1	1,065,012	34
Leeds	291,180	9.4	2,745,827	343,799	11.7	4,022,448	46
Wakefield	112,680	7.7	866,509	117,202	9.7	1,136,859	31
West Yorkshire	762,040	7.8	5,966,733	838,620	9.9	8,302,338	39

Excludes those working at or from home

Table 4.27 Distance Travelled to Work in West Yorkshire, 1991 and 2001

Background Indicator C15 : Generalised Costs for Private and Public Transport

4.43 In the absence of GPS data for bus journey times, comparable car and bus data from the historic manual surveys (1998-2004) has been used to estimate indicative generalised commuting costs for the five main centres. Three costs have been calculated for each centre:

- Car commuter with free parking at place of work;
- Car commuter using Council controlled long stay off street parking;
- Bus commuter using an annual Countywide Bus Metrocard.

4.41 The generalised costs have been calculated for each centre based on the average commuting distance for car drivers derived from the 2001 census. The values are considerably greater than those used in previous reports, reflecting a general increase in travel distances and the relatively longer distances travelled by car drivers than the average for all modes. Nevertheless, the relative results remains very similar to last year's calculation.

4.42 Table 4.28 shows the estimated indicative generalised costs for each of the district centres where journey time data have been collected. These are also shown graphically in Figure 4.7.

			Generalised cost (pence/day)		
Centre	**Distance (km)**	**Parking charge (p)**	**Car driver (free parking)**	**Car driver (pay to park)**	***Bus user***
Bradford	12.97	2.01	751	1171	1453
Halifax	12.40	2.80	631	1129	1334
Huddersfield	11.41	2.80	612	1111	1283
Leeds	18.79	5.80	993	1792	1693
Wakefield	14.21	4.00	748	1367	1453

Table 4.28 Estimated Generalised Central Area Commuting Costs 2006

(Based on average car driver journey to work distance to each main centre from the 2001 census)

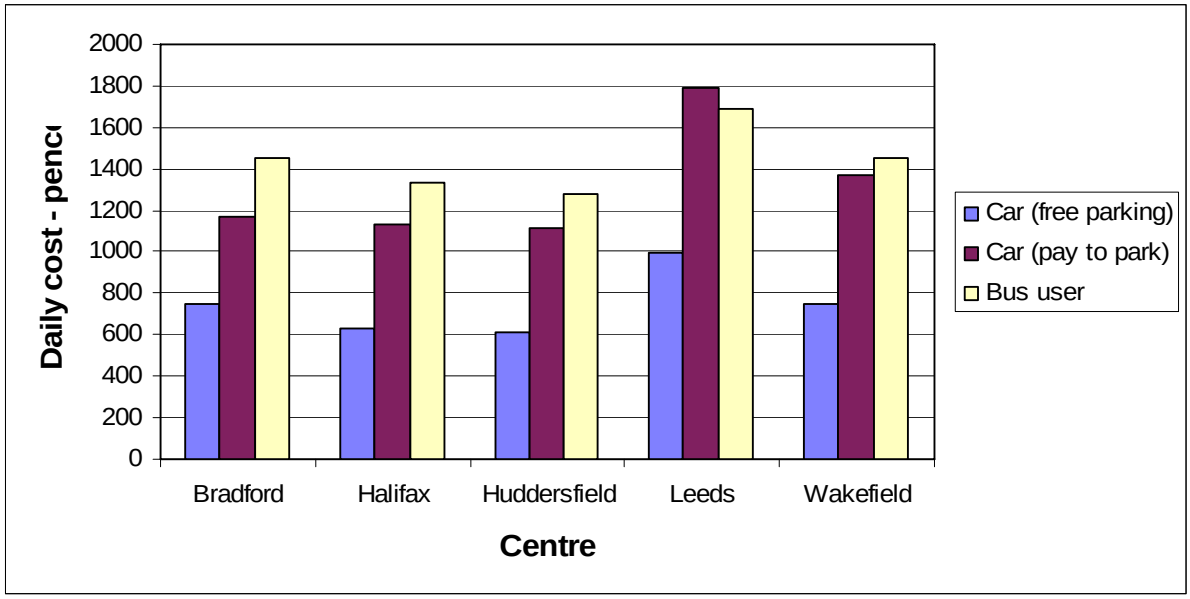


Figure 4.7 Estimated Generalised Central Area Commuting Costs 2006

(Based on average car driver journey to work distance to each main centre from the 2001 census)

4.43 Aside from the changes in assumed journey lengths, the principal changes from 2005 are that petrol costs have risen by 10% and bus fares (using an annual Metrocard) by 9%.

4.44 Leeds remains is the only centre where the cost of commuting by car (for those who have to pay) is greater than the cost of travel by bus. However, the latest increase in the cost of parking in Wakefield has reduced the difference between bus and car travel significantly here.

4.45 It is clear from the generalised cost calculations that commuters who have access to a free workplace parking space (or free on street parking) have a real cost advantage over those who have to pay to park or use public transport.

4.46 For shorter distance commuters the penalties against bus use are proportionately greater because of the amount of walking and waiting time involved in their journey. Nevertheless, census data shows that average car driver commuting distances are significantly greater than for bus users (around twice as long for trips to the main centres) reflecting a greater dispersal of origins and the consequent lack of suitable bus services.

4.47 The impact of additional bus priority measures should, over time, increase average bus speeds in the peaks, however, it is likely that reducing boarding times at stops by the use of prepaid tickets and smartcard technology will have a potentially greater impact throughout the day. Bus user generalised costs are therefore expected to fall.

4.48 Petrol price increases, re-allocation of road space and increased parking charges will increase car user costs. However, the use of other measures to account for the social costs of car usage, such as road pricing or workplace parking charges, may also be required to achieve significant levels of modal shift.

4.49 Increases in average commuting journey lengths, discussed in more detail below, tend to encourage greater car use because of greater trip dispersal. Road pricing would tend to encourage shorter trips lengths in congested urban areas, but perversely may make longer distance commuting more attractive if relatively uncongested rural roads are priced cheaply.

4.50 The availability of GPS data for journey time information will enable a better picture of year on year changes to be derived, providing comparable information can be obtained from the bus operators.

Background Indicator C16 : The Cost of Travel

4.51 The cost of travel has a direct influence on people's mode choice. This background indicator gives information on the changes in the cost of travel by car and public transport at both the national and local levels since 1974.

4.52 National changes in the cost of travel by car and public transport between 1974 and 2005 (the latest year for which data is available) are shown in Figure 4.8. This shows that, after allowing for the effects of inflation :

- the overall cost of travel by car has increased by 3%
- petrol prices have increased by 34%
- the cost of travel by bus increased by 103%
- rail fares increased by 112% over the same period

4.53 A more detailed analysis of West Yorkshire data between 1985 and 2005 shows that :

- all motoring costs have increased by 86%
- petrol prices have increased by 122%
- the cost of travel by bus increased by 190%.
- the cost of travel by rail increased by 344%.
- the cost of travel by public transport is increasing at more than the rate of inflation.

4.54 Figure 4.19 shows real changes in the cost of transport locally since 1985. The figures show that ;

- bus fares have increased by 43%.
-
- rail fares have increased by 119% .
- In both cases this is greater than the rate of inflation

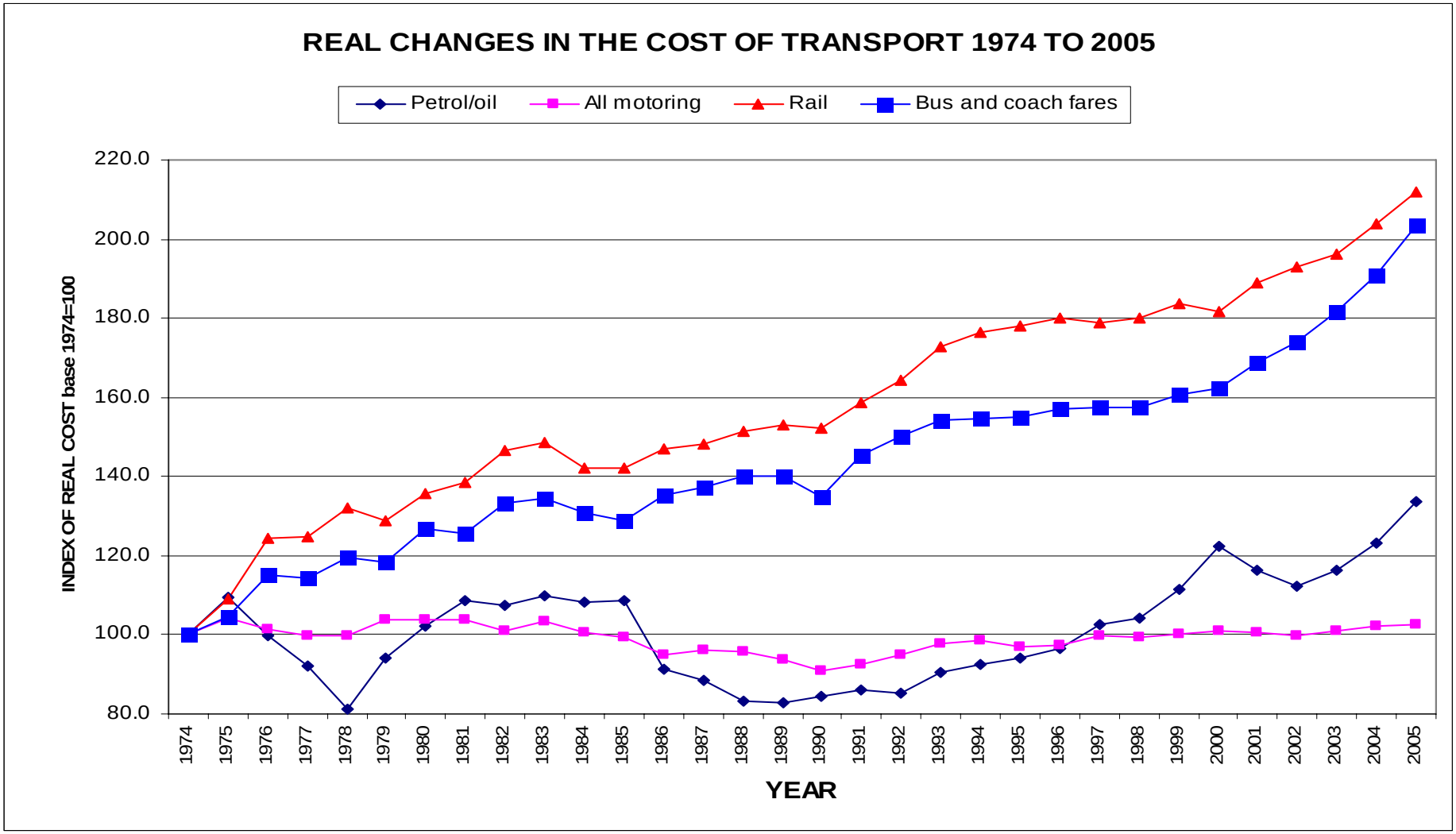


Figure 4.8 Change in National Transport Costs 1974 to 2005.

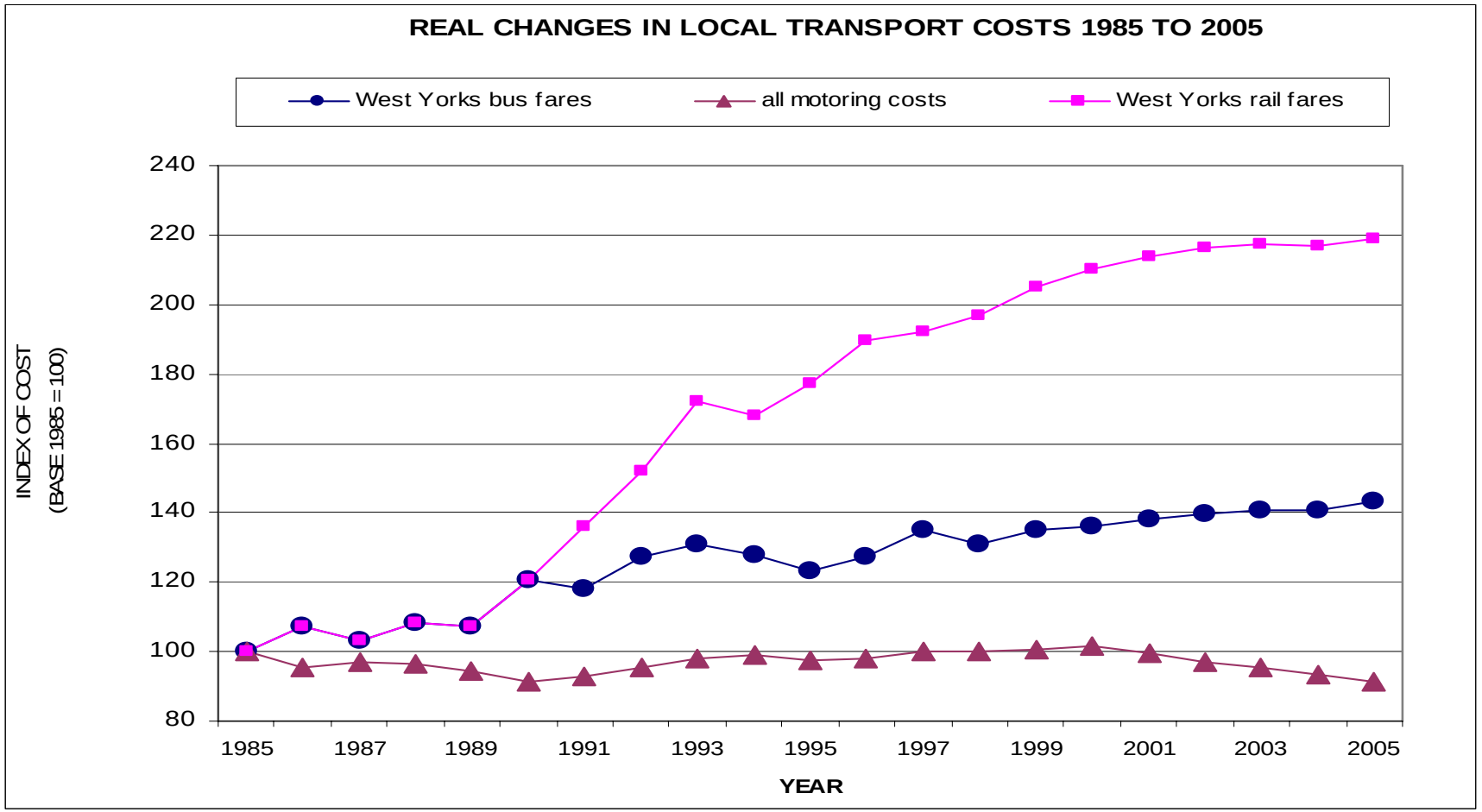


Figure 4.9. Real Changes in Local Transport Costs 1985 to 2005.

Background Indicator C17 : All Day Commuter Parking Supply and Costs

4.55 It is widely accepted that control of all day commuter parking is a powerful demand management tool. In past years, there has been no common definition, which has made it difficult to assess the relative effectiveness of measures in the different centres. For consistency, the following definition has been agreed for monitoring purposes and is used for all centres:-

All day commuter spaces are defined as those where the maximum stay is greater than 8 hours, or where the cost of parking for more than 8 hours is less than 1.5 times the average cost of council off street long stay parking for an equal duration.

4.56 Parking inventories have been conducted in all major centres to provide baseline data against which future changes can be measured. Table 4.29 shows the relative size of the parking study areas for each Centre, whilst inventory data are presented in Table 4.30.

Centre	Approximate radius of parking survey area (Metres)
Bradford	1150
Halifax	500
Huddersfield	900
Leeds	700
Wakefield	750

Table 4.29 Size of Parking Survey Areas

Parking	Type	Bradford	Halifax	Huddersfield	Leeds	Wakefield
Public Short Stay	Council	1681	344	2,701	2123	800
	Private	2941	484	1,438	3057	197
	Total	**4622**	**863**	**4,139**	**5180**	**997**
Public All Day Commuter	Council Free	5123	113	790	78	30
	Council Pay	1527	723	1959	1972	1366
	Private	1668	629	150	4872	1915
	Total	**8318**	**1465**	**2,899**	**6922**	**3321**
Other	Customer	3903	3194	1,953	1507	3513
	PNR	11822	2825	6,925	10415	3512
	Permit	2063	1176	1,241	630	1825
Total		**30728**	**9523**	**17,157**	**24654**	**13168**

Table 4.30 Parking Inventory 2007

4.57 The progress made by the districts in raising parking charges is shown below in Table 4.31. This shows the average cost of council controlled all day commuter parking, where charges are levied, and the % change in parking charges 1997 - 2005. For LTP2 changes will be reported against a 2004/05 baseline.

Centre	*Cost for stay of 8 hours or more in council controlled car park (£)*				*% change 2004 - 2007*
	2004	*2005*	*2006*	*2007*	
Bradford	*1.90*	*1.83*	*1.90*	*1.90*	*No change*
Halifax	*2.70*	*2.70*	*2.70*	*3.60*	*+33*
Huddersfield	*2.80*	*2.80*	*2.8*	*4.0*	*+43*
Leeds	*5.80*	*5.80*	*6.40*	*6.80*	*+17*
Wakefield	*4.00*	*4.00*	*4.50*	*5.00*	*+25*

Table 4.31 Average Cost Of Council Controlled All Day Parking And Changes In Parking Charges 2004 – 2007. (Where Charges Apply)

4.58 If commuters are to be encouraged to use alternative modes to the car then the number of commuter parking spaces in centres should not increase. With the exception of Bradford, charges for all day parking continues to increase at greater than the rate of inflation.

4.59 It must be recognised that the effect of any increases in long stay parking charges will be limited by the influence of both Private Non Residential (PNR) parking and, to a lesser extent, by privately operated publicly available long stay parking. This is clearly illustrated in Table 4.32 which shows the percentage of total all day parking provision in the main centres actually under council control.

Centre	**% of all day parking under council control***
Bradford	33%
Halifax	18%
Huddersfield	28%
Dewsbury	47%
Leeds	12%
Wakefield	19%

Table 4.32 Percentage of Total All Day Parking Under Direct Council Control

* Spaces under council control are defined as public on street / off street spaces over which the council has regulatory authority.

4.60 Given the importance of parking control as a demand management tool comprehensive inventories of all parking spaces will be undertaken at least every 5 years and changes in parking charges will be reported annually for the main centres.

CHAPTER 5 SAFER ROADS

Introduction

5.1 The following indicators have been chosen to monitor our progress towards the "Safer Roads" strategy in LTP2. Progress towards LTP2 targets will be measured using three mandatory and one local key indicator. The remaining indicators are background trend indicators which will help assess overall progress for this key strategy area.

Mandatory Indicator S1 : All Road User Casualty Trends

5.2 The number of people injured in road traffic accidents has been monitored for many years. Data is collected continuously on the numbers of fatal, serious and slight casualties throughout West Yorkshire via the West Yorkshire Police Stats 19 process. The year 2005 had seen an exceptional reduction in the number of casualties throughout West Yorkshire, when lowest ever totals in quite a few road user groups were recorded, particularly killed and seriously injured (KSI). It was anticipated that this year would be difficult to follow and that 2006 would not do as well. In reality, the total number of casualties has fallen by 2% compared with 2005, to a total of 10,614 and this figure is the lowest for 20 years. On the other hand the KSI total rose compared with 2005. The trend in serious injury continues to be downward; however, the 113 fatalities for 2006 have almost returned the total back to the 1994 – 1998 average. After allowing for annual variation in the data, the number of fatalities is remaining very close to the base average and the trend is therefore quite flat. It is only due to the falling number of serious casualties that is driving the KSI figure down towards the national target for 2010 (see Table 5.1 and Figure 5.1). The 2006 total of 1,140 is a reduction of 23% on the 1994~98 average (40% reduction target), and the County is just on track towards meeting its KSI stretched target.

Year	KSI *	Fatal	Serious	Slight	Total
1994 - 1998 average	1,484	115	1,369	11,391	12,876
2002	1,319	115	1,204	11,648	12,967
2003	1,238	102	1,136	11,566	12,804
2004	1,215	116	1,099	10,816	12,031
2005	1,085	99	986	9,714	10,803
2006	1,140	113	1,027	9,474	10,614
% Change 2006 cf. 1994 -1998 average	-23%	-2%	-25%	-17%	-18%
% Change 2006 cf. 2005	+5%	+14%	+4%	-2%	-2%

** Killed or Seriously Injured*

Table 5.1 West Yorkshire Road Casualty Trends By Severity, 1994/98-2006.

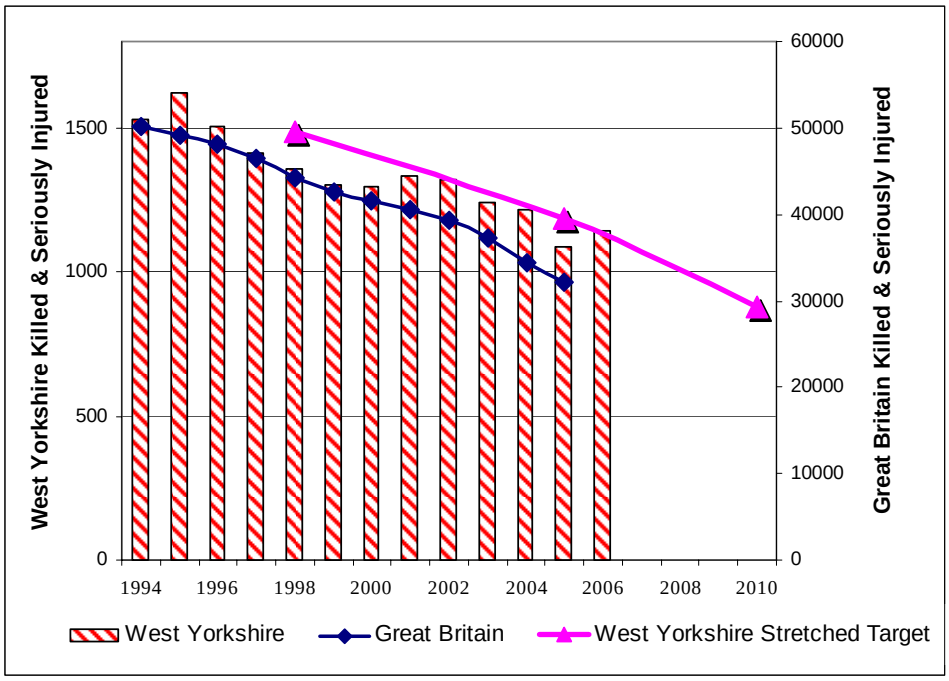


Figure 5.1 West Yorkshire KSI Casualty trend with 2010 target

Mandatory Indicator S2 : Casualty Trends for Children

5.3 The total number of child casualties continues to fall, but seven children were killed and a further 140 were seriously injured during 2006. The KSI total of 147 is a disappointing increase of 14 on the lowest ever recorded figure of 133 established in 2005. Despite this recent increase, the underlying KSI trend is still downward and the total is now 46% below the 1994~98 average figure (50% reduction target). The trends are shown in Table 5.2 and Figure 5.2.

Year	KSI *	Fatal	Serious	Slight	Total
1994 - 1998 average	273	13	260	1,732	2,004
2002	161	7	154	1,448	1,600
2003	203	4	199	1,380	1,583
2004	148	8	140	1,234	1,382
2005	133	4	129	1,064	1,197
2006	147	7	140	1,004	1,151
% Change 2006 cf. 1994 -1998 average	-46%	-46%	-46%	-42%	-43%
% Change 2006 cf. 2005	+11%	+75%	+9%	-6%	-4%

** Killed or Seriously Injured*

Table 5.2 West Yorkshire Road Casualty Trends for Children 1994/98 - 2006

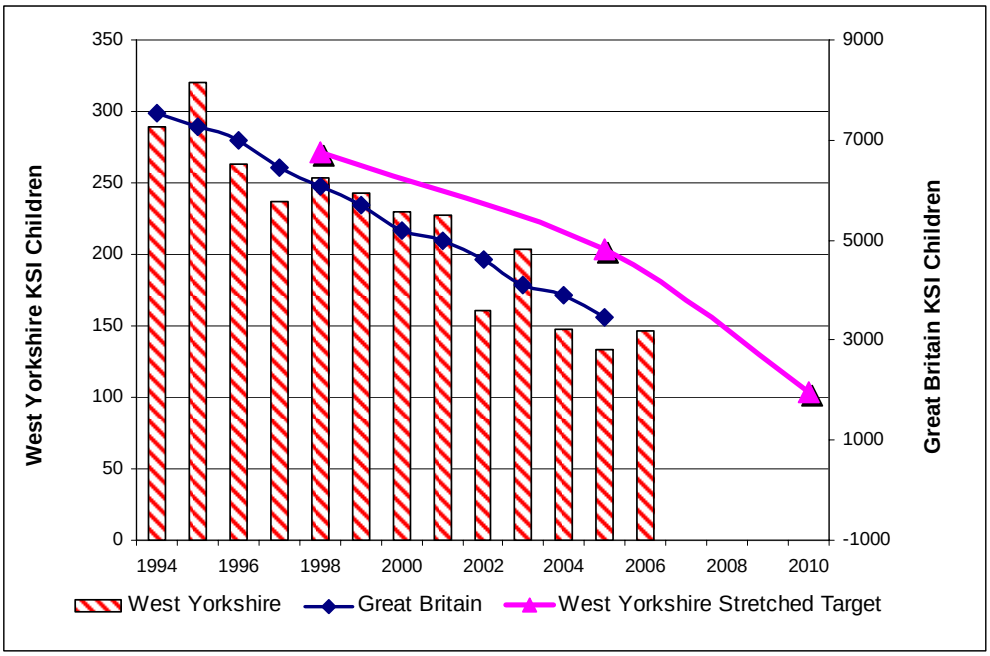


Figure 5.2 West Yorkshire KSI Child casualties with 2010 target

5.4 Unless the downward trend flattens out over the next four years, West Yorkshire should achieve the stretched target.

Mandatory Indicator S3 : Slight Casualty Numbers

5.5 The number of slight casualties continued to fall during 2006 to a total of 9,474 and the graph of Figure 5.3 shows that the trend from 1998 is clearly down. The fall in the number of slight casualties is distributed across all road user groups apart from bus passenger, where there was an increase. The largest reduction is associated with car occupants.

Year	Slight Casualties
1994 to 1998 Average	11,391
2002	11,648
2003	11,566
2004	10,816
2005	9,718
2006	9,474
% Change 2006 cf. 1994 -1998 average	-17%
% Change 2006 cf. 2005	-3%

Table 5.3 West Yorkshire : Number of Slight Casualties 1994/98 - 2006

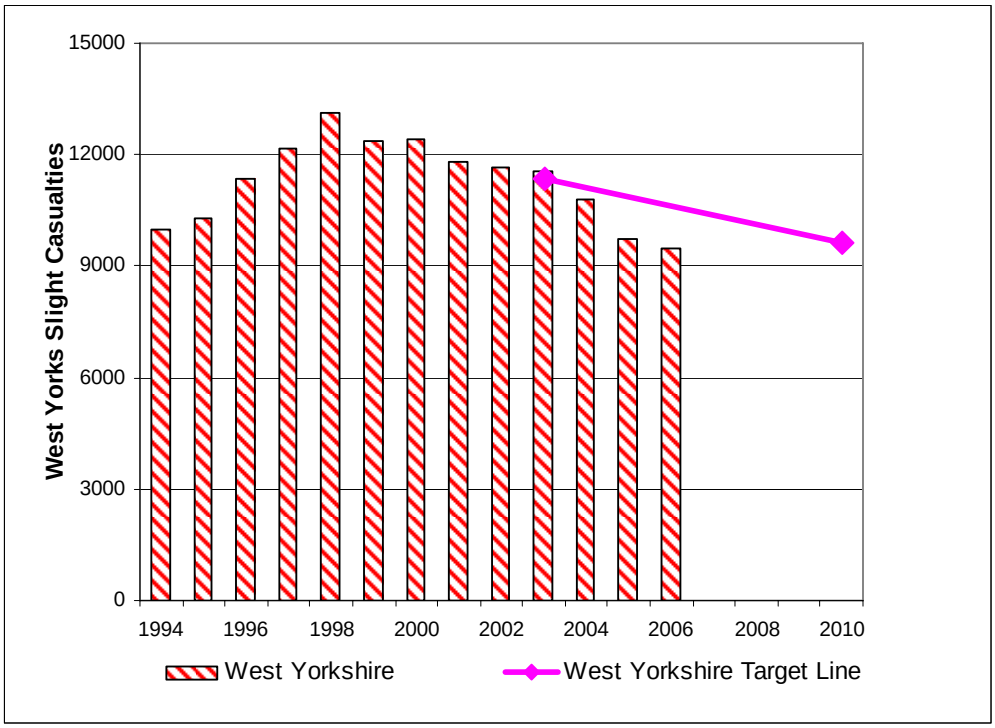


Figure 5.3 West Yorkshire Slight Casualties With 2010 Target

Local Key Indicator S4 : Casualty Trends for Different Road User Groups

5.6 The number of casualties in the different priority groups has been monitored for a number of years and will continue to be monitored and changes reported annually. The West Yorkshire trends for different groups of road user are shown in Table 5.4 for KSI and in Figure 5.3 for all casualties.

Year	Pedestrians	Pedal Cyclists	Motor Cyclists	Car Drivers	Car Passengers
1994 - 1998 average	525	106	158	388	232
2002	376	62	258	385	196
2003	340	101	235	323	182
2004	360	78	228	300	194
2005	308	86	216	279	145
2006	314	86	196	326	169
% Change 2006 cf. 1994 - 1998 average.	-40%	-19%	+24%	-16%	-27%
% Change 2006 cf. 2005	+2%	No change	-9%	+17%	+17%

Table 5.4 West Yorkshire Killed and Seriously Injured (KSI) Trends for Different Road Users 1994/98-2006

5.7 The steady downward trend in pedestrian KSI reached the lowest ever recorded total in the County of 308 in 2005. The reduction in the total continues to be lead by a significant fall in the number of child casualties.
Although the overall trend in KSI pedal cycle casualties since 1994 is down, there has not been any real improvement in the total for this vulnerable road user group since 1998.

5.8 During 2006, 196 motor cyclists were killed or seriously injured. This figure is still 24% more than the 1994 – 1998 average, but the total has fallen for the fourth consecutive year from the peak of 2002.

5.9 The long term trend in car occupants (car driver plus passenger) killed or seriously injured from 1994 is downward, but since 2000 the trend is really pretty flat, with annual fluctuations above and below an average of around 500.

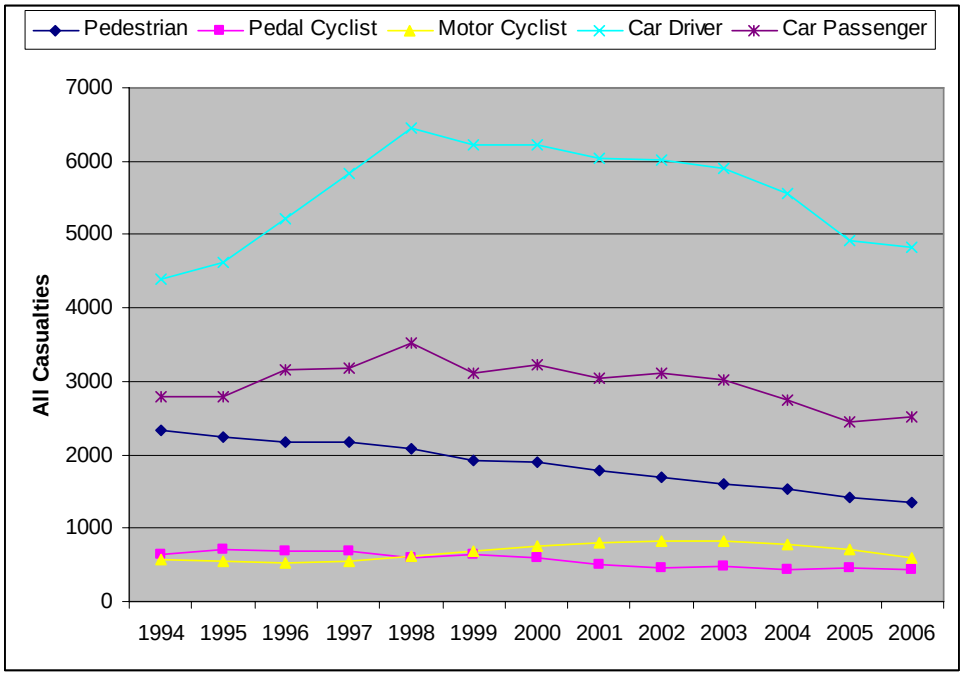


Figure 5.3 West Yorkshire Casualty Trends for Different Road Users 1994-2006

5.10 There were 1,339 pedestrians injured during 2006, and this number is the lowest pedestrian casualty total so far recorded in West Yorkshire. The long term trend has been downward since 1994.

5.11 The pedal cycle casualty total had been in gradual decline until 2002. Since that year the trend has been fairly level with no further improvement.
The rising trend in the number of motor cycle casualties peaked in 2003, and has now fallen for the third successive year.

5.12 A total of 7,341 people were injured as either car drivers or car passengers in 2006 and this figure is virtually the same as that of the previous year. 2005 had experienced a dramatic drop in the total and hopefully 2006 is just a pause in the long running downward trend from 1998. This downward trend is driven by the falling number of slight injury.

5.13 The West Yorkshire authorities will continue to monitor data on road casualties and report progress towards the LTP2 and National Targets in future monitoring reports.

Background Indicator S5 : Town Centre Car Park Spaces with CCTV Cameras

5.14 An important element of the overall safe car journey is having a secure and safe place to leave the vehicle. Table 5.5 shows the number of off street car park spaces with CCTV coverage in the major town and city centres in West Yorkshire. The data refers to council owned car park spaces only.

	Year	Bradford	Halifax	Huddersfield	Leeds	Wakefield
No. of Spaces with CCTV	2000	2,021	441	1,902	2,708	1,743
	2001	856	441	2,187	2,708	1,705
	2002	1,576	441	2,667	2,708	1,266
	2003	1,576	441	2,764	2,931	1,266
	2004	1,551	441	3,087	2,137	1,215
	2005	1,551	489	3087	2,137	1,189
	2006		489	3087		
No. of Spaces without CCTV	2000	1,159	964	925	153	0
	2001	889	964	890	153	0
	2002	124	964	1,048	153	439
	2003	124	964	1,018	140	439
	2004	93	964	668	831	538
	2005	193	964	668	831	530
	2006		1133	668		
% of Spaces with CCTV	2000	63%	34%	67%	95%	100%
	2001	49%	34%	71%	95%	100%
	2002	93%	31%	72%	95%	74%
	2003	93%	31%	73%	96%	74%
	2004	94%	31%	82%	72%	69%
	2005	87%	50%	82%	72%	69%
	2006		43%	82%		

Table 5.5 Local Authority Off-Street Car Parks with CCTV Surveillance

5.15 It is envisaged that the number and percentage of car parking spaces with CCTV cameras will increase in the future, not just in the main centres but also in other town centres in West Yorkshire.

Background Indicator S6 : Rail/Bus Stations with CCTV Cameras

5.16 As with road users, the added security of CCTV coverage at railway stations is an important factor in safer travel. Table 5.6 shows the number of railway station car parks so covered. Changes to this coverage will be reported in future monitoring reports.

	Rail station car parks with CCTV	Of which staffed rail stations	Of which unstaffed rail stations
1999/00	22 (43%)	10 (63%)	12 (34%)
2004/05	25 (45%)	12 (67%)	13 (35%)
2005/06	25 (45%)	12 (67%)	13 (35%)
2006/07	25 (45%)	12 (67%)	13 (35%)

Table 5.6 Rail Station Car Parks with CCTV Surveillance

Background Indicator S7 : Town and City Centre Streets with CCTV Cameras

5.17 Table 5.7 shows the changes in CCTV coverage in the major town and city centres since 1998 through the percentage of streets covered by cameras.

	Bradford	Halifax	Huddersfield	Leeds	Wakefield
1998	40%	0	90%	60%	93%
1999	40%	5%	90%	60%	93%
2000	40%	15%	90%	70%	93%
2001	40%	30%	94%	70%	93%
2002	55%	40%	94%	73%	93%
2003	60%	40%	95%	80%	93%
2004	65%	40%	96%	87%	93%
2005	65%	40%	96%	87%	93%
2006	65%	40%	96%	87%	93%

Table 5.7 Percentage of City Centre Streets Covered by CCTV

5.18 Changes to CCTV coverage will be reported in future monitoring reports.

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CHAPTER 6 BETTER AIR QUALITY

Introduction

6.1 The following 6 indicators are being used to monitor our progress towards achieving the LTP2 general banner of “Better Air Quality”. Progress towards targets in this area will be measured using 2 mandatory and 1 local key indicators. The remaining 3 indicators are background trend indicators which will help assess overall progress for this key strategy area.

6.2 These indicators are not exclusively related to Air Quality, but contain a complimentary or proxy information connected with climate change mitigation and environmental noise.

6.3 Road transport emissions remain the most significant source of urban air pollution within West Yorkshire. High levels of exhaust emissions can result from the effects of traffic congestion, which is most common during peak periods. NO_2 and PM_{10} are the two major transport pollutants of concern. Road transport emissions contribute in the region of 75% and 50% respectively, towards total urban emissions

Mandatory Indicator AQ1 : NO_2 Levels in Air Quality Management Areas

6.4 Air quality is currently measured at Haslewood Close in the Ebor Gardens AQMA in Leeds. The real time monitoring station is close to York Road, the major road traffic source of NO_2 as show in Table 6.1.

Leeds AQMA Monitoring	2004 (baseline)	2005	2006
NO_2 µg/m^3	45.8	41.3	41.6

Table 6.1 NO_2 Levels in the Ebor Gardens, Leeds AQMA 2004-2006

6.5 Annual changes will be recorded against this baseline, and further AQMAs will be included during the course of LTP2 as Air Quality Action Plans are developed.

Mandatory Indicator AQ2 : Area Wide Traffic Flows

6.6 The West Yorkshire Long Term Monitoring Programme (LTMP) of automatic traffic counts was established in 1979 to monitor traffic flows at about 400 locations across West Yorkshire. In 1980, a sub-set of this programme, stratified to give a representative coverage of A, B and C/Unclassified roads was created to provide a statistically robust method for calculating changes in daily traffic flows across West Yorkshire.The methodology was modified in 2003 in that the flows obtained were weighted by road lengths in order to give a better estimate of changes in traffic volumes rather than vehicle flows. The location of the counting sites is shown in Figure 6. 1

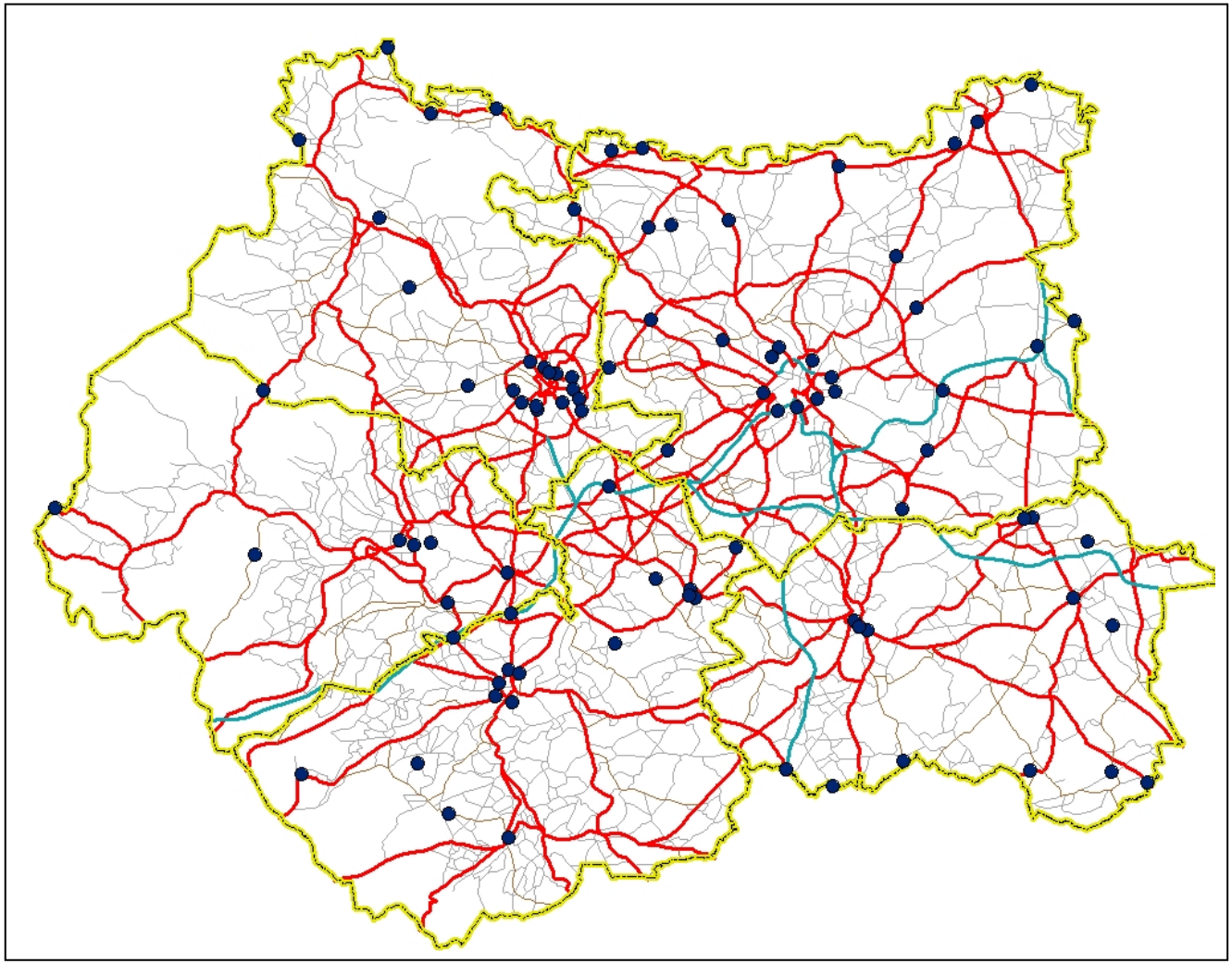

Figure 6.1 Location of Annual Traffic Growth Count Sites

6.7 Table 6.2 below shows the change in the index of traffic volumes since 2000 relative to the LTP2 base year of 2004.

Year	Index of Traffic Volumes
2000	97.5
2001	98.3
2002	97.4
2003	100.2
2004	100
2005	102
2006	100
Change 2004 to 2006	No Change

Table 6.2 Changes in Traffic Volumes from Long Term Monitoring Programme, 2000 to 2006

6.8 Changes to the index will be reported annually and will incorporate the latest road length statistics.

6.9 An alternative source of data for this indicator is data supplied by DfT on annual vehicle kilometres obtained from the National Traffic Census (NTC). Table 6.3 shows traffic volume changes since 2000 using this source.

Year	Index of Traffic Volumes
2000	92.0
2001	93.0
2002	96.0
2003	99.3
2004	100
2005	99.8
2006	Data not yet available
Change 2004 to 2006	N/A

Table 6.3 Changes in Traffic Volumes from National Traffic Census, 2000 to 2006

6.10 In the past , the changes in flow calculated by NTC data have been greater than that indicated from our LTMP monitoring. We have retained the first methodology to derive our LTP2 target for the following reasons :

- Consistency with LTP1 and District strategy monitoring and targets

- A detailed analysis of the NTC statistics suggests that the majority of growth is on unclassified roads. The methodology used by DfT to establish vehicle kilometres from counts on minor roads is currently subject to revision following the Quality Review of Road Traffic Statistics.

6.11 We will continue to report both sets of statistics for this indicator but will track our progress towards the LTP2 target using figures derived from the LTMP.

Local Key Indicator AQ3 : Area Wide Road Transport Emissions : NO_x , CO_2

6.12 Road transport emissions of oxides of nitrogen (NO_x) which contains a mixture of nitric oxide (NO) and nitrogen dioxide (NO_2), and carbon dioxide (CO_2), the primary "greenhouse gas", have been predicted for the West Yorkshire trunk / principal road network. Annual emission rates were predicted for PM_{10} and NO_x using the latest DfT / DEFRA approved vehicle emission factors (Released February 2003). The DMRB vehicle emission factors published in 1999, were used to predict emissions of CO_2.

6.13 All calculated emission rates took account of the observed annual traffic growth for all road types in each District and actual traffic count data on the Motorway network. A new improved Emission Database (EDB) has been created to coincide with the start of the LTP2 monitoring period. This EDB takes more account of the variation in the percentage Heavy Duty Vehicles and has used ITIS speed data to try and better replicate the average netweork speeds throught the county. However, emissions are speed sensitive and may underestimate the exacerbating effects of local congestion during peak periods.

6.14 Table 6.4 provides a summary of predicted road transport emissions for the West Yorkshire trunk / principal road network from the improved EDB. The predicted figures are different from the previously published due to the changed made in the EDB, but the trends are still very similar. Approximately 15,198 tonnes and 2.32 million tonnes / year of NO_x, and CO_2 emissions respectively, have been predicted for the year 2004. The annual emission rates for NO_x and PM_{10} continues to fall across the region. Whilst there is little change for CO_2 emissions, 2006 does indicate a slight reduction from the base year may have occurred.

Year	**2004 (Base Year)**	**2005**		**2006**	
Pollutant	**Tonnes / yr**	**Tonnes / yr**	**% Change from base year**	**Tonnes / yr**	**% Change from base year**
NOx	15,198	14,384	-5.4%	13,359	-12.10%
PM_{10}	453	435	-4.0%	398	-12.14%
CO_2	2,328,895	2,366,117	1.6%	2,319,262	-0.41%

Table 6.4 Summary of Road Transport Emissions : NO_x and CO_2 2004-2006

Background Indicator AQ4 : Air Quality Monitoring in Town and City Centres

6.15 Road transport emissions remain the most significant source of urban air pollution within West Yorkshire. High levels of exhaust emissions can result from the effects of traffic congestion, which is most common during peak periods.

6.16 Road transport emissions of nitrogen dioxide (NO_2) and particulates (PM_{10} reported separately as AQ5) contribute in the region of 75% and 50% respectively, towards total urban emissions. NO_2 and PM_{10} represent the two major transport pollutants of concern.

6.17 Figure 6.2 illustrates the results of the annual average NO_2 monitoring within urban centres of each District. During the year 2004, all Districts except Wakefield complied with the annual average standard of 40 μg/m^3. The 7 year period from 1998 shows a general trend of improving air quality, with respect to background levels of NO_2. However, 2006 saw a sharp increase in NO2 levels in every district except Kirklees, which remained unchanged from 2005.

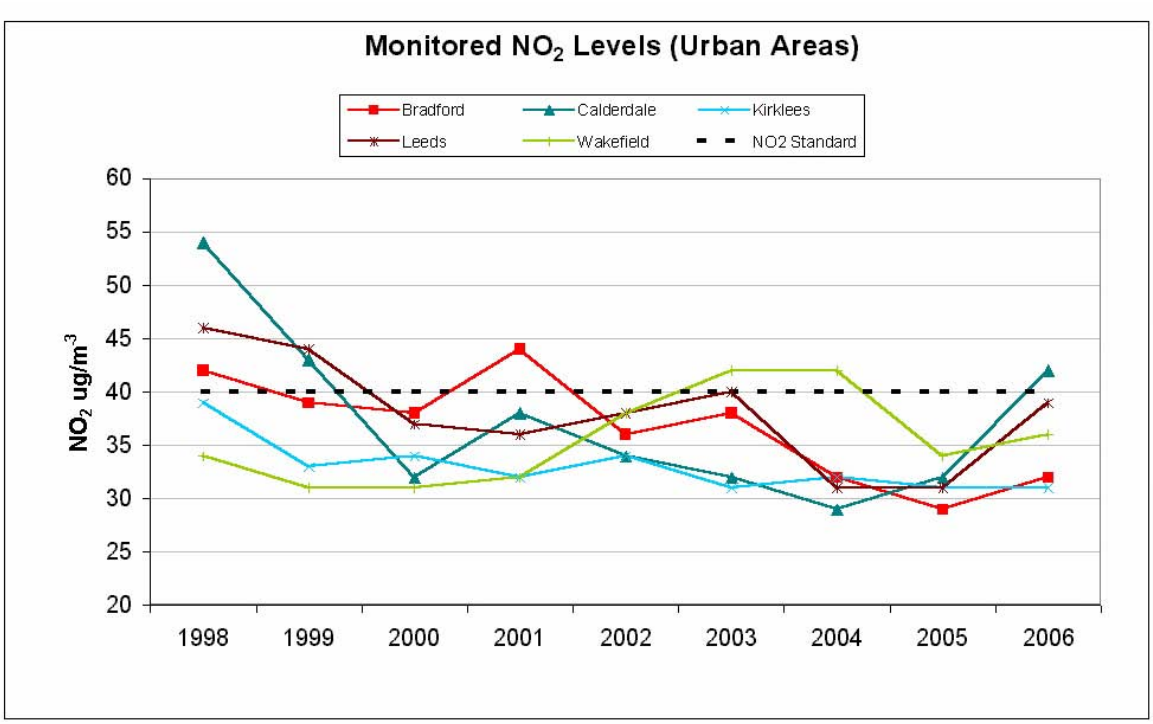

Figure 6.2 West Yorkshire Annual Average NO_2 Monitoring – Summary Data 1998 -2006.

Background Indicator AQ5 : Area Wide Road Transport Emissions : PM_{10}

6.18 Figure 6.3 indicates that all Districts comply with the annual average PM_{10} standard of 40 μg/m^3. Since monitoring began in 1998 there has been little change in general background PM_{10} air quality within urban centres. All

Districts reported a reduction in Annual Average PM_{10} levels in 2004 except Bradford, which recorded the same level as for 2003. However there has been a general increase across the County since 2004.

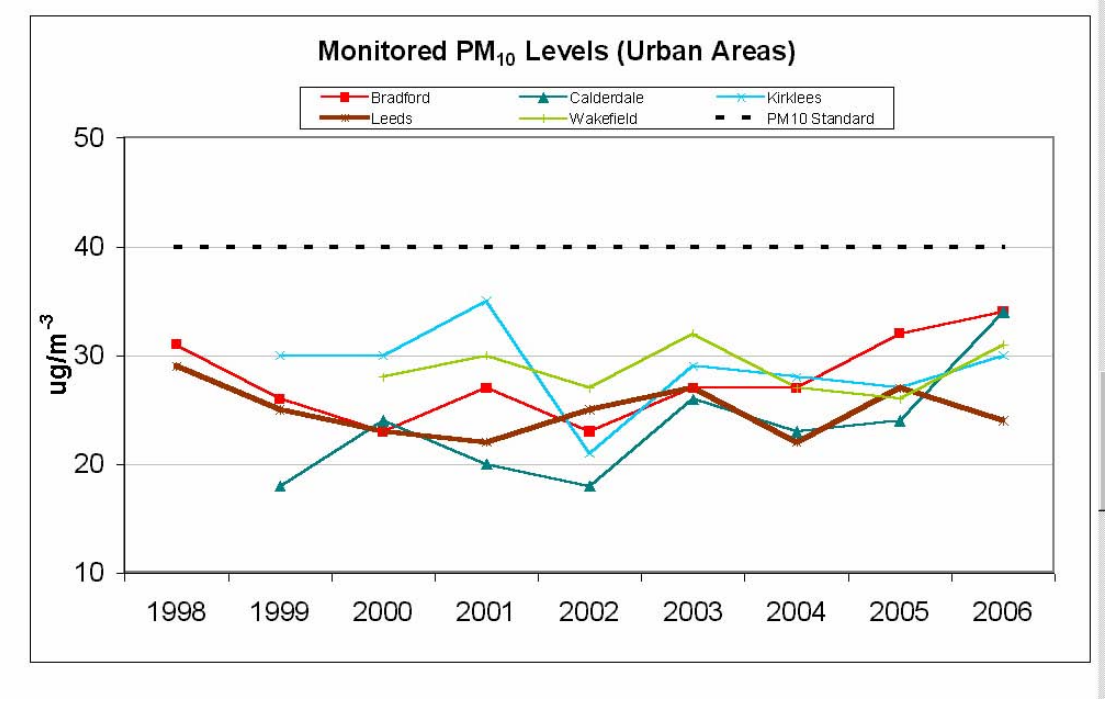

Figure 6.3 West Yorkshire Annual Average PM_{10} Monitoring 1998-2006

Background indicator AQ6 : Low Noise Road Surfacing

6.19 Approximately 65% of the population are exposed to noise levels above the World Health Organisation guideline levels. Road transport is the most dominant and extensive source of environmental noise. Low Noise surfacing can significantly reduce road traffic noise levels at source.

6.20 Figure 6.4 shows the approximate lengths roads that have been re-surfaced with 'low noise' asphalt over the previous 6 years. In total, there has been approximately 540km of 'low noise' asphalt have been laid in West Yorkshire between the years 2000 – 2007. This figure includes nearly 46km laid by the Highways Agency on motorways and trunk roads. Approximately 78km. of low noise surfacing was laid in 2006/07

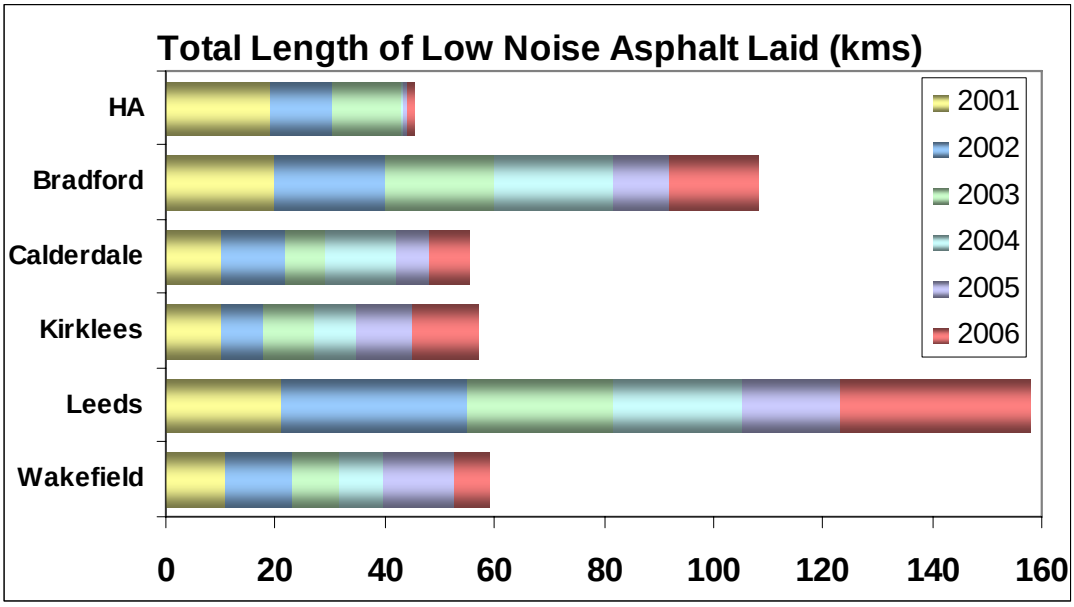

Figure 6.4 Total Length of Low Noise Asphalt Laid by District , 2000 to 2006

6.21 Figure 6.5 compares the actual lengths of 'low noise' asphalt laid within West Yorkshire to an approximate percentage coverage of the trunk / principal road network within each district. Taken as a whole just nearly 29% of the trunk / principal road network within West Yorkshire is now surfaced with low noise asphalt.

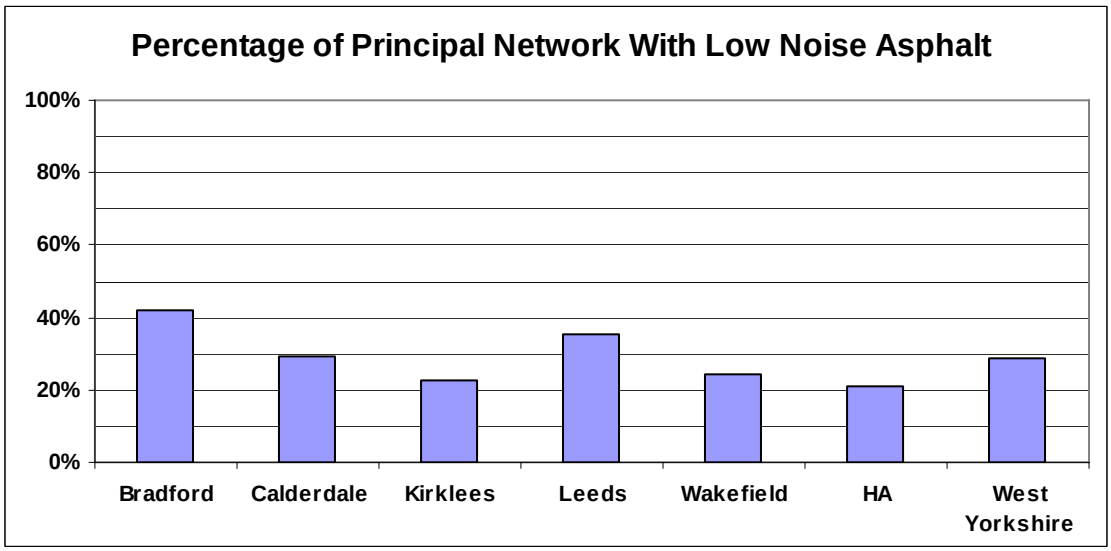

Figure 6.5 Percentage of Principal Road Network with Low Noise Asphalt

6.22 The use of low noise asphalt will continue to be monitored and reported annually.

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CHAPTER 7 ASSET MANAGEMENT

Introduction

7.1 The following four indicators have been selected to monitor our management of the transport assets of West Yorkshire. Progress towards LTP2 targets will be measured using two mandatory indicators and two local key indicators.

7.2 West Yorkshire averages for all road and footway condition performance indicators are calculated from weighted lengths, not an average of the five district values.

Mandatory Indicator AM1 : Principal, Non-principal and Unclassified Road Condition

7.3 Since the last report the performance indicators for carriageway condition have gone through a series of changes. This has effectively caused discontinuity between the information used to report condition at the start of the LTP reporting process to today.

7.4 The condition of Principal Roads, BVPI 96, reported using deflectograph data has become BV223 now reported using Scanner data having gone through a transition of TRACS type survey (TTS). IN 2004/05 BVPI 223 reported the condition of the carriageway as any length needing some work, ie the sum of both the Red and Amber lengths. The same performance indictor now only reports the Red length (*lengths in poor overall condition which are likely to require planned maintenance soon (i.e. within a year or so) on a "worst first" basis*.)

7.5 The recent results for BV 223 are shown below . It can be seen the West Yorkshire weighted average lies in the upper quartile for Metropolitan Authorities in England for 2005/006 despite the figures marked * (see paragraph 7.9 below)

District	2004/05 TTS %	2005/06 Scanner %	2006/07 Scanner %
Bradford	NA	18*	8
Calderdale	39	9	10
Kirklees	45	23*	12
Leeds	26	6	9
Wakefield	29	5	5
Weighted Ave.	**21.08**	**9.67**	**9.68**
Metropolitan UQ	*32.87*	*10.75*	*Not available*
Metropolitan Avge	*35.35*	*17.3*	*Not available*
Metropolitan LQ	*65.44*	*23.05*	*Not available*

Table 7.1 BV223 Proportion of Principal Road Network Requiring Planned Maintenance

7.6 The use of deflectograph for the measurement of condition of the principal road network has been discontinued by all West Yorkshire authorities.

7.7 The condition of Classified Non-Principal roads, BV97a, reported using CVI data has been replaced with BV224a reported using data from the Scanner machine. As with BV223 this reports the length of road in the red condition.

7.8 The results for BV224a are shown in Table 7.2 below.

District	2005/06 Scanner	2006/07 Scanner
Bradford	27*	15
Calderdale	15	16
Kirklees	44*	25
Leeds	13	15
Wakefield	13	13
Weighted Ave.	**22.92**	**16.93**
Metropolitan UQ	*16*	*Not available*
Metropolitan Avge	*25*	*Not available*
Metropolitan LQ	*33*	*Not available*

Table 7.2 BV224a Proportion of Non Principal Classified Road Network Requiring Planned Maintenance

7.9 The results for Bradford and Kirklees for 2005/06 marked ***** in both 223 and 224b tables are now known to be erroneous. The contractor who surveyed these two networks has acknowledged nationally that their data has exaggerated the condition of the all networks surveyed. This year, 2006/07 is the first meaningful figure that can be reported with confidence.

7.10 The condition of unclassified roads, BV224b has undergone many changes: in rules and parameters over the years The major change this year has been the reporting of the results using data from the previous four years. It is anticipated that this will smooth out the fluctuations that have been experienced over the last five years shown below.

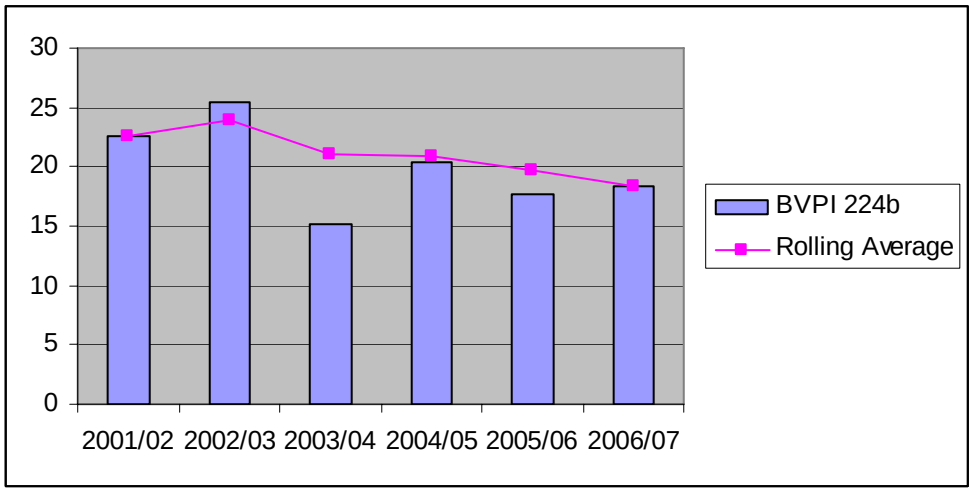

Figure 7.1 BVPI 97b/BVPI 224b Percentage of Non-Principal Unclassified Roads with Significant Defects, 2001/02 to 2006/07..

7.11 The weighted average for BV224b for 2005/6 is 17.62% and for 2006/07 is 18.32% this slight worsening in reported condition being attributable to the change to reporting a rolling four year result. The Rolling Average line in Figure 7.1 gives some indication of slightly improving trend. There are no data available for the latest results to calculate quartile comparisons but in 2005/06 lowest quartile for metropolitan authorise was 16.6%. West Yorkshire as a whole has been in the lowest quartile for this indicator for the whole of the period it has reported. This is a situation that will continue without significant investment in the repair of local roads. There is a degree of encouragement in the data in that the results are showing a gradual improvement when averages over a maximum four year cycles are plotted. The improvements across the five districts has however only been marginal. Greater investment is needed in the repair of unclassified roads if the gradual improvement is to be consolidated and extended.

Mandatory Indicator AM2 : Footway Condition

7.12 BVPI 187 measures the condition of prestige, primary and secondary walking routes. Fifty percent of these footways are surveyed each year using UKPMS DVI surveys; data has been collected for five years. Only alternate years' data can be compared with each other Therefore the West Yorkshire authorities believe that trends can be better assessed by taking a 100% sample over a two year period. This trend is shown by the red line on Figure 7.2.

7.13 Future works programmes will further improve this part of the footway network. However these footways represent a relatively small percentage of the total footway network and eradicating the backlog of maintenance to all footways by 2010/11 will not be achieved without a considerable increase in funding

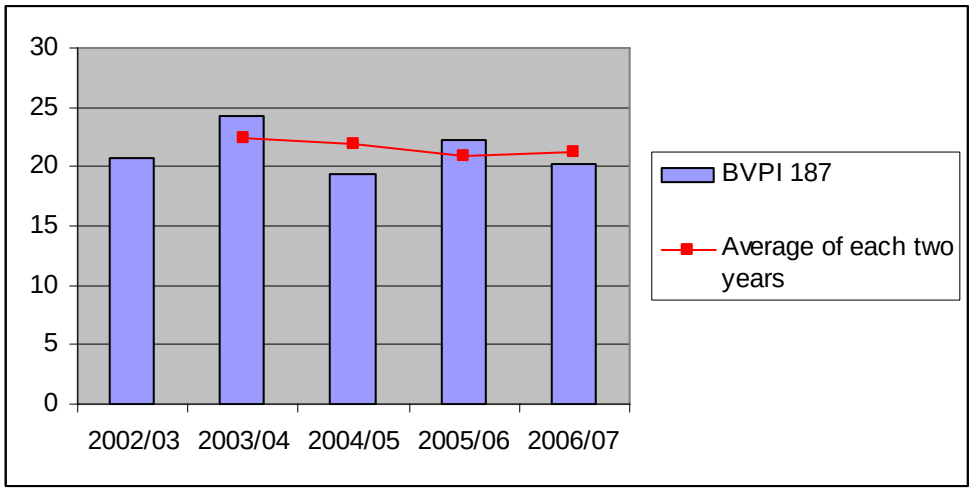

Figure 7.2 BVPI 187 Percentage of Prestige, Primary and Secondary Walking Routes with Significant Defects (Visual Inspection).

Targets for Highway Maintenance Indicators

7.14 The West Yorkshire authorities remain cautious at predicting the trajectories and targets for the various performance indicators.

7.15 Both BVPI 223 and 224a, now measured by scanner, have little historical data to be able to develop a trend to assess the impact on carriageway condition of the current levels of spending.

7.16 BVPI 224b measures the condition on the greater part of the network, the unclassified local roads. A huge investment, over and above the current levels of LT settlement, is needed to make an impact in the condition of this sub-network. However with some of authorities the LTP highway maintenance settlement provides the majority of local maintenance budget. A West Yorkshire wide cut of 24% in the LTP settlement from previously indicated figures represents a serious setback in being able to maintain the current network condition let alone plan to make improvements. It is understood that future settlement, to be notified in December 2007, will also have allocations for the years up to the end of the LTP2 period. New formulae are being developed for the calculation of the settlement this uncertainty has led some authorities to predict a static condition in their networks.

Local Key Indicator AM3 : Structures With Weight/Width Restrictions

7.17 The function of a bridge is to support the road, which in turn provides a transport facility for the user. If any part of the structure is closed or restricted for any reason, traffic will be disrupted and there will be resulting cost and inconvenience to the user. The overall functional requirement for bridge management, therefore, is to keep road user disruption to the minimum.

7.18 The percentage of structures with temporary weight or width restrictions is used to monitor performance in this area. The position at March 2005 and March 2006, is reported in Table 7.1 , together with data from 2005. Future changes will be reported against the 2004 baseline.

West Yorkshire: Weight And Width Restricted Structures

District	TO MARCH 2006						TO MARCH 2007					
	Structures with temporary weight or width restriction. (Council Owned)			Structures with temporary weight or width restriction. (Privately Owned)			Structures with temporary weight or width restriction. (Council Owned)			Structures with temporary weight or width restriction. (Privately Owned)		
	Total No In Prog	No Rest.	%	Total No In Prog	No Rest.	%	Total No In Prog	No Rest.	%	Total No In Prog	No Rest.	%
Bradford	237	3	1.7	74	11	14.8	237	3	1.7	74	11	14.8
Calderdale	263	0	0	66	1	1.5	263	0	0	66	1	1.5
Kirklees	313	18	5.8	87	9	10.3	313	17	5.4	87	9	10.3
Leeds	229	6	2.6	113	3	2.7	229	7	3.0	113	7	6.2
Wakefield	85	0	0	60	5	8.3	85	0	0	60	5	8.3
WEST YORKS	1100	27	2.45	400	29	7.25	1127	27	2.40	400	33	8.25

Table 7.3 Percentage of Structures with Temporary Weight or Width Restrictions

7.17 Completion of the strengthening programme will allow all restrictions to be removed, except where permanent weight restrictions are acceptable. Hence, for Council owned structures, the target date is the end of the second 5 year LTP in March 2011, with the exception of sub-standard bridges under monitoring regimes where restrictions are not significant. These represent about 1.5% of structures in West Yorkshire. In addition, continued pressure on private bridge owners is required to ensure that their weak structures are strengthened within a reasonable timescale.

Local Key Indicator AM4 : Bus Shelters Meeting Modern Standards

7.18 Market research has indicated that peoples perception of public transport is influenced greatly by their wait for a service. West Yorkshire's bus stops rate poorly for weather protection and information provision. In order to remedy this situation indicator AM4 will monitor the replacement of shelters with those meeting modern standards – defined for this purpose as having full glazing, have a light or seat and meet DDA requirements.

7.19 Table 7.4 below shows the proportion of shelters meeting the above standards and indicates we are making good progress towards our target of 95% by 2010/11

Year	% of shelters meeting standard *
2003/04	34
2004/05	37
2005/06	51
2006/07	62

* defined as having full glazing, a light and seat and meeting DDA requirements

Table 7.4 Proportion of Bus Shelters Meeting Modern Standards.

CHAPTER 8 PROGRESS TOWARDS LTP TARGETS

8.1 Table 8.1 below shows the progress made towards the 17 Mandatory and 10 local targets in the LTP.

8.2 A “traffic light” colour code system is used to indicate whether we are on track (green), have no clear evidence (amber) or are not on track (red) to meet the 2010/11 target. As this is the first year of reporting progress the table is presented without comment. Future reports will highlight areas for concern as we move towards the target year of 2010/11.

Ref	Description	Base	2006/07	Target	On Track?
M1	Access to Hospitals	89.5	78%	89.5	
M2	Bus Punctuality	87%	90.6	95%	
M3	Satisfaction with local bus services	54%	66.4	59%	
M4	Overall Cycling Trips	100	103	110	
M5	Person Journey Time	221.8		237	Awaiting DfT data
M6	Peak Period Traffic Flows				
	Bradford	100	102	103	
	Halifax	100	99	103	
	Huddersfield	100	101	103	
	Leeds	100	99	103	
	Wakefield	100	100	103	
M7	Car Mode share to school	29.7	29.7	29.7	Base year data only
M8	PT Patronage	199.1	196.9	209.0	
M9	Total KSI	1484	1,085	890	
M10	Child KSI	272	133	136	
M11	Total slight casualties	11,391	9,718	9642	
M12	NO_2 in Leeds AQMA	45.8 g/m^3	41.6 g/m^3	41.3 g/m^3	
M13	Change in Area Wide Traffic	100(index)	100	105	
M14	Maintenance on PRN	36%	10%	27% (9%)	Data collection methods changed. Targets to be revised
M15	Maintenance on classified non PRN	13%	17%	5% (13%)	
M16	Maintenance on unclassified roads	16%	18.3%	9% (13.5%)	
M17	Maintenance on footways	24%	21%	14%	
L1	Satisfaction with LTP funded PT facilities	87%	96%	90%	
L2	Peak Period cycling trips to urban centres :				
	Leeds				Data fluctuates year on year
	Wakefield	100	119	120	
	Halifax	100	112	120	
		100	106	120	
L3	AM peak period mode split :				
	Bradford	74	73	74	Need to clarify Wakefield base year
	Halifax	74	74	74	
	Huddersfield	65	65	65	
	Leeds	57	57	55	
	Wakefield	62 (73?)	73	73	
L4	Peak period rail patronage to Leeds	10,209	17,196	12,240	
L5	Patronage on QBC's	See Table 4.16			
L6	Pedestrian KSI's	525	308	420	
L7	NO_x emissions on PRN (tonnes/yr)	15,198	13,359	12,158	
L8	CO_2 emissions on PRN (tonnes/yr)	2,328,895	2,319,262	2,328,895	
L9	Structures with restrictions	4.3%	3.9%	1.5%	
L10	Bus shelters meeting modern standards	31%	62%	95%	

Table 8.1 Progress Towards LTP2 Targets