



West Yorkshire Local Transport Plan 2 Monitoring Report 2008

DECEMBER 2008

WEST YORKSHIRE LOCAL TRANSPORT PLAN

2006/07 – 2010/11

2008 MONITORING REPORT

The West Yorkshire Local Transport Plan Partnership

DECEMBER 2008



CONTENTS

	PAGE
CHAPTER 1 INTRODUCTION	1-1
CHAPTER 2 ECONOMIC BACKGROUND	
Role of Transport	2-1
Background Indicator E1 : Claimant Count and Unemployment Rates	2-1
Background Indicator E2 : Local Trade Levels/Vacant Premises	2-2
Background Indicator E3 : Central Area Rental Values	2-4
Background Indicator E4: Pedestrian Activity	2-5
Commentary	2-6
CHAPTER 3 DELIVERING ACCESSIBILITY	
Introduction	3-1
Mandatory Indicator A1: Non Car Travel Times to Hospitals	3-1
Mandatory Indicator A2: Bus Service Punctuality	3-1
Mandatory Indicator A3: Satisfaction with Local Bus Services	3-2
Mandatory Indicator A4: Area Wide Cycle Flows	3-2
Local Key Indicator A5 : Satisfaction with LTP Funded PT Facilities	3-4
Background Indicator A6 : AccessBus Patronage	3-4
Background Indicator A7: Pedestrian Crossing Facilities Meeting BVPI 165	3-5
Background Indicator A8 : Age of Bus Fleet	3-6
CHAPTER 4 TACKLING CONGESTION	
Introduction	4-1
Mandatory Indicator C1: Average Journey Time Per Person Mile on Key Routes	4-1
Mandatory Indicator C2: Town/City Centre Morning Peak Period Traffic Flows	4-3
Mandatory Indicator C3 : Mode Share for Journeys to school	4-10
Mandatory Indicator C4 :Public Transport (Bus) Patronage	4-11
Local Key Indicator C5: AM Peak Cycle Trips to Centres of Leeds, Wakefield and Halifax	4-11
Local Key Indicator C6: AM Peak Period Modal Split to Main Centres	4-12
Local Key Indicator C7: AM Peak Rail Patronage to Leeds	4-14
Local Key Indicator C8: Quality Bus Corridor Patronage	4-14
Background Indicator C9: Peak Period Journey Time Variability On Key Routes	4-15
Background Indicator C10: % of network Below Reference Speed in Morning Peak Period	4-15
Background Indicator C11: Peak Spreading Index	4-16
Background Indicator C12:Morning Peak Period Car Occupancy	4-18
Background Indicator C13: Mode Share for Travel to Work	4-19
Background Indicator C14: Travel distance to Work	4-19
Background Indicator C15: Generalised Costs for Private and Public Transport	4-20
Background Indicator C16: The Cost of Travel	4-22
Background Indicator C17: All Day Commuter Parking Supply and Costs	4-26
CHAPTER 5 SAFER ROADS	
Introduction	5-1
Mandatory Indicator S1 :All Road User Casualty Trends	5-1
Mandatory Indicator S2 : Casualty Trends for Children	5-2
Mandatory Indicator S3 : Slight Casualty Numbers	5-3
Local Key Indicator S4 : Casualty Trends for Different Road User Groups.	5-4

Background Indicator S5 :Town Centre Car Park Spaces with CCTV Cameras.	5-6
Background Indicator S6 :Rail/Bus Stations with CCTV cameras	5-6
Background Indicator S7 :Town and City Centre Streets with CCTV Cameras	5-7
CHAPTER 6	BETTER AIR QUALITY
Introduction	6-1
Mandatory Indicator AQ1 :NO ₂ Levels in Air Quality Management Areas	6-2
Mandatory Indicator AQ2 : Area Wide Traffic Flows	6-3
Local Key Indicator AQ3 : Area Wide Road Transport Emissions NO _x , PM ₁₀ & CO ₂	6-6
Background Indicator AQ4 : Air Quality Monitoring in Town and City Centres	6-7
Background Indicator AQ5 :Area Wide Road Transport Emissions : PM ₁₀	6-7
Background Indicator AQ6 : Low Noise Road Surfacing	6-8
CHAPTER 7	ASSET MANAGEMENT
Introduction	7-1
Mandatory Indicator AM1 :Principal, Non-principal and Unclassified Road Condition	7-2
Mandatory Indicator AM2 : Footway Condition	7-3
Targets for Highway Maintenance Indicators	7-3
Local Key indicator AM3 : Structures with Weight/Width Restrictions	7-3
Local Key Indicator AM4 : Bus Shelters Meeting Modern Standards	7-4
CHAPTER 8	PROGRESS TOWARDS LTP TARGETS
Introduction	8-1

LIST OF TABLES

1.1	DfT Mandatory, Local Key and Background Trend Indicators, Local Transport Plan Objectives and Shared Priorities	1-2
2.1	Unemployment Rates Calculated as a Proportion of Estimated Resident Population of Working Age, March Figures	2-2
2.2	Availability and Occupancy of Retail Floor Area	2-3
2.3	Rental Values for Industrial Premises	2-4
2.4	Rental Values for Shops	2-5
2.5	Rental Values for Offices	2-5
2.6	Pedestrian Activity In Centres	2-6
3.1	Bus Service Punctuality, 2000/01 to 2007/08	3-1
3.2	Tracker Survey of Users Satisfied with Local Bus Services, 2004 to 2007	3-2
3.3	Volume of Bicycle Counts Across West Yorkshire 2002/04 - 2005/07.	3-3
3.4	Satisfaction with LTP Funded Public Transport Schemes Completed Since 2004/05	3.4
3.5	Provision at Controlled Crossings	3-5
3.6	Age of Bus Fleet	3-6
4.1	Average Journey Time Per Person Mile on Key Routes	4.1
4.2	Bradford Central Cordon – AM Peak Period Inbound Traffic Flows	4-3
4.3	Halifax Central Cordon – AM Peak Period Inbound Traffic Flows	4-3
4.4	Huddersfield Central Cordon – AM Peak Period Inbound Traffic Flows	4-9
4.5	Leeds Central Cordon – AM Peak Period Inbound Traffic Flows	4-9
4.6	Wakefield Central Cordon – AM Peak Period Inbound Traffic Flows	4-9
4.7	Usual Mode of Travel to School, All Pupils aged 5 to 16, West Yorkshire 2007/08	4-10
4.8	Travel to School : Changes in Car Mode Share and Progress towards Target.	4.11
4.9	West Yorkshire Bus Patronage, 2000/01 to 2007/08	4-11
4.10	Morning Peak Period Cycle Flows to Central Halifax, Leeds and Wakefield	4-12
4.11	Mode Split – AM Peak (0730-0930) Inbound to Bradford : 2004 – 2008	4-13
4.12	Mode Split – AM Peak (0730-0930) Inbound to Halifax : 2004 – 2008	4-13
4.13	Mode Split – AM Peak (0730-0930) Inbound to Huddersfield : 2004 – 2008	4-13
4.14	Mode Split – AM Peak (0730-0930) Inbound to Leeds : 2004 – 2008	4-13
4.15	Mode Split – AM Peak (0730-0930) Inbound to Wakefield : 2004 - 2008	4-14
4.16	AM Peak Rail Patronage to Leeds, 2002 to 2008	4-14
4.17	Bus Patronage on Quality Bus Corridors Compared with West Yorkshire Trend	4-14
4.18	Proportion of Primary Urban Network Operating Below Set Percentages of Speed Limit, 2006/07	4-15
4.19	Proportion of Primary Urban Network Operating Below 70% of Speed Limit, 2003 and 2006/07	4-15
4.20	Bradford Central Cordon : Peak Spreading Ratio , 1999-2007	4-16
4.21	Halifax Central Cordon : Peak Spreading Ratio , 1999-2007	4-16

4.22	Huddersfield Central Cordon : Peak Spreading Ratio, 1999-2007	4-17
4.23	Leeds Central Cordon : Peak Spreading Ratio, 2000-2007	4-17
4.24	Wakefield Central Cordon : Peak Spreading Ratio, 2000-2007	4-17
4.25	Car Occupancy in Main Centres, 2005 to 2008	4.18
4.26	Average Car Occupancy Changes, 2005-2008	4.18
4.27	West Yorkshire Travel To Work Survey : Mode Share 2004-2008	4-19
4.28	Distance Travelled to Work in West Yorkshire, 1991 and 2001	4-19
4.29	Estimated Generalised Central Area Commuting Costs 2006	4-20
4.30	Size of Parking Survey Areas	4-26
4.31	Parking Inventory 2008	4-26
4.32	Average Cost Of Council Controlled All Day Parking And Changes In Parking Charges 2004-2008. (Where Charges Apply)	4-27
4.33	Percentage of Total All Day Parking Under Direct Council Control	4-27
5..1	West Yorkshire Road Casualty Trends by Severity, 1994/98 to 2007	5-1
5.2	West Yorkshire Road Casualty Trends for Children, 1994/98 to 2007	5-2
5.3	West Yorkshire : Number of Slight Casualties, 1994/98 to 2007	5-3
5.4	West Yorkshire Killed and Seriously Injured (KSI) Trends for Different Road Users. 1994/98 to 2007	5-4
5.5	Local Authority Off-Street Car Parks with CCTV Surveillance	5-6
5.6	Rail Station Car Parks with CCTV Surveillance	5-7
5.7	Percentage of City Centre Streets Covered by CCTV	5-7
6.1	NO ₂ Levels in the Ebor Gardens, Leeds AQMA, 2004-2007	6-1
6.2	Changes in Traffic Volumes from Long Term Monitoring Programme, 2000 to 2007	6-3
6.3	Changes in Vehicle Kilometres from National Traffic Census , 2000 to 2006	6-4
6.4	Summary of Road Transport Emissions : NO _x , PM ₁₀ & CO ₂ , 2004 – 2007.	6-6
7.1	BV223 Proportion of Principal Road Network Requiring Planned Maintenance	7-1
7.2	BV224a Proportion of Non Principal Classified Road Network Requiring Planned Maintenance	7-2
7.3	BVPI 97b/BVPI 224b Percentage of Non-Principal Unclassified Roads With Significant Defects , 2001/02 to 2007/08	7-2
7.4	BVPI 187 Percentage of Prestige, Primary and Secondary Walking Routes with Significant Defects (Visual Inspection)	7-3
7.5	Percentage of Structures with Temporary Weight or Width Restrictions, March 2004 and March 2008	7-4
7.6	Proportion of Bus Shelters Meeting Modern Standards , 2003/04 to 2007/08	7-5
8.1	Progress Towards LTP2 Targets.	8-2

LIST OF FIGURES

3.1	AccessBus Patronage Trends, 1995/96 to 2007/08	3-5
4.1	Key Routes Used for Monitoring Person Journey Time Indicator	4-2
4.2	Traffic Counting Cordon : Central Bradford	4-4
4.3	Traffic Counting Cordon : Central Halifax	4-5
4.4	Traffic Counting Cordon : Central Huddersfield	4-6
4.5	Traffic Counting Cordon : Central Leeds	4-7
4.6	Traffic Counting Cordon : Central Wakefield	4-8
4.7	Estimated Generalised Central Area Commuting Costs 2006	4-21
4.8	Change in National Transport Costs 1974 to 2006	4-23
4.9	Real Changes in Local Transport Costs 1985 to 2006	4-25
5.1	West Yorkshire KSI Casualty Trend With 2010 Target	5-2
5.2	West Yorkshire KSI Child Casualties With 2010 Target	5-3
5.3	West Yorkshire Slight Casualties with 2010 Target	5-4
5.4	West Yorkshire Road User Casualty Trends, 1994/98 -2007	5-5
6.1	Location of Air Quality Management Areas and Areas of Concern	6-2
6.2	Location of Annual Traffic Growth Count Sites	6-5
6.3	West Yorkshire Annual Average NO ₂ Monitoring , 1998-2007.	6-7
6.4	West Yorkshire Annual Average PM ₁₀ Monitoring, 1998-2007	6-8
6.5	Total Length of Low Noise Asphalt Laid by District, 2004 to 2008	6-9
6.6	Percentage of Principal Road Network with Low Noise Asphalt.	6-9

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. Note that 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 National Indicators (NI) 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 Monitoring Report which accompanied the West Yorkshire Local Transport Plan 2 Progress Report for 2006/07 and an initial indication of progress towards LTP2 targets is also provided.

Ref	Indicator (DfT Mandatory, <i>Local Key</i> , 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	O2, O3	C,AQ
A4	Cycle Flows	O3	S,C
A5	<i>Satisfaction with LTP funded Public Transport Facilities</i>	O2	C,AQ
A6	AccessBus Patronage	O2	
A7	Pedestrian Crossing Facilities	O2	
A8	Age of Bus Fleet	O2,O3	
SHARED PRIORITY : TACKLING CONGESTION			
C1	Average Journey Time Per Person Per Mile on Key Routes (NI 167)	O3	A,S,AQ
C2	Town/City Centre Morning Peak Period Traffic Flows	O3	A,AQ
C3	Mode Share for Journeys to School (NI 198)	O3	A,S,AQ
C4	Public Transport Patronage (NI 177)	O3	A,S,AQ
C5	<i>AM Peak Cycle Trips to Centres of Leeds, Wakefield and Halifax</i>	O3	A,S,AQ
C6	<i>AM Peak Period Modal Split to Main Urban Centres</i>	O3	A,S,AQ
C7	<i>Peak Period Rail Patronage to Leeds</i>	O3	A,S,AQ
C8	<i>Quality Bus Corridor Patronage</i>	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	

Ref	Indicator (DfT Mandatory, <i>Local Key</i> , or Background Trend Indicator)	LTP2 Objective (*)	Additional Shared Priority for Key Indicators (**)
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 (NI 47)	O4	
S2	Casualty Trends for Children (NI 48)	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	NO₂ Levels in AQMA's	O5	C
AQ2	Area Wide Traffic Flows	O5	C
AQ3	Area Wide Road Transport Emissions - NO_x, CO₂	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 (NI 168, 169)	O6	C, S
AM2	Footway Condition	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 2006-2015 for the Yorkshire and Humber region recognises that transport is a critical issue for the region which affects business success, quality of life and the environment. The Strategy identifies that a strong economy needs good sustainable transport connections and to make the best of the environment and infrastructure. Transport is strongly linked to all of the objectives of the Strategy as it supports business development, access to jobs and services and the development of towns, cities and rural communities.

2.2 The Regional Spatial Strategy (RSS) for Yorkshire and the Humber to 2026 sets out the policies in relation to the development of land within the region. The RSS seeks to help the region become more competitive, meet its housing needs and address its environmental and transport pressures in ways that are sustainable. For the sub region the plan states that plans, strategies, investment decisions and programmes for the Leeds City Region should support the roles of Leeds and Bradford as major engines of the regional economy, spread the benefits of the Leeds economy to other parts of the sub region, support the indigenous growth of the economies of the sub region and help to connect disadvantaged communities to job opportunities.

2.3 The RSS embodies the Regional Transport Strategy (RTS) which seeks to integrate transport with land-use planning and other policy areas. The RTS identifies regional priorities for transport investment and management which contribute to achieving the wider objectives of the plan.

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 an increase in 2006.

Area	2001	2002	2003	2004	2005	2006	2007	2008
<u>Great Britain</u>	2.8	2.7	2.7	2.5	2.4	2.7	2.5	2.2
Yorkshire and the Humber	3.4	3.1	3.0	2.7	2.5	3.0	2.8	2.5
Bradford	4.1	4.0	3.9	3.3	2.9	3.5	3.4	3.1
Calderdale	3.3	3.1	3.0	2.5	2.2	2.8	2.9	2.6
Kirklees	2.8	2.6	2.6	2.2	2.1	2.5	2.6	2.5
Leeds	3.1	2.9	3.0	2.6	2.7	3.1	2.9	2.6
Wakefield	3.1	2.8	2.7	2.3	2.3	2.8	2.5	2.3

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. 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	--	--	--	--	--	--
	2001	131	515	14	11	108	21
	2002	--	--	--	--	--	--
	2003	112	499	19	17	116	23
	2004	--	517	--	--	113	21.9
	2005	--	533	--	--	132	24.8
	2006	--	478	--	--	78	16.3
	2007	--	477	--	--	57	12.0
	2008	--	480	--	--	13	0.3
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	--	--	--	--	--	--
	2004	--	--	--	--	--	--
	2005	--	--	--	--	--	--
	2006	--	--	--	--	--	--
	2007	99	762	9	9.2	99	13
	2008	92	925	9	10.0	122	13.2
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	86	719	11.0	12.0	77	10.7
	2007	86	718	9.1	10.6	70	9.7
	2008	na	na	na	na	na	na
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
	2006	208	1011	26.5	12.8	147	14.5
	2007	210	1021	31.6	15.0	176	17.2
	2008	Na	na	na	na	na	Na
Wakefield	2000	75	574	9	12.6	51	8.5.7
	2002	72	556	6	7.7	32	4.1
	2004	72	555	4	5.1	23	1.4
	2005	73	556	1	1.1	8	1.6
	2006	72	556	1	1.3	9	2.9
	2007	72	556	1	1.5	16	3.9
	2008	72	556	8	10.6	28	3.9

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.*

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

TYPE	YEAR	LOCATION				
		Bradford	Halifax	Huddersfield	Leeds	Wakefield
1 25-75 m ²	Jul 04	66	60	65	65	60
	Jan 06	65	65	70	70	66
	Jan 07	70	70	75	75	70
	Jan 08	68	68	75	75	72
2 150 – 200 m ²	Jul 04	47	55	60	65	60
	Jan 06	60	60	65	65	64
	Jan 07	65	65	70	68	65
	Jan 08	60	60	70	68	68
3 circa 500m ²	Jul 04	47	45	50	50	50
	Jan 06	53	50	55	55	60
	Jan 07	52.5	52.5	60	58	58
	Jan 08	53.0	53.0	65	57	55
4. Circa 1000 m ²	Jul 04	41	40	45	50	50
	Jan 06	48	45	50	55	50
	Jan 07	48	48	55	55	50
	Jan 08	48	48	55	52	52
5 Multi Storey	Jul 04	--	23	25	--	--
	Jan 06	--	25	30	--	--
	Jan 07	--	30	35	30	--
	Jan 08	--	30	35	30	--

Source : Valuation Office Property Market Report

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

Table 2.3: Rental Values for Industrial Premises

Location	Rental Values £/m ²											
	Type 1 ZP1				Type 2 ZPI				Type 3 GIA			
	July 04	Jan 06	Jan 07	Jan 08	July 04	Jan 06	Jan 07	Jan 08	July 04	Jan 06	Jan 07	Jan 08
Bradford	1,300	1,300	1,300	1,400	750	750	750	775	200	200	200	200
Halifax	1,000	1,100	1,200	1,300	500	500	550	600	150	200	200	200
Huddersfield	1,100	1,200	1,350	1,500	550	550	650	675	225	230	200	200
Leeds	3,000	3,250	3,250	3,350	800	850	850	875	230	245	245	250
Wakefield	1,200	1,250	1,250	1,200	550	600	600	600	150	175	180	180

Table 2.4: Rental Values for Shops

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

Location	Rental Values £/m ²											
	Type 1				Type 2				Type 3			
	July 04	Jan 06	Jan 07	Jan 08	July 04	Jan 06	Jan 07	Jan 08	July 04	Jan 06	Jan 07	Jan 08
Bradford	120	135	115	115	120	130	120	120	120	125	85	90
Halifax	110	150	150	115	110	150	150	155	80	100	100	105
Huddersfield	120	150	160	165	120	150	160	170	85	100	110	115
Leeds	190	215	230	230	220	225	230	235	175	180	195	195
Wakefield	145	145	145	145	150	150	150	150	120	110	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
	Nov 2007	421,800	85
Halifax **	Sept-2004	704,500 **	100
	Sept 2005	705,300 **	100
	Sept 2006	730,800**	104
	Sept 2007	714,700	101
Huddersfield	Apr-2004	81,700	100
	March 2005	85,900	105
	March 2006	84,900	104
	March 2007	88,700	109
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
	March 2008	341,000	110

Table 2.6 Pedestrian Activity In Centres

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

*** Halifax data rebased following changes to methodology in 2007*

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.

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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 us 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 data 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. The downward trend has continued with the figure at March 2008 being 75.4%

3.4 Contraction of the bus network following service changes, the latest being in April 2007, continues to affect this indicator. Minor changes in timings of particular routes can have a significant effect on access to hospitals.

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 the LTP2 base year of 2003/04

Year	Punctuality (%)
2003/04	82.6 [!]
2004/05	82.3 [!]
2005/06	--- *
2006/07	82.6
2007/08	85.7

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

! Figures corrected for sampling bias shown by the more comprehensive Real Time data

Table 3.1 Bus Service Punctuality, 2003/04 to 2007/08

3.6 Data is now collected using the Real Time Positioning equipment fitted to West Yorkshire buses which allow us to measure punctuality using a much larger sample size. The target will now be rebased to 2006/07.

3.7 Additionally the data indicates 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 1.01 minutes by 2007/08.

Mandatory Indicator A3 : Satisfaction with Local Bus services

3.8 As part of Central Governments assessment of local authority performance every three years the public are asked to indicate whether they were satisfied or dissatisfied with the provision of bus services overall. In 2003/04 54% of respondents indicated that they were happy with bus services and this had increased to 66.4% in 2006/07.

3.9 In addition Metro conducts regular Tracker Surveys to ascertain the public's attitude to public transport. They are based on a CATI survey (computer aided telephone interviewing) with a representative sample of the West Yorkshire population (i.e. representative of the 5 local authorities). Sample size is around 750 people above aged 14 or over. Table 3.2 shows the results of this survey since July 2004 and this shows satisfaction levels have increased to 7.63 in 2008 from a 6.73 base in 2004. Future reporting of satisfaction levels will be based on this Tracker survey.

DATE	SCORE
2004	6.73
2005	6.87
2006	6.77
2007	7.21
2008	7.63

Table 3.2 Tracker Survey of Users Satisfied with Local Bus Services, 2004 to 2008

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 supplemented with additional counts. 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 are 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 295 survey sites. The index shows the change in the level of cycling since the baseline of 2002/04 and this indicates a significant increase in cycling across all districts of West Yorkshire. The table also suggests that the rate of change is also increasing and if the trend continues the LTP2 target will have to be stretched. Any changes to the target will be reported in the 2009 Progress Report.

WEST YORKS	2002-2004	2003-2005	2004-2006	2005-2007
Average Flow	34.1	34.7	36.0	38.0
Count	295	295	295	295
% base	100	101.8	105.2	111.6
BRADFORD				
Average	27.3	27.9	28.0	30.0
Count	64	64	64	64
% base	100	102.0	104.1	110.2
CALDERDALE				
Average	20.8	20.9	21.0	22.0
Count	32	32	32	32
% base	100	100.7	102.1	105.4
KIRKLEES				
Average	23.0	22.4	24.0	25.0
Count	53	53	53	53
% base	100	97.2	102.6	109.0
LEEDS				
Average	46.5	47.3	49.0	54.0
Count	102	102	102	102
% base	100	101.8	105.9	115.4
WAKEFIELD				
Average	38.3	40.4	41	41
Count	44	44	44	44
% base	100	105.4	107.9	106.7

Table 3.3 Volume of Bicycle Counts Across West Yorkshire 2002/04 – 2005/07.

3.14 Research will continue into the development of additional 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, as shown in Table 3.4 below.

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%
2007/08	No schemes completed	

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. 320,000 passenger trips were made in 1995 and this had risen to 521,150 in 2007/08

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

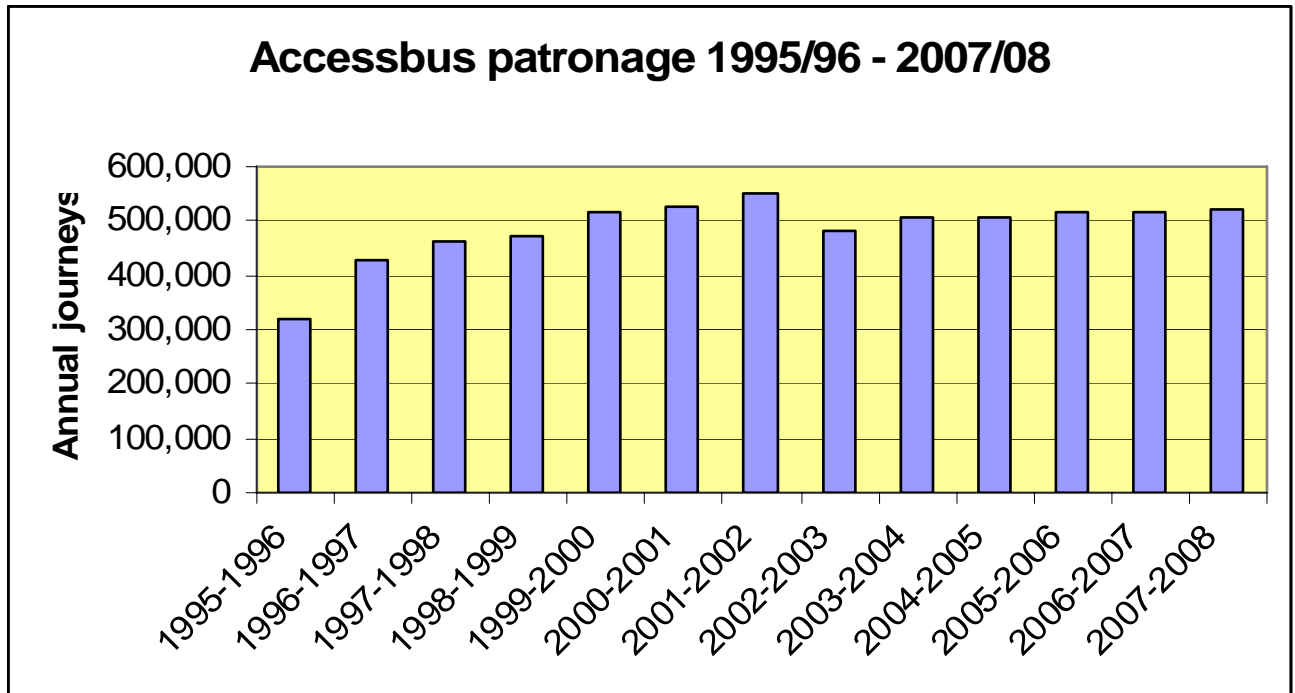


Figure 3.1 AccessBus Patronage Trends, 1995/96 – 2007/08

Background Indicator A7 : Pedestrian Crossing Facilities Meeting BVPI 165

3.20 Data is presented from 2002/3 in line with the introduction of the old 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		2005/06		2006/07		2007/08	
	No.	%	No.	%	No.	%	No.	%
Pelican/Puffin	52	46	148	99	165	100	182	96
Signal Control	25	34	90	97	100	97	105	95

Calderdale								
Type	With dropped kerbs, tactile paving and tactile indicators							
	2002/03		2005/06		2006/07		2007/08	
	No.	%	No.	%	No.	%	No.	%
Pelican/Puffin	16	57	38	100	42	100	42	100
Signal Control	16	50	35	92	38	100	38	100

Kirklees								
Type	With dropped kerbs, tactile paving and tactile indicators							
	2002/03		2005/06		2006/07		2007/08	
	No.	%	No.	%	No.	%	No.	%
Pelican/Puffin	24	48	71	93	74	96	77	99
Signal Control	42	76	82	100	84	99	85	100

Leeds								
Type	With dropped kerbs, tactile paving and tactile indicators							
	2002/03		2005/06		2006/07		2007/08	
	No.	%	No.	%	No.	%	No.	%
Pelican/Puffin	98	49	220	96	203	85	225	90
Signal Control	151	57	217	94	169	70	189	75

Wakefield								
Type	With dropped kerbs, tactile paving and tactile indicators							
	2002/03		2005/06		2006/07		2007/08	
	No.	%	No.	%	No.	%	No.	%
Pelican/Puffin	63	80	95	98	97	99	100	99
Signal Control	31	42	58	90	65	95	69	96

Table 3.5 Provision at Controlled Crossings

3.21 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

3.22 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 the age of bus fleet in West Yorkshire since 2004.

	March 2004	March 2005	March 2006	March 2007	March 2008
Age of bus fleet	9.4	8.6	8.6	8.7	9.0

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, 2006/07 and 2007/08 results for this indicator which is calculated by DfT from data collected on site (vehicle occupancies, bus journey times) and from the Trafficmaster data base on 13 selected routes across West Yorkshire which are shown in Figure 4.1.

4.3 The table shows a slight worsening of person journey time, but ahead of our trajectory to meet the 2010/11 target. The results should be treated as provisional due to errors being discovered in the data and a change in DfT’s data provider. The Base Year, 2006/07 and 2007/08 figures are being recalculated in conjunction with DfT. Table 4.1 shows provisional figures together with % changes against the base.

Year	Av. Journey time (mins & secs) per person mile	% change in person journey time per person mile (trajectory)
2004/05 & 2005/06 (Base)	4'04"	---
2006/07	4'08"	+1.7% (+1.1%)
2007/08	4'08"	+1.7% (+2.3%)
2010/11 (target)	4'21"	+7%

Provisional data : to be finalised February 2009

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

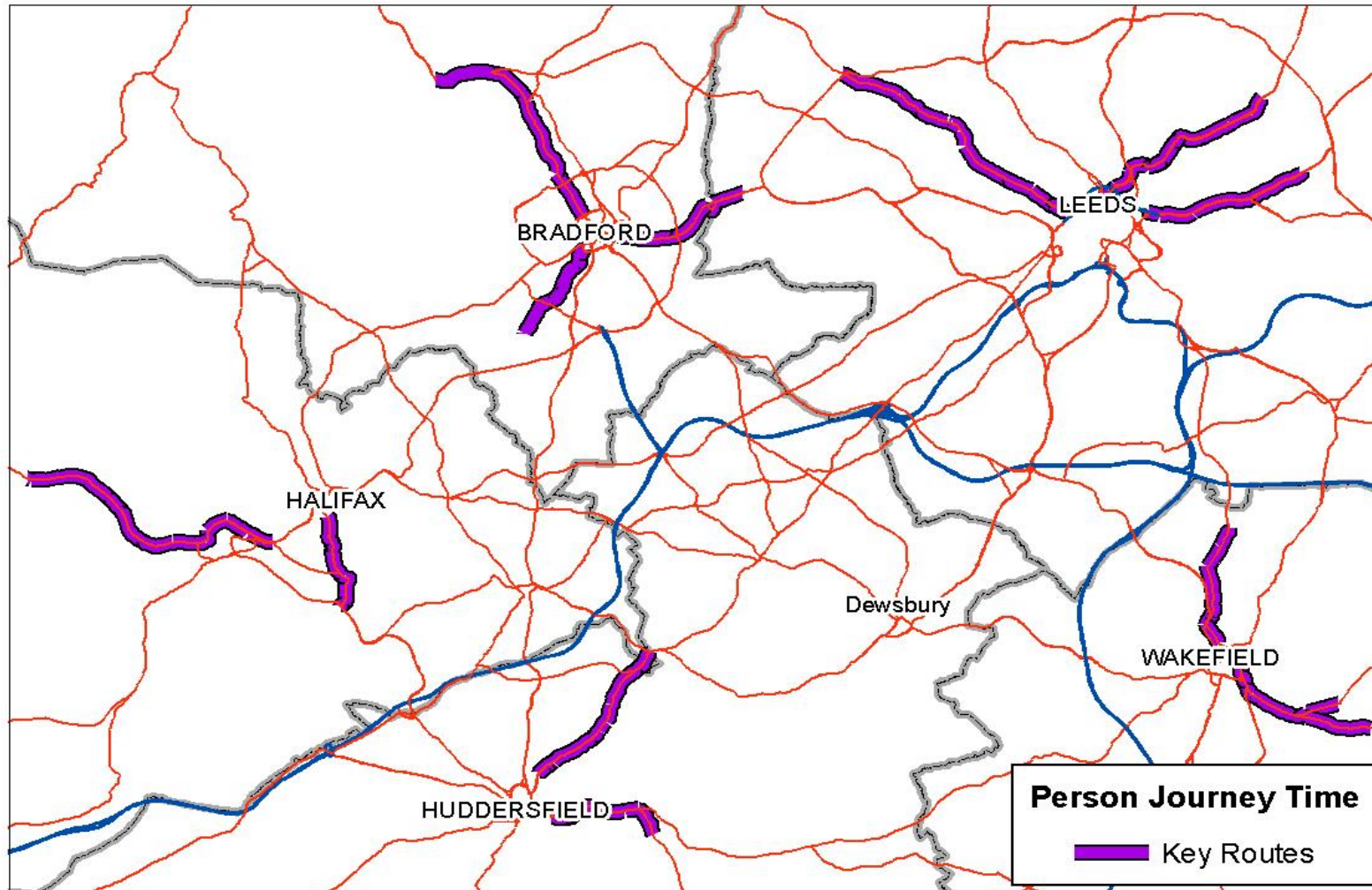


Figure 4.1 Key Routes Used for Monitoring Person Journey Time Indicator

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.

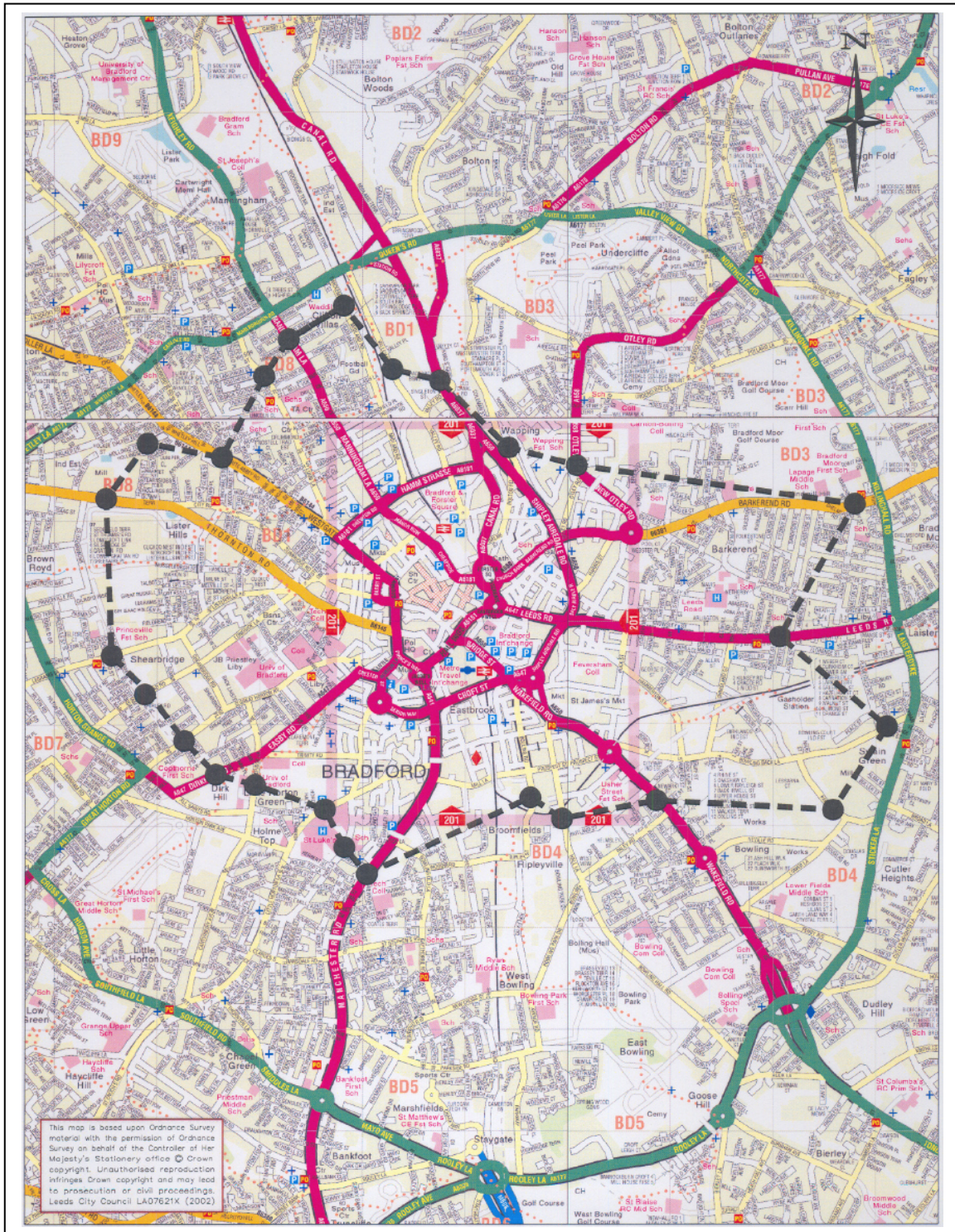
4.5 Data are presented for the morning peak period (0700 to 1000) in Tables 4.2 to 4.6 and show the changes in traffic flow since 2000/01 with the 2003/04 baseline for LTP2 highlighted. Flows can change markedly from year to year as a result of network changes, new developments and the method of data collection, hence a 3 year moving average is 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
2006	--	--
2007	44,470	98
% Growth 2003 - 2007	- 2.3%	

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

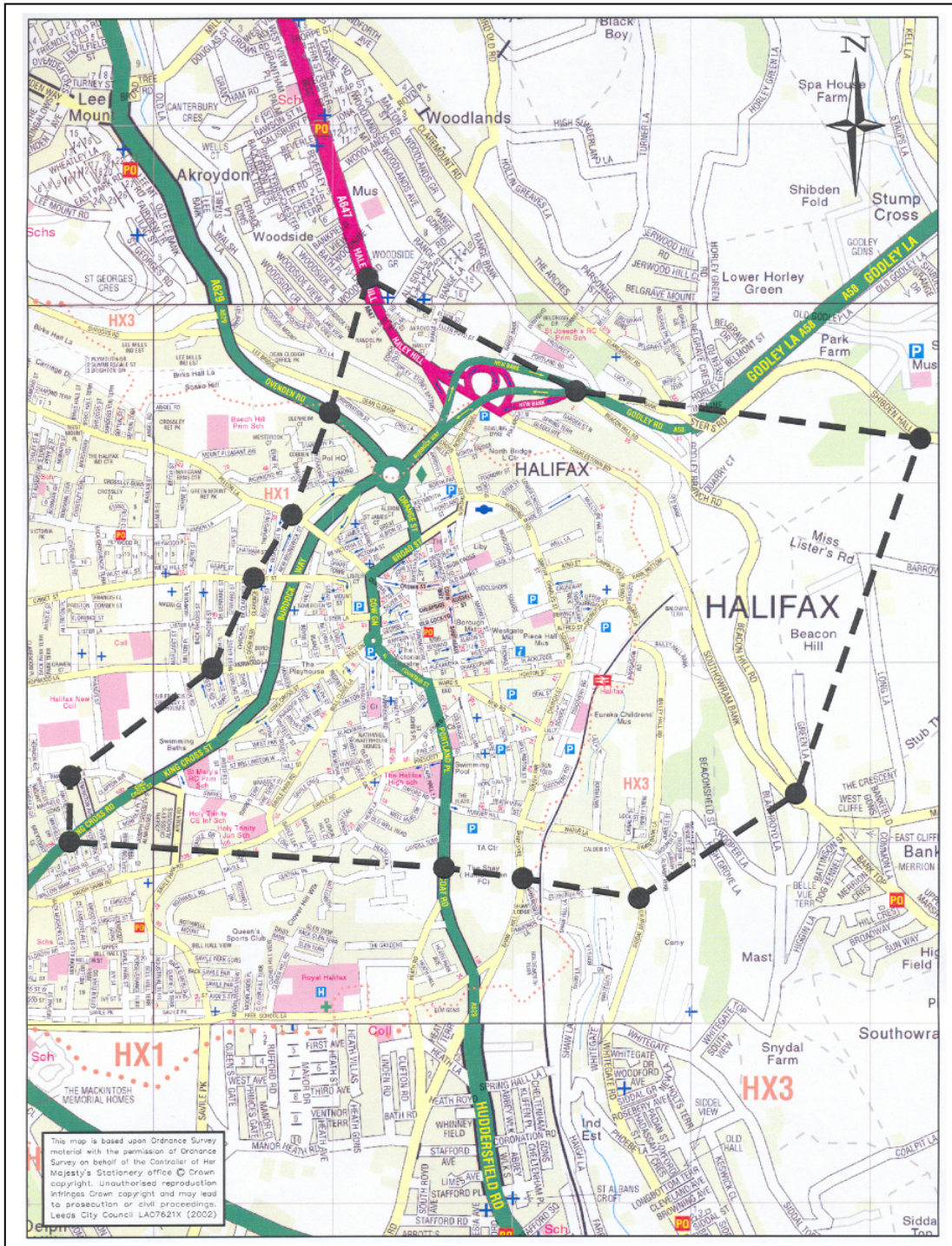
Year	AM Peak Period Traffic Flow (0700 to 1000)	Peak Period Index (2003=100)
2001	22,090	94
2003	23,580	100
2005	23,450	99
2006	--	--
2007	22,360	95
% Growth 2003 - 2007	-5.2%	

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



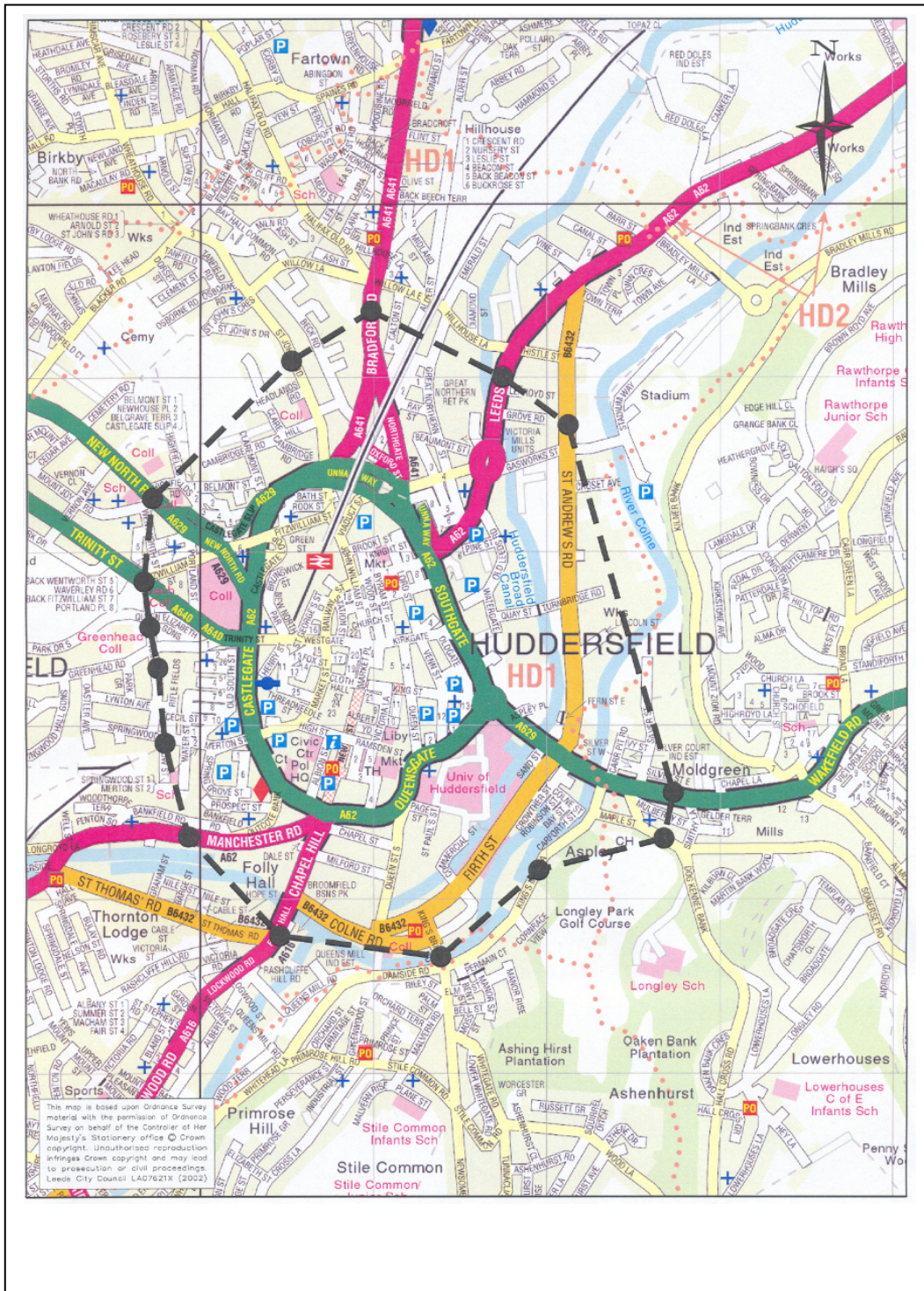
● ATC Count Location

Figure 4.2 Traffic Counting Cordon : Central Bradford



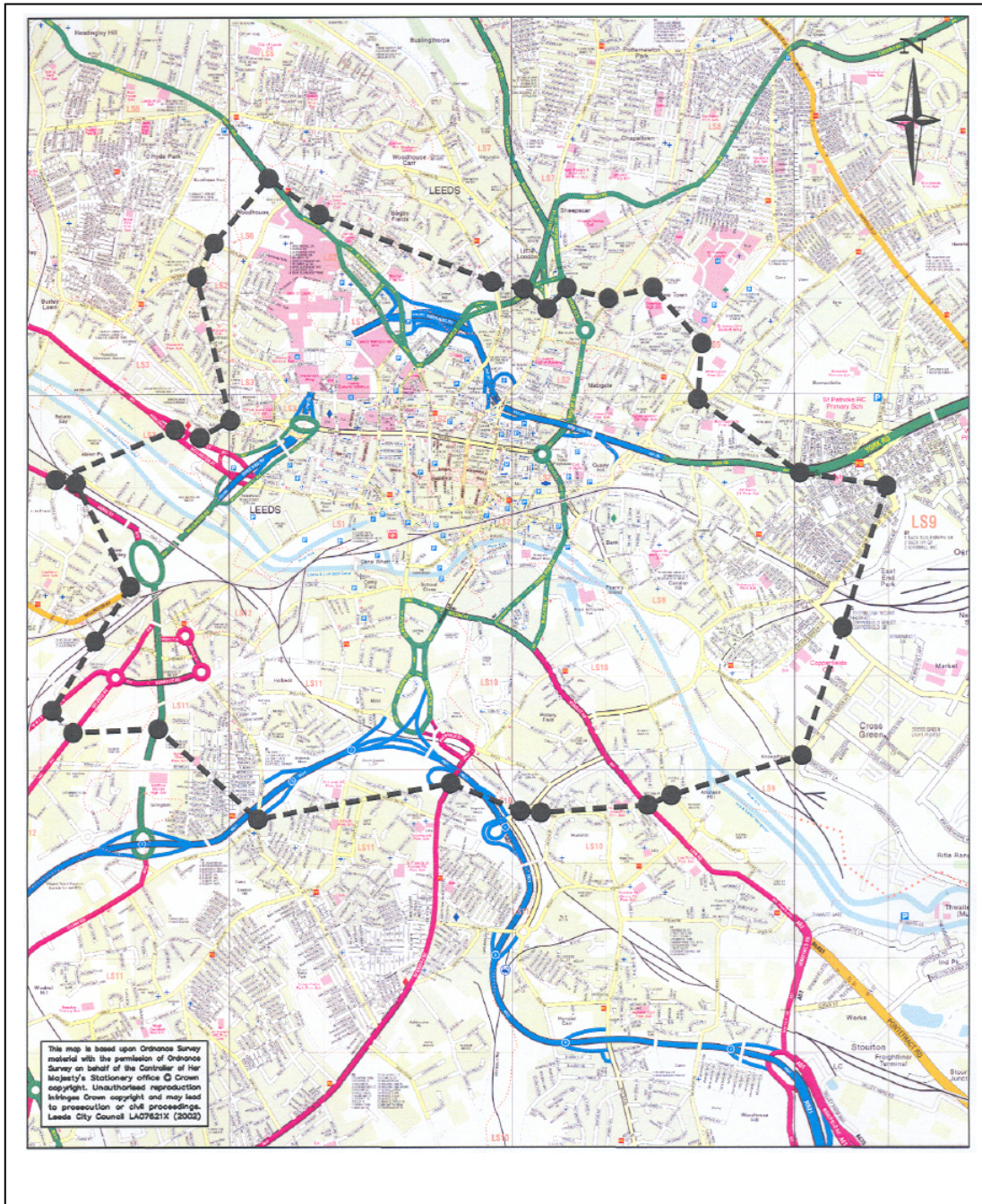
● ATC Count Location

Figure 4.3 Traffic Counting Cordon : Central Halifax



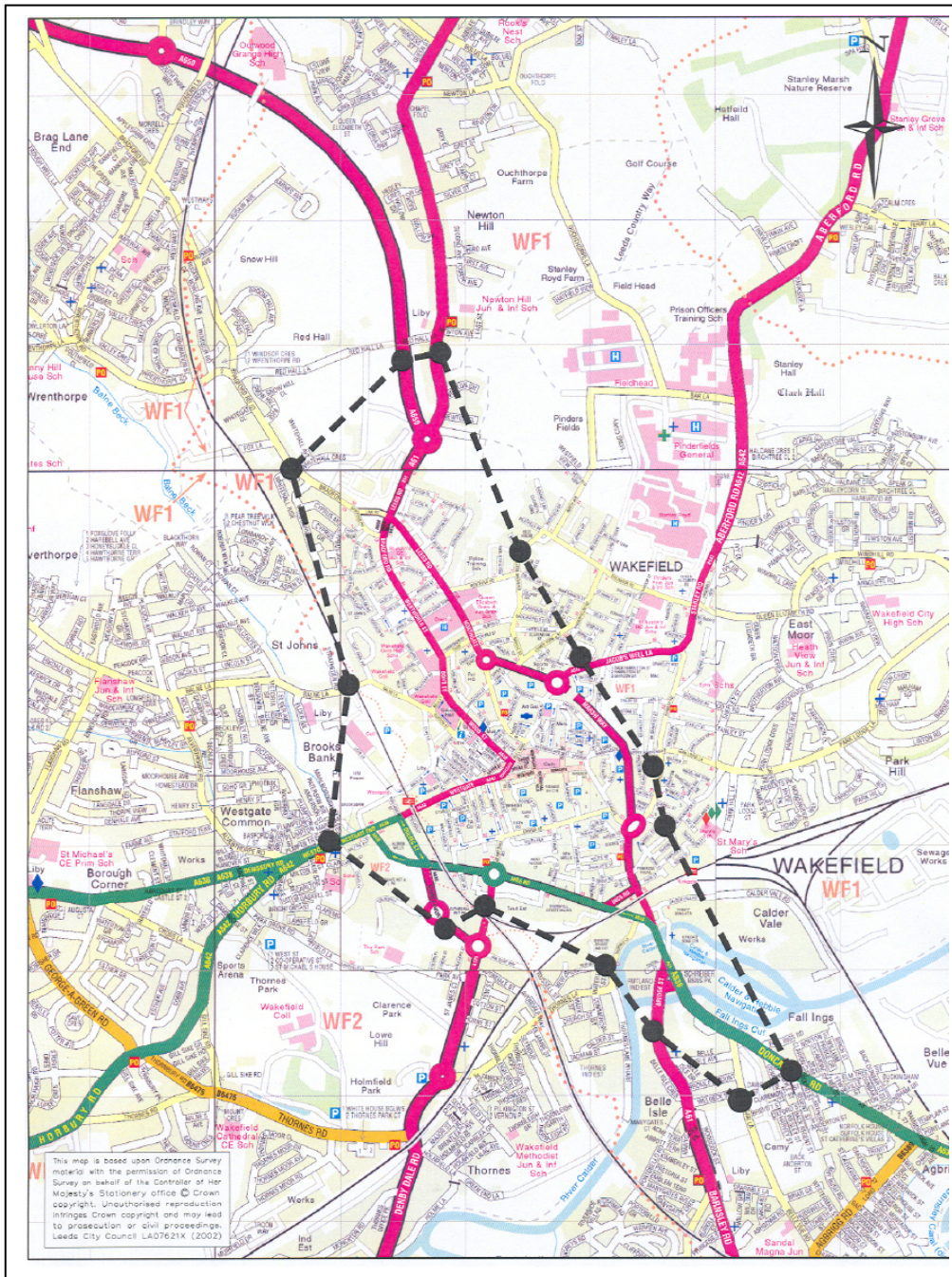
- ATC Count Location

Figure 4.4 Traffic Counting Cordons : 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
2006	--	--
2007	32,390	104
% Growth 2003 - 2007	+4.1%	

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
2007	95,190	97
% Growth 2004 – 2007	-3.1%	

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
2007	29,310	104
% Growth 2004– 2007	+3.8%	

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

4.6 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 had 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 rigid monitoring of a mandatory target during LTP2.

4.8 However, DfT and DCSF 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 indicator should include data from schools with travel plans, and 50% of schools without travel plans.

4.10 DfT supply a clean dataset from the survey , excluding those children under 5 and over 16. This dataset should be used for the indicator.

4.11 Table 4.7 below summarises the usual mode of travel for over 287,000 pupils aged 5 to 16 in West Yorkshire in 2007/08

Usual Mode of Travel	Number of pupils	% of total
Car ¹	77,058	30.5
Car Share ²	7,411	2.9
Public Transport ³	44,497	17.6
Walking	122,325	48.4
Cycling	1,000	0.4
Other	448	0.2
Total	252,739	100

Source : DfT/DCSF School Census 2007/08, clean dataset

Notes :

1. includes vans and taxis
2. car share is defined by DfT/DCSF 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 2007/08.

4.12 Changes in car mode share since the base year and progress towards the LTP2 target are shown in Table 4.8 below.

YEAR	Car Mode Share (%)	Target/ Milestones
2006/07	30.8	30.8
2007/08	30.5	30.8
2008/09	--	30.8
2009/10	--	30.8
2010/11	--	30.8

Table 4.8 Travel to School: Changes in Car Mode Share and Progress Towards Target

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

4.13 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 4.9. The data is shown indexed to the LTP2 base year of 2003/04 and shows a return to the downward trend following a slight recovery in 2006/07.

	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008
Passenger Journeys per year (millions)	201.6	202.0	203.6	199.1	195.7	194.8	196.9	192.6
Index to 2003/04	101.3	101.5	102.3	100	98.3	97.7	98.9	96.7

Table 4.9 West Yorkshire Bus Patronage, 2000/01 to 2007/08

4.14 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.

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

4.15 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) (index against base of 2005)						
	2000	2002	2004	2005	2006	2007	2008
Halifax	52	51	54	53 (100)	36 (68)	57 (108)	65 (123)
Leeds	441	430	571	627 (100)	727 (116)	778 (124)	967 (154)
Wakefield	155	141	72	105 (100)	81 (77)	78 (74)	105 (100)

Table 4.10 Morning Peak Period Cycle Flows to Central Halifax, Leeds and Wakefield

4.16 . All three centres have recorded increases in the number of peak period cyclists since 2004. The table indicates that the agreed target of a 20% increase by 2010/11 has already been achieved in Leeds and Halifax, 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

4.17 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.

4.18 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 with additional sites added to these cordons to record persons walking or cycling on off-road routes where applicable.

4.19 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.

4.20 Tables 4.11 to 4.15 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.

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

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	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
2008	48,870	4.6	0.2	0.3	71.3	17.1	6.4

Table 4.11 Modal Split – AM Peak (0730-0930) Inbound to Bradford : 2004 - 2008

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
2008	25,940	4.7	0.3	0.5	68.0	20.7	5.9

Table 4.12 Modal Split – AM Peak (0730-0930) Inbound to Halifax : 2004 - 2008

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
2008	36,542	6.3	0.4	0.4	59.1	25.7	8.1

Table 4.13 Modal Split – AM Peak (0730-0930) Inbound to Huddersfield :2004 - 2008

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	122,646	3.5	0.6	0.5	56.4	25.9	13.2
2007	114,831	3.1	0.7	0.5	56.4	24.3	15.0
2008	113,568	2.9	0.9	0.5	55.3	23.7	16.7

Table 4.14 Modal Split – AM Peak (0730-0930) Inbound to Leeds :2004 - 2008

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
2008	28,747	3.7	0.4	0.5	69.6	12.6	13.2

Table 4.15 Modal Split – AM Peak (0730-0930) Inbound to Wakefield :2004 - 2008

4.22 With the exception of Wakefield, where a slight, but non significant, increase occurred car mode share continues to fall in all centres.

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

4.23 Table 4.16 below shows the number of passengers arriving at Leeds station during the weekday morning peak period (0730-0930) since 2002.

	2002	2003	2004	2005	2006	2007	2008
Passengers	10,147	9,585	10,209	11,863	16,244	17,196	18,915

Table 4.16 AM Peak Period Rail Patronage to Leeds, 2002 to 2008

4.24 Patronage continues to increase year on year and the table indicates that the target of a 20% increase by 2010/11 has already been significantly exceeded with the 2004 to 2008 increase standing at + 85%.

Local Key Indicator C8 : Quality Bus Corridor Patronage

4.25 Patronage figures have been monitored on Quality Bus Corridors (QBC) and the trend in passenger numbers has been compared with that on the network as a whole as shown in Table 4.17.

Year	QBC Trend	W Yorks Trend
2000/1	+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%
2007/8	168,941 (new base)	-2.18%

Table 4.17 Bus Patronage on Quality Bus Corridors Compared With West Yorkshire Trend

4.26 Changes to data collection methodologies mean that it is impossible to compare QBC patronage with previous years. In future reports changes will be reported relevant to a 2007/08 base.

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

4.27 This indicator is under development.

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

4.28 The following table, 4.18, shows 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 .

percentage of Speed Limit	Proportion of network operating below x% of speed limit (cumulative)					
	Bradford	Calderdale	Kirklees	Leeds	Wakefield	West Yorkshire
50%	34	25	29	34	18	30
60%	55	44	49	54	35	50
70%	70	62	70	74	60	69
80%	87	81	88	88	84	86
90%	92	92	97	94	94	94
100%	99	97	100	97	97	98

Table 4.18 Proportion of Primary Urban Network Operating Below Set Percentages of Speed Limit , 2006/07

4.29 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 4.19 shows changes relative to the benchmark of 70% since 2003 and suggests that conditions have remained stable over 3 years..

Year	Proportion of network operating below 70% of speed limit					
	Bradford	Calderdale	Kirklees	Leeds	Wakefield	West Yorkshire
2003	67	50	63	68	52	63
2005/06	70	62	71	75	56	69
2006/07	70	62	70	74	60	69

Table 4.19 Proportion of Primary Urban Network Operating Below 70% of Speed Limit , 2003 to 2006/7

Background Indicator C11 : Peak Spreading Index

4.30 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)

4.31 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 4.20 to 4.24 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
2007	44,470	17,260	0.388

Table 4.20 Bradford Central Cordon : Peak Spreading Ratio, 1999-2007

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
2007	22,360	8,680	0.388

Table 4.21 Halifax Central Cordon : Peak Spreading Ratio 1999-2007

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	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
2007	32,390	12,620	0.390

Table 4.22 Huddersfield Central Cordon : Peak Spreading Ratio 1999-2007

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
2007	95,190	34,140	0.359

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

EAR	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
2007	29,310	11,140	0.380

Table 4.24 Wakefield Central Cordon : Peak Spreading Ratio 2000-2007

4.32 Traffic flows crossing the central cordons of the main centres are now counted annually and changes will be reported against the LTP2 baseline of 2003/04

Background indicator C12 : Morning Peak Period Car Occupancy

4.33 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 4.25.

	2005		2006		2007		2008	
	Ave. Occ.	% single occ.	Ave. Occ.	% single occ	Ave. Occ	% single occ	Ave. Occ	% single occ
Bradford	1.28	77.5	1.28	77.5	1.29	76.9	1.28	77.5
Halifax	1.29	77.0	1.28	78.7	1.27	77.3	1.25	79.3
Huddersfield	1.27	77.6	1.26	--	1.24	--	1.24	--
Leeds	1.23	80.2	1.23	80.3	1.22	80.1	1.24	79.3
Wakefield	1.29	61.2	1.26	78.0	1.27	76.0	1.31	74.5

Table 4.25 Car Occupancy in Main Centres, 2005 to 2008

4.34 Table 4.26 shows the changes in average car occupancy for the major centres since 2005.

Centre	Time Period	Direction	Average Car Occupancy		
			2005	2007	2008
Bradford	am peak	Inbound	1.28	1.29	1.28
Halifax	am peak	Inbound	1.29	1.27	1.25
Huddersfield	am peak	Inbound	1.27	1.24	1.24
Leeds	am peak	Inbound	1.23	1.22	1.24
Wakefield	am peak	Inbound	1.29	1.27	1.31

Table 4.26 Average Car Occupancy Changes, 2005 to 2008

4.35 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.

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

Background Indicator C13 : Mode Share for Travel to Work

4.37 The Travel to Work survey initiated by the West Yorkshire Travel Plan Officers Group in 2004 takes place annually in March. In 2008 a total of over 39,400 employees took part from companies developing or implementing travel plans across the county.

4.38 Table 4.27 shows changes in mode share for the journey to work since 2004 which shows a rise in the numbers travelling to work by public transport and a slight fall in those commuting alone by car.

Year	Sample Size	% by mode									
		Car				Bus	Train	PT W	Walk	Cycl e	Other/n ot 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
2008	39,498	50.4	---	11.8	1.3	15.8	10.9	0.7	6.2	1.8	1.5

merged in 2007

* given a lift by a driver who then returns home

Table 4.27 West Yorkshire Travel to Work Survey: Mode Share 2004 - 2008

Background Indicator C14 : Travel Distance to Work

4.39 Table 4.28 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	762,040	7.8	5,966,733	838,620	9.9	8,302,338	39

Yorkshire							
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Excludes those working at or from home

Table 4.28 Distance Travelled to Work in West Yorkshire, 1991 and 2001

Background Indicator C15 : Generalised Costs for Private and Public Transport

4.40 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 MetroCard³.

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 remain very similar to last year's calculation.

4.42 Table 4.29 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.

Centre	Distance (km)	Parking charge (p)	Generalised cost (pence/day)		
			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 4.29 Estimated Generalised Central Area Commuting Costs 2006

³ Figure still used, despite Metro being able to calculate average bus fares, due to its use in the Saturn Transport Model.

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

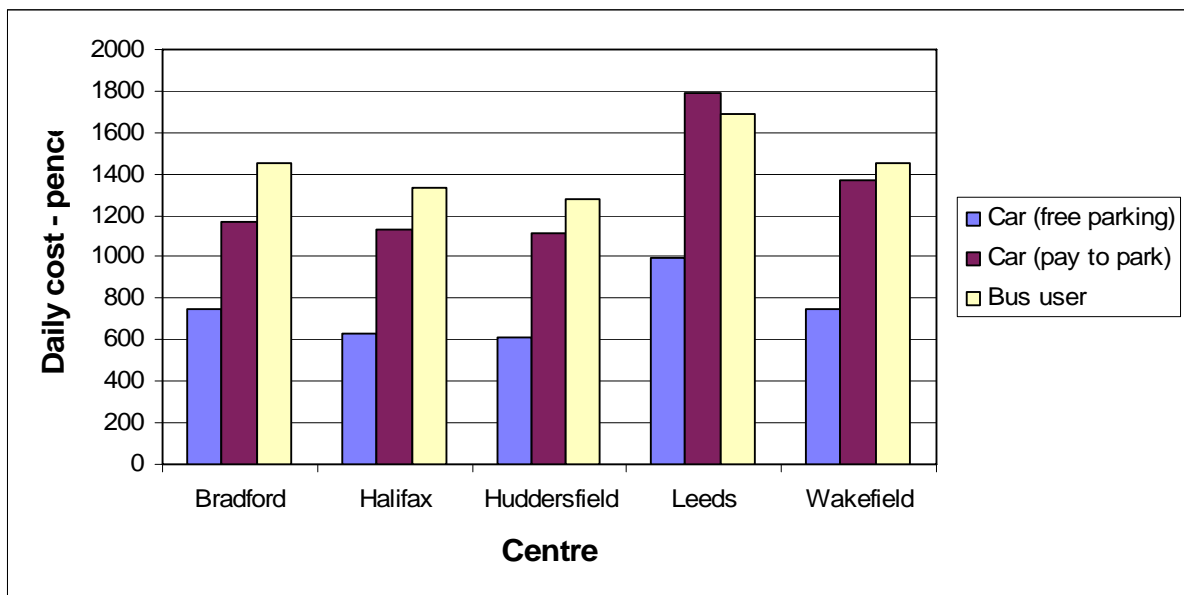


Figure 4.7 Estimated Generalised Central Area Commuting Costs 2006

(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 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 and fare structure. 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.

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.

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 The availability of GPS data as the basis of vehicle journey time information will enable a better picture of year on year changes to be derived. However, to establish the overall picture comparable vehicle GPS data needs to be taken into account.

Background Indicator C16 : The Cost of Travel

4.50 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.

4.51 National changes in the cost of travel by car and public transport between 1974 and 2006 (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 4%
- petrol prices have increased by 41%
- the cost of travel by bus increased by 106%
- rail fares increased by 110% over the same period

4.52 A more detailed analysis of West Yorkshire data between 1985 and 2006 shows that :

- all motoring costs have increased by 87%
- petrol prices have increased by 134%
- the cost of travel by bus increased by 217%.
- the cost of travel by rail increased by 386%.
- the cost of travel by public transport is increasing at more than the rate of inflation.

4.53 Figure 4.9 shows real changes in the cost of transport locally since 1985. The figures show that ;

- bus fares have increased by 51%⁴
- rail fares have increased by 132%⁵

⁴ Based on cost of annual Bus only MetroCard.

⁵ Based on cost of annual Rail Z1-5 MetroCard.

- In both cases this is greater than the rate of inflation
- All motoring costs have decreased each year since 2000

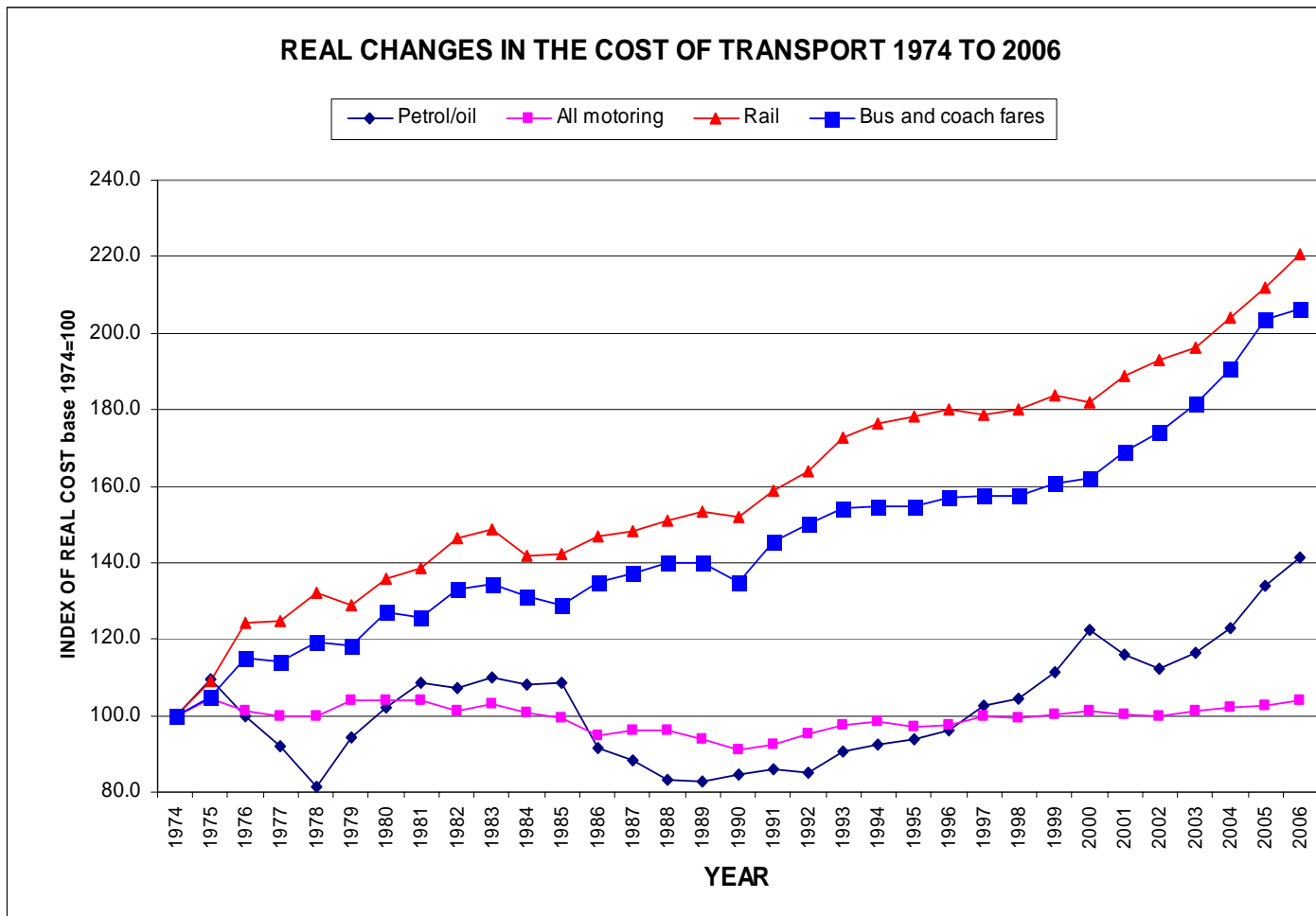


Figure 4.8 Change in National Transport Costs 1974 to 2006.

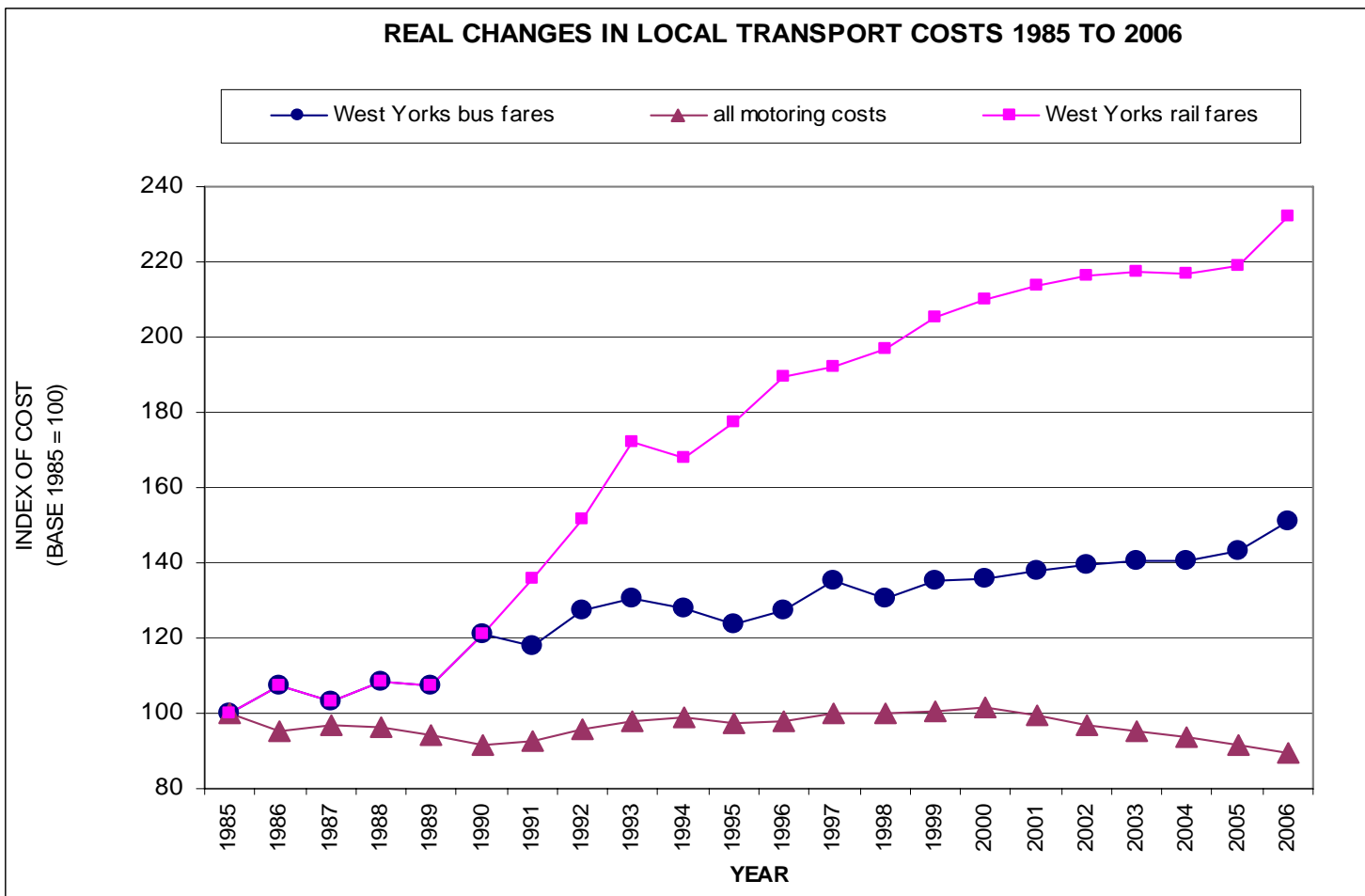


Figure 4.9. Real Changes in Local Transport Costs 1985 to 2006.

Background Indicator C17 : All Day Commuter Parking Supply and Costs

4.54 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”.

4.55 Parking inventories have been conducted in all major centres to provide baseline data against which future changes can be measured. Table 4.30 shows the relative size of the parking study areas for each Centre, whilst inventory data are presented in Table 4.31.

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

Table 4.30 Size of Parking Survey Areas

Parking Type	Bradford	Halifax	Huddersfield	Leeds	Wakefield **	
Public Short Stay	Council	1681	344	2,701	1,482	768
	Private	2941	484	1,438	2,508	173
	Total	4622	828	4,139	3,990	941
Public All Day Commuter	Council Free	5123	113	790	0	70
	Council Pay	1527	723	1,939	2,168	925
	Private	1668	629	150	3,486	1915
	Total	8318	1465	2,879	5,654	2910
Other	Customer	3903	3194	1,953	1,765	3509
	PNR	11822	2825	6,925	6,698	3264
	Permit	2063	1176	1,241	2,036	1793
Total	30728	9488	17,137	20,143	12147	

** Major redevelopment is taking place in Wakefield Centre which will affect car parking supply. It will be necessary to rebase City centre area to take into account expansion into the Waterfront area and further surveys will not be carried out until this has been completed.

Table 4.31 Parking Inventory 2008

4.56 The progress made by the districts in raising parking charges is shown below in Table 4.32. 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 - 2008
	2004	2005	2006	2007	2008 (March)	
<i>Bradford</i>	1.90	1.83	1.90	1.90	3.00	+58%
<i>Halifax</i>	2.70	2.70	2.70	3.60	3.60	+33%
<i>Huddersfield</i>	2.80	2.80	2.8	4.0	4.0	+43%
<i>Leeds</i>	5.80	5.80	6.40	6.80	6.92	+19%
<i>Wakefield</i>	4.00	4.00	4.50	5.00	5.00	+25%

Table 4.32 Average Cost Of Council Controlled All Day Parking And Changes In Parking Charges 2004 – 2008 (Where Charges Apply)

4.57 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 and prices should increase at a greater rate than general inflation.

4.58 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 4.33 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	80
Halifax	18
Huddersfield	28
Leeds	38
Wakefield	14

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

Table 4.33 Percentage of Total All Day Parking Under Direct Council Control

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

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 casualty total peaked in 1998 and has been falling steadily since. The casualty total of 9,982 for 2007 is the lowest so far recorded in West Yorkshire and this is the first time the figure has dropped below ten thousand. The reduction was almost wholly achieved amongst the car occupant road user group; more specifically car occupant casualties with slight injury. On the other hand, the total number of people killed or seriously injured (KSI) remained virtually unchanged. Although the long term KSI trend continues downward, the rate of progress has slowed down and levelled out over the last two years. The 2007 total of 1,132 is disappointingly above the desired target line (see Table 5.1 and Figure 5.1). The 2007 KSI total is a reduction of 24% on the 1994~98 average (40% reduction target), and unless momentum is picked up again, the County will miss its KSI stretched target.

Year	KSI *	Fatal	Serious	Slight	Total
1994 - 1998 average	1,484	115	1,369	11,391	12,876
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
2007	1,132	103	1,029	8,850	9,982
% Change 2007 cf. 1994 -1998 average	-24%	-10%	-25%	-22%	-22%
% Change 2007 cf. 2006	-1%	-9%	No change	-7%	-6%

* Killed or Seriously Injured

Table 5.1 West Yorkshire Road Casualty Trends by Severity, 1994/98-2007.

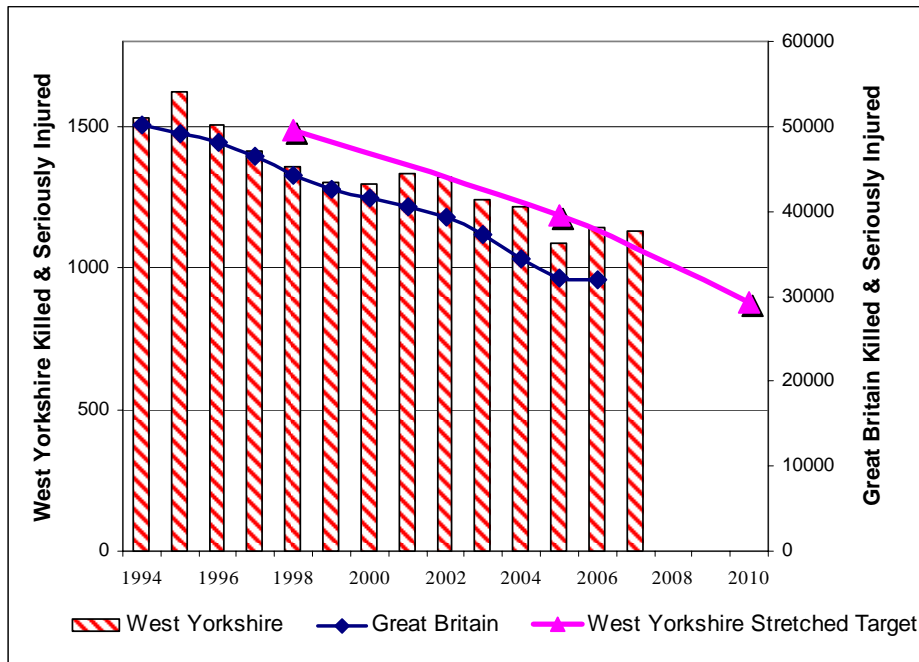


Figure 5.1 West Yorkshire KSI Casualty trend with 2010 target

Mandatory Indicator S2 : Casualty Trends for Children

5.3 Compared with the average of the previous five years, the child KSI total increased non-significantly to 175. The increase is particularly disappointing as the 2007 total has risen above the target trajectory for the first time. The child KSI total is now 36% 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
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
2007	175	5	170	999	1,174
% Change 2007 cf. 1994 -1998 average	-36%	-62%	-35%	-42%	-41%
% Change 2007 cf. 2006	+19%	-29%	+21%	No change	+2%

* Killed or Seriously Injured

Table 5.2 West Yorkshire Road Casualty Trends for Children 1994/98 - 2007

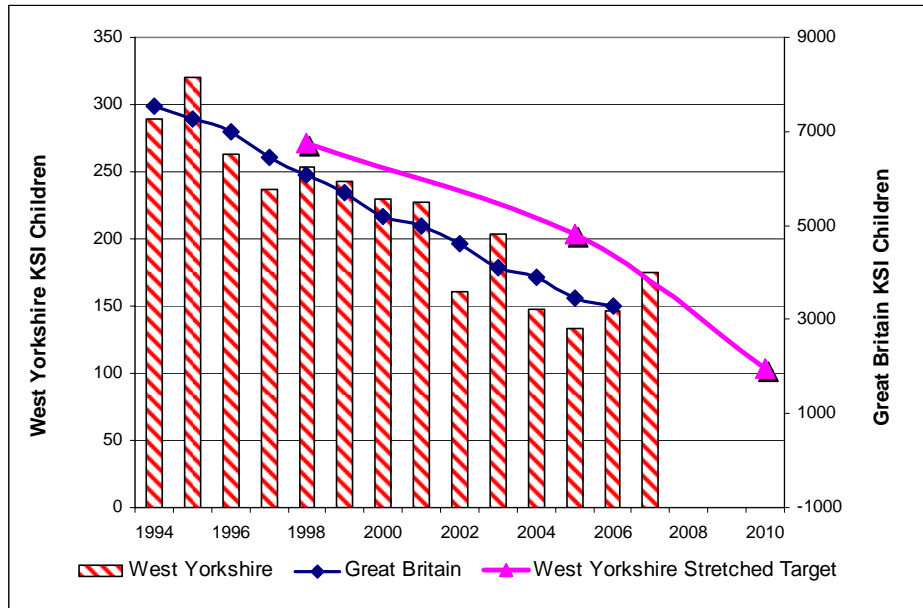


Figure 5.2 West Yorkshire KSI Child casualties with 2010 target

5.4 Further analysis revealed an unusual, and unaccountable, sharp rise in the KSI total of child pedestrians less than five years old.

Mandatory Indicator S3 : Slight Casualty Numbers

5.5 The number of slight casualties continued to fall during 2007 to a total of 8,850 and the graph of Figure 5.3 shows that the trend from 1998 is clearly down. The dramatic fall in the number of slight casualties is largely associated with the car occupant road user group. The trends are shown in Table 5.3 and Figure 5.3.

Year	Slight Casualties
1994 to 1998 Average	11,391
2003	11,566
2004	10,816
2005	9,718
2006	9,474
2007	8,850
% Change 2007 cf. 1994 -1998 average	-22%
% Change 2007 cf. 2006	-7%

Table 5.3 West Yorkshire : Number of Slight Casualties 1994/98 - 2007

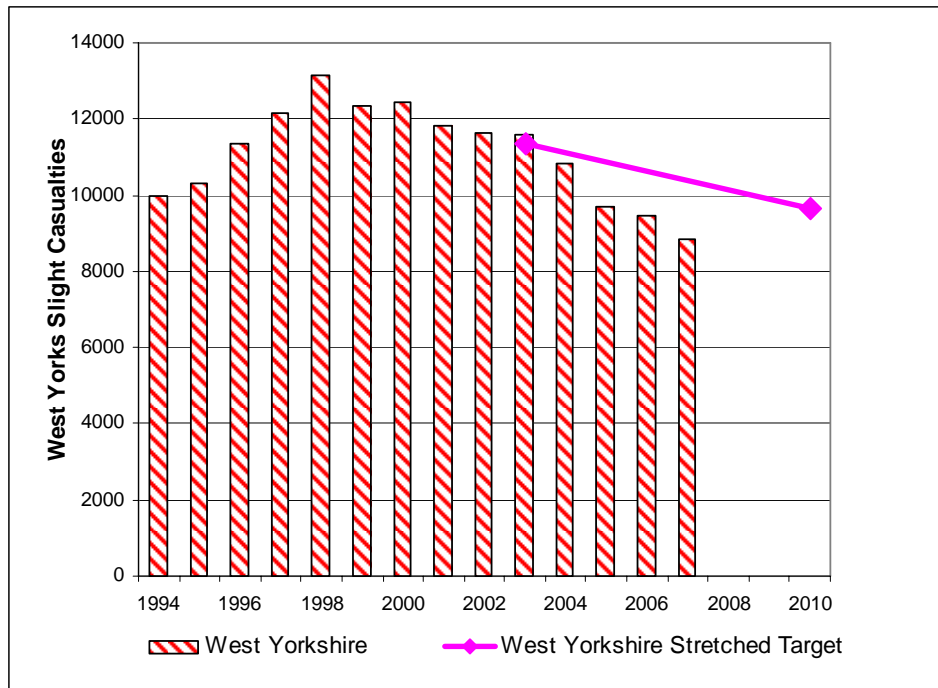


Figure 5.3 West Yorkshire Slight Casualties with 2010 Target

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 5.4 for all casualties.

Year	Pedestrians	Pedal Cyclists	Motor Cyclists	Car Drivers	Car Passengers
1994 - 1998 average	525	106	158	388	232
2003	340	101	235	323	182
2004	360	78	228	300	194
2005	308	86	216	279	145
2006	314	86	196	326	169
2007	347	94	233	273	159
% Change 2007 cf. 1994 - 1998 average.	-34%	-11%	+47%	-30%	-31%
% Change 2007 cf. 2006	+10%	+9%	+19%	-16%	-6%

Table 5.4 West Yorkshire Killed and Seriously Injured (KSI) Trends for Different Road Users 1994/98-2007

5.7 The steady downward trend in pedestrian KSI reached the lowest ever recorded total in the County of 308 in 2005. The total stabilised in 2006, but then disappointingly rose in 2007 and is now just above the desired target trajectory. One element of this increase is an unusually sharp rise in the number of child pedestrian casualties aged less than five.

5.8 The number of pedal cyclists killed or seriously injured has risen for the fourth successive year and the present trend is upward. The main component of the upward trend is associated with adult cyclists (76% of total), identified against a distinctive week day morning & evening commuting distribution.

5.9 The rising trend in the number of motor cyclists killed or seriously injured passed its peak in 2002 and had been falling since. Unfortunately the downward trend has halted, as there was a sharp rise in the total during 2007. All of the increase was amongst adult riders, and although the teenage total remained largely unchanged, the 16 to 19s are over represented, accounting for almost a quarter of the KSI total.

5.10 The long term trend in car occupants (car driver plus passenger) killed or seriously injured from 1994 is still downward, although the rate of progress has slowed down in recent years. The downward trend since 2002 has been associated with age groups other than the 16 to 29, where there has not been any real change. The 16 to 29 age group is over represented in the total, accounting for 47% of car drivers KSI and 56% of car passengers KSI.

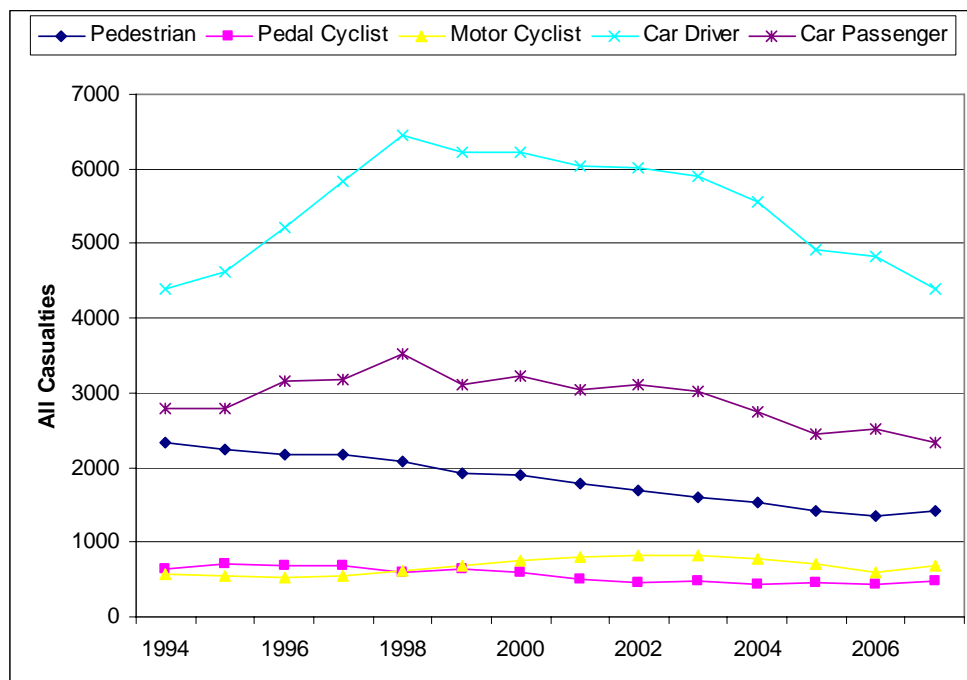


Figure 5.4 West Yorkshire Road User Casualty Trends 1994/98-2007

5.11 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	1,551	489	3087	2,137	na
	2007	1,551	489	3,087	2,137	2,740
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	193	964	668	831	538
	2005	193	964	668	831	530
	2006	193	1133	668	831	na
	2007	193	1133	668	831	588
% 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	87%	43%	82%	72%	na
	2007	87%	43%	82%	72%	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%)
2006/07	24 (45%)	13 (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%
2007		40%	96%	90%	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 shared priority 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. NO₂ and PM₁₀ 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 : NO₂ Levels in Air Quality Management Areas

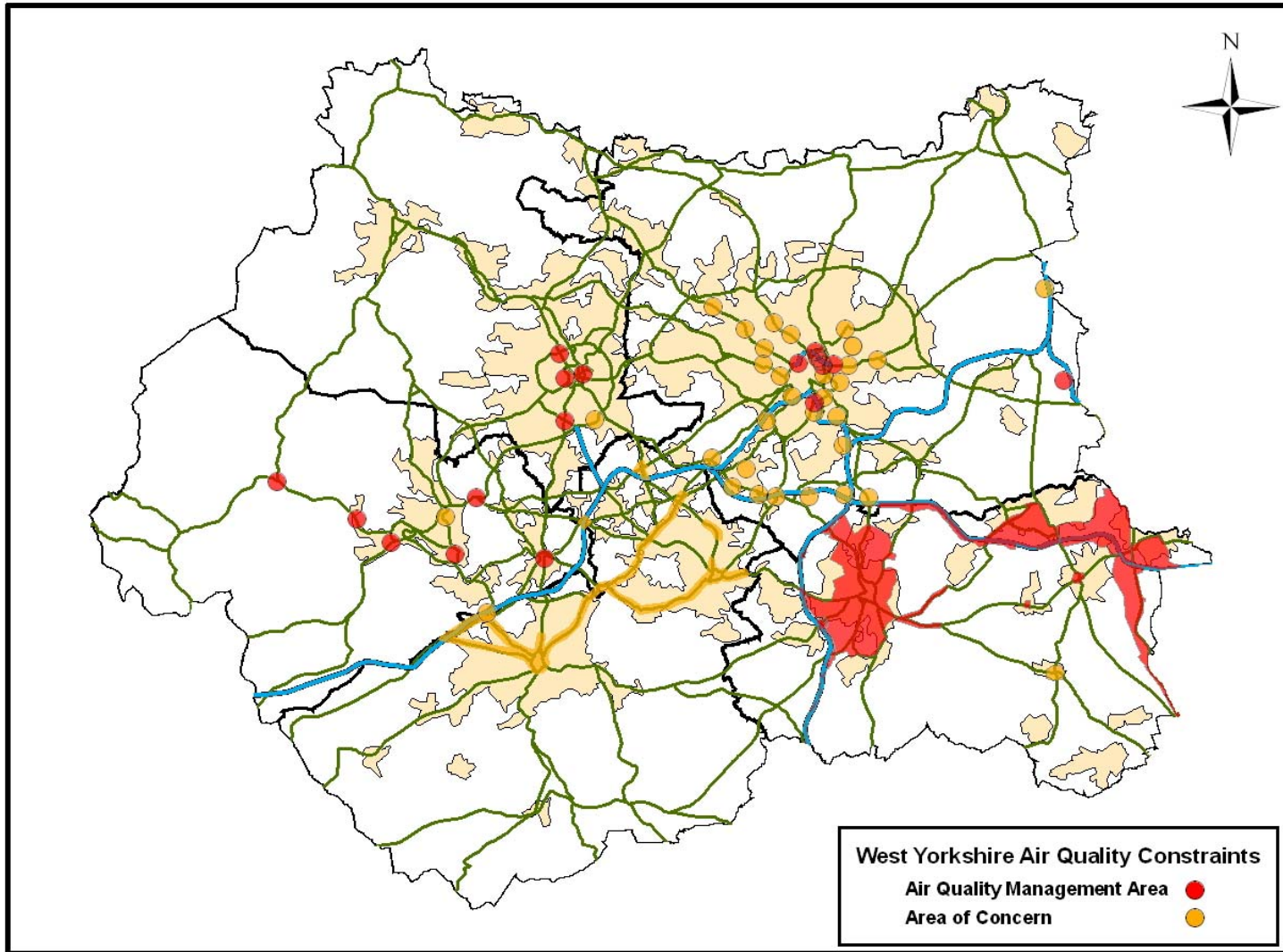
6.4 Air quality is currently measured at Haslewood Close in the Ebor Gardens AQMA in Leeds. The real time monitoring station is close to York Road, the major road traffic source of NO₂ as show in Table 6.1. 2007 was a not a particularly good year for dispersion and recorded concentrations were generally higher than the preceding year across the district. However, 43ug/m³ still represents a 6% improvement from the 2004 baseline.

Leeds AQMA Monitoring	2004 (Index)	2005	2006	2007
NO ₂ µg/m ³	45.8 (100)	41.3 (90)	41.6 (91)	43.0 (94)

Table 6.1 NO₂ Levels in the Ebor Gardens, Leeds AQMA 2004-2007

6.5 As monitoring capabilities improve, further targets will be set for other AQMAs throughout West Yorkshire as District’s Air Quality Action Plans are developed. Figure 6.1 shows the current location of declared AQMAs and Areas of concern throughout West Yorkshire.

Figure 6.1 Location of Air Quality Management Areas and Areas of Concern.



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. 2.

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	102.0
2006	100.0
2007	100.3
Change 2004 to 2007	+ 0.3%

Table 6.2 Changes in Traffic Volumes from Long Term Monitoring Programme, 2000 to 2007

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	100.2
2006	101.0
2007	104.3
Change 2004 to 2007	+4.3%

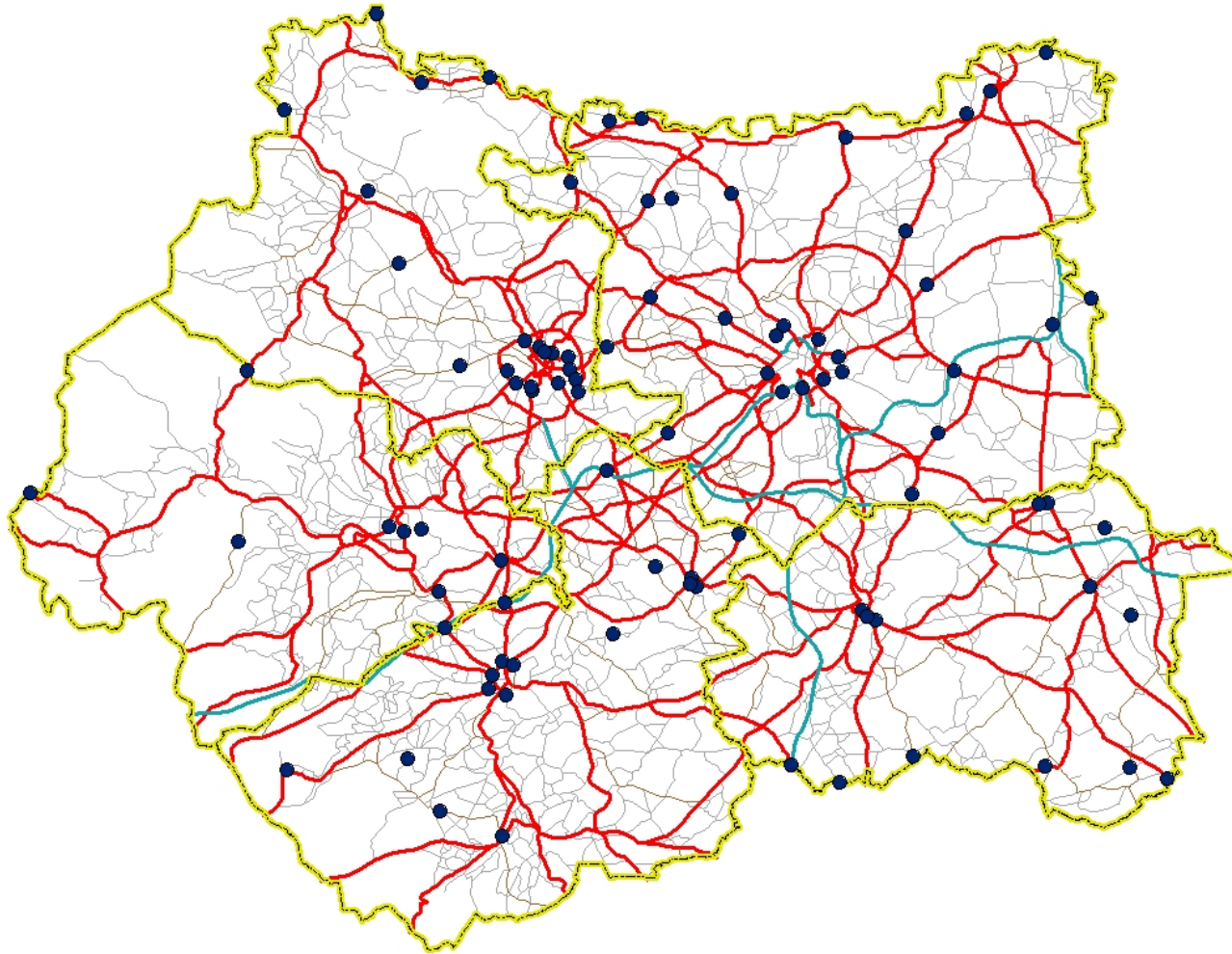
Table 6.3 Changes in Vehicle Kilometers from National Traffic Census, 2000 to 2007

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.

Figure 6.2 Location of Annual Traffic Growth Count Sites



Local Key Indicator AQ3 : Area Wide Road Transport Emissions : NO_x , PM₁₀ and CO₂

6.12 Road transport emissions of oxides of nitrogen (NO_x) which contains a mixture of nitric oxide (NO) and nitrogen dioxide (NO₂), and carbon dioxide (CO₂), the primary “greenhouse gas”, have been predicted for the West Yorkshire trunk / principal road network. Annual emission rates were predicted for PM₁₀ 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 CO₂.

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 network speeds throughout 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.

Emissions		NO _x	PM ₁₀	CO ₂
Year				
2004 (Base Year)	Tonnes / yr	15,198	453	2,328,895
2005	Tonnes / yr	14,384	435	2,366,117
	% Change from base year	-5.4%	-4.0%	1.6%
2006	Tonnes / yr	13,359	398	2,319,262
	% Change from base year	-12.10%	-12.14%	-0.41%
2007	Tonnes / yr	11,492	357	2,315,153
	% Change from base year	-24.4%	-21.2%	-0.6%

Table 6.4 Summary of Road Transport Emissions : NO_x, PM₁₀ and CO₂ 2004-2007

6.15 Approximately 15,198 tonnes and 2.32 million tonnes / year of NO_x, and CO₂ emissions respectively, have been predicted for the year 2004. The predicted annual emission rates for NO_x 11,492 tonnes (-24%) and PM₁₀ 357 tonnes (-21%), continue to fall across the region from the base year. Whilst 2006 showed little change for CO₂, 2007 does appear to confirm a long term reduction in emissions from the base year may have started.

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

6.16 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.

6.17 Road transport emissions of nitrogen dioxide (NO₂) and particulates (PM₁₀ reported separately as AQ5) contribute in the region of 75% and 50% respectively, towards total urban emissions. NO₂ and PM₁₀ represent the two major transport pollutants of concern.

6.18 Figure 6.3 illustrates the results of the annual average NO₂ monitoring within urban centres of each District.. The 7 year period from 1998 shows the general trend of urban background NO₂ was improving until 2005, when all Districts easily complied with the annual average standard of 40 µg/m³. However, 2006 saw a significant increase in NO₂ levels in every district except Kirklees. Again, with the exception of Kirklees, recorded levels in 2007 were still higher than recorded in 2005. The long term trend is now becoming less certain.

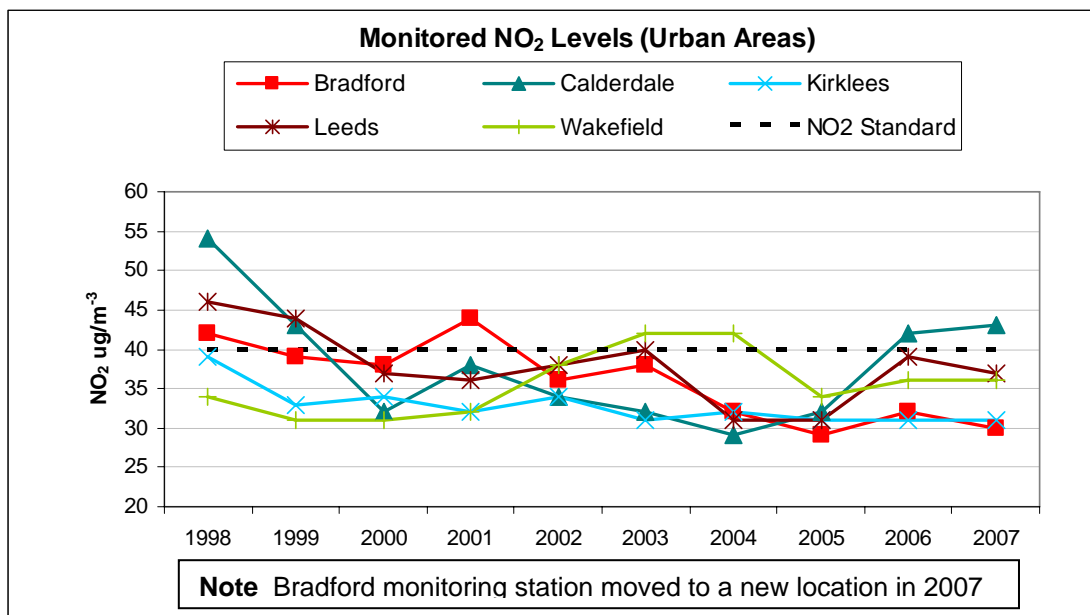


Figure 6.3 West Yorkshire Annual Average NO₂ Monitoring 1998 -2007.

Background Indicator AQ5 : Area Wide Road Transport Emissions : PM₁₀

6.19 Figure 6.4 indicates that all Districts comply with the annual average PM₁₀ standard of 40 µg/m³. Since monitoring began in 1998 there has been little change in general background PM₁₀ air quality within urban centres. The long term trend is unclear. Most Districts have seen a general increase in

Annual Average PM₁₀ levels between 2002 and 2006. However 2007 has seen a general reduction in PM₁₀ levels across the County from 2006 to somewhere close to the 2004 levels..

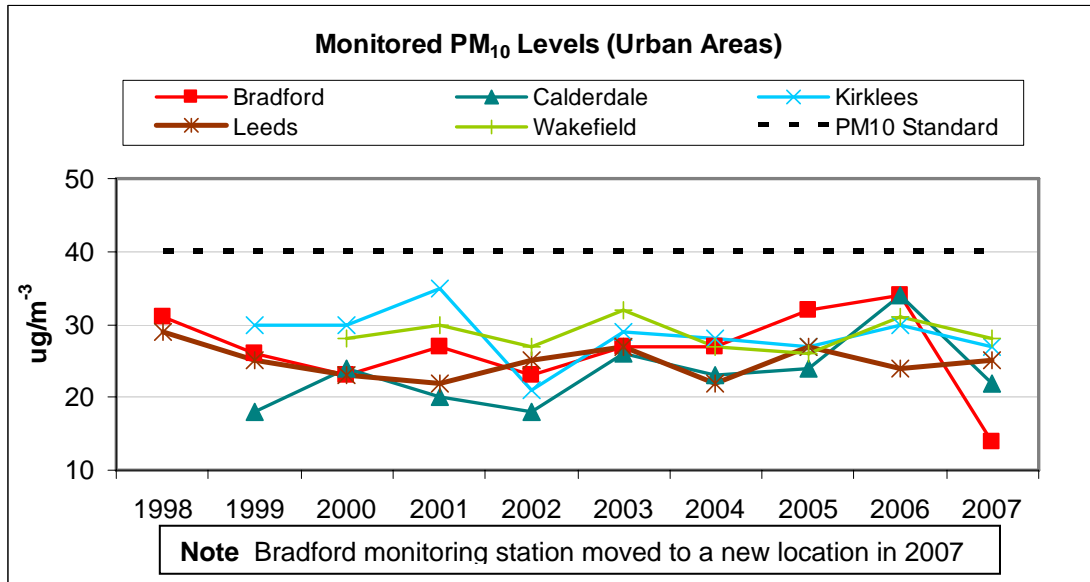


Figure 6.4 West Yorkshire Annual Average PM₁₀ Monitoring 1998-2007

Background indicator AQ6 : Low Noise Road Surfacing

6.20 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.

6.21 Figure 6.5 shows the approximate lengths of road that have been re-surfaced with 'low noise' asphalt over the previous 6 years. In total, there has been approximately 611km of 'low noise' asphalt laid in West Yorkshire since the year 2000. 205km, including around 3km of motorway network, has been laid between since 2005/6 with just under 69km. of this laid in 2007/08.

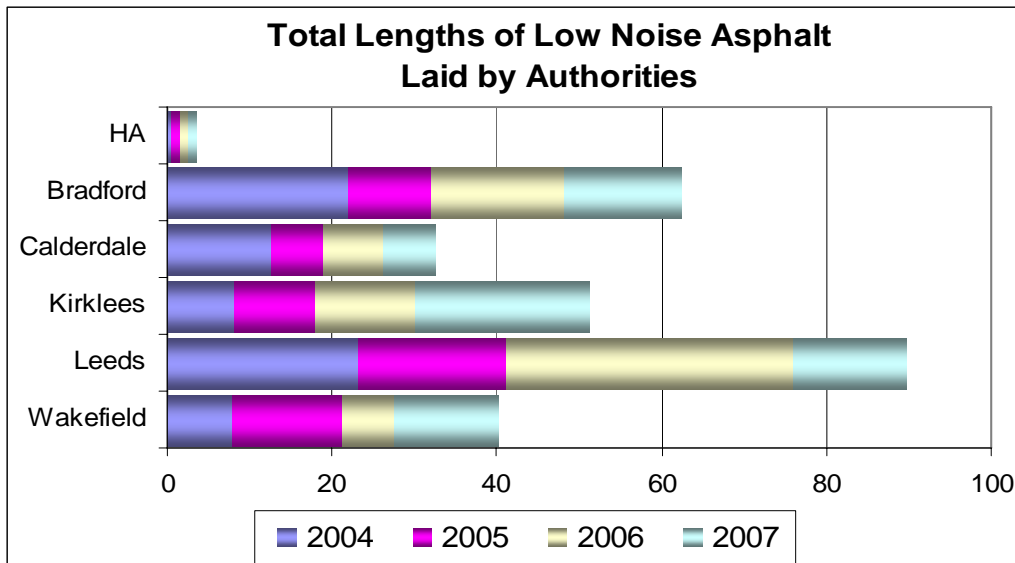


Figure 6.5 Total Length of Low Noise Asphalt Laid by District , 2004 to 2008

6.22 Figure 6.6 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 over 30% of the trunk / principal road network within West Yorkshire is now surfaced with low noise asphalt.

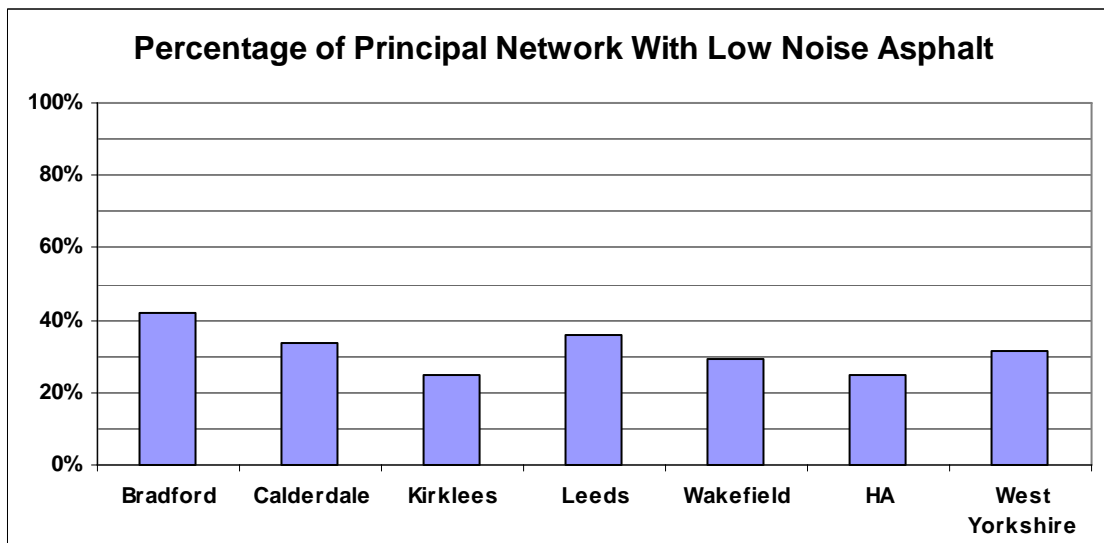


Figure 6.6 Percentage of Principal Road Network with Low Noise Asphalt

6.23 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 Until 2004/05 the condition of Principal Roads, BVPI 96, was reported using deflectograph data. Subsequently this has become BV223 now reported using Scanner data having gone through a transition of TRACS type survey (TTS).

7.4 The recent results for BV 223 are shown below with individual district figures being weighted by road length to produce a West Yorkshire Average.

District	2004/05 TTS %	2005/06 Scanner %	2006/07 Scanner %	2007/08 Scanner %
Bradford	NA	18*	8	3
Calderdale	39	9	10	6
Kirklees	45	23*	12	4
Leeds	26	6	9	6
Wakefield	29	5	5	2
Weighted Ave.	21.02	9.67	9.68	4.49

Table 7.1 BV223 Proportion of Principal Road Network Requiring Planned Maintenance

7.5 The condition of Classified Non-Principal roads, BV97a, reported using CVI data has now been replaced with BV224a reported using data from the Scanner machine.

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

District	2005/06 Scanner	2006/07 Scanner	2007/08 Scanner
Bradford	27*	15	5
Calderdale	15	16	11
Kirklees	44*	25	7
Leeds	13	15	12
Wakefield	13	13	5
Weighted Ave.	22.92	16.93	7.74

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

7.7 The results for Bradford and Kirklees for 2005/06 marked * in both Tables 7.1 and 7.2 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. 2006/07 is, therefore, the first meaningful figure that can be reported with confidence.

7.8 The condition of unclassified roads, BV224b has undergone many changes: in rules and parameters over the years. Data is now reported using results 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.

District	2005/06	2006/07	2007/08
Bradford	9.4	12.0	9
Calderdale	16.20	15	14
Kirklees	14.89	12	12
Leeds	23.51	26	22
Wakefield	21.79	22	19
Weighted Ave.	17.62	18.32	15.80

Table 7.3 BVPI 97b/BVPI 224b Percentage of Non-Principal Unclassified Roads with Significant Defects, 2005/06 to 2007/08..

7.9 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

7.10 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.

7.11 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.

District	2005/06	2006/07	2007/08
Bradford	16.25	26.00	21
Calderdale	5.63	5.00	5
Kirklees	6.95	16.00	22
Leeds	30.06	19.00	19
Wakefield	31.79	23.00	20
Weighted Ave.	22.32	20.29	18.65

Table 7.4 BVPI 187 Percentage of Prestige, Primary and Secondary Walking Routes with Significant Defects (Visual Inspection).

Targets for Highway Maintenance Indicators

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

7.13 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.

7.14 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.

Local Key Indicator AM3 : Structures With Weight/Width Restrictions

7.15 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.

7.16 The percentage of structures with temporary weight or width restrictions is used to monitor performance in this area. The position at March 2008 is reported in Table 7.5, together with the 2004 baseline.

West Yorkshire: Weight And Width Restricted Structures												
District	TO MARCH 2004						TO MARCH 2008					
	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	290	17	5.9	87	15	17.2	314	13	4.1	87	7	8.0
Leeds	229	5	2.2	112	1	0.9	229	6	2.6	113	7	6.2
Wakefield	85	0	0	60	6	10.0	85	0	0	60	5	8.3
WEST YORKS	1104	25	2.3	399	34	8.5	1128	22	1.95	400	31	7.75

Table 7.5 Percentage of Structures with Temporary Weight or Width Restrictions, March 2004 and March 2008

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 people's perception of public transport is influenced greatly by their wait for a service. This can be seen in the comparison between the percentage of shelters meeting modern standards in West Yorkshire's and overall customer satisfaction with them. Since 2003/04 both have increased significantly.

7.19 Table 7.6 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 modern standards *	Customer Satisfaction **
2003/04	40	NA
2004/05	46	NA
2005/06	57	NA
2006/07	68	6.64
2007/08	72	7.29

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

** measured on a scale of 1 to 10 with 10 being good and 7 being target score for public satisfaction.

Table 7.6 Proportion of Bus Shelters Meeting Modern Standards, 2003/04 to 2007/08

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CHAPTER 8 PROGRESS TOWARDS LTP TARGETS

Introduction

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.

8.3 The table shows that we are not on track to meet 4 out of 17 of our Mandatory targets :

- Access to Hospitals
- Bus Punctuality
- Public Transport (Bus) Patronage
- Total Killed and Seriously Injured Road Casualties

8.4 We have no clear evidence on a further 6 Mandatory and 2 local targets. This is mainly due to changes in survey methodology or revisions to existing databases.

8.5 Annual progress is measured against the trajectories as set out in Appendix F of the West Yorkshire Local Transport Plan 2006/07 – 2010/11 Appendices. Although on face value figures may be going up they will be deemed off target for the purposes of this report if they are not going up at a sufficient rate to meet the trajectory.

CHAPTER 8 PROGRESS TOWARDS LTP TARGETS

Ref	Description	Base	2006/07	2007/08	Target	On Track?
M1	Access to Hospitals	89.5%	78%	75.4%	89.5	
M2	Bus Punctuality	87%	82.6%	85.7%	95%	
M3	Satisfaction with local bus services *	54%	66.4%	(7.21)	59%	
M4	Overall Cycling Trips	100	105	112	110	
M5	Person Journey Time	4'04"	4'08"	4'08"	4'21"	
M6	Peak Period Traffic Flows					
	Bradford	100	102	96	103	
	Halifax	100	99	95	103	
	Huddersfield	100	101	104	103	
	Leeds	100	99	97	103	
	Wakefield	100	100	104	103	
M7	Car Mode share to school	30.8	30.8	30.5	30.8	
M8	PT Patronage	199.1	196.9	192.6	209.0	
M9	Total KSI	1484	1,140	1,132	890	
M10	Child KSI	272	147	175	136	
M11	Total slight casualties	11,391	9,474	8,850	9642	
M12	NO ₂ in Leeds AQMA	100	91	94	90	
M13	Change in Area Wide Traffic	100	100	100.3	105	
M14	Maintenance on PRN **	36%	10% (9.68%)	(4.49%)	27% (9%)	
M15	Maintenance on classified non PRN **	13%	17% (16.9%)	(7.74%)	5% (13%)	
M16	Maintenance on unclassified roads **	16%	18.3% (18.3%)	(15.8%)	9% (13.5%)	
M17	Maintenance on footways	24%	21%	19%	14%	
L1	Satisfaction with LTP funded PT facilities	87%	96%	No new data	90%	
L2	Peak Period Cycle Trips to Urban Centres					
	Halifax	100	108	123	120	
	Leeds	100	124	154	120	
	Wakefield	100	74	100	120	
L3	AM Peak Period Mode Split (% cars)					
	Bradford	74	72	71	74	
	Halifax	74	69	68	74	
	Huddersfield	64	61	59	65	
	Leeds	58	56	55	55	
	Wakefield	73	68	69	73	
L4	Peak period rail patronage to Leeds	10,209	17,196	18,915	12,240	
L5	Patronage on QBC's *	See Table 4.17				
L6	Pedestrian KSI's	525	314	347	420	
L7	NO _x emissions on PRN (tonnes/yr)	15,198	13,359	11,492	12,158	
L8	CO ₂ emissions on PRN (tonnes/yr)	2.329*10 ⁶	2.319*10 ⁶	2.315*10 ⁶	2.329*10 ⁶	
L9	Council Owned Structures with restrictions	2.3%	2.5%	2.0%	1.5%	
L10	Bus shelters meeting modern standards	40%	68%	72%	95%	

* New Data Source – target to be revised ** Change to Scanner data – new target/trajectory needed

Table 8.1 Progress Towards LTP2 Targets