West Yorkshire Local Transport Plan 2006/07 to 2010/11







wyltp

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West Yorkshire
Local Transport Plan
Partnership

West Yorkshire Local Transport Plan 2006/07 to 2010/11

CONTACT DETAILS

METRO
Paul Roberts
Tel: 0113 2517255
Email: paul.roberts@wypte.gov.uk

CITY OF BRADFORD METROPOLITAN DISTRICT COUNCIL
Ian Gallacher
Tel: 01274 437402
Email: ian.gallacher@bradford.gov.uk

CALDERDALE METROPOLITAN BOROUGH COUNCIL
David Holdstock
Tel: 01422 392160
Email: david.holdstock@calderdale.gov.uk

KIRKLEES METROPOLITAN COUNCIL
Stuart Clewlow
Tel: 01484 225553
Email: stuart.clewlow@kirklees.gov.uk

LEEDS CITY COUNCIL
Andrew Hall
Tel: 0113 2475296
Email: andrew.hall@leeds.gov.uk

CITY OF WAKEFIELD METROPOLITAN DISTRICT COUNCIL
Andrew Spittlehouse
Tel: 01924 306696
Email: aspittlehouse@wakefield.gov.uk

AVAILABILITY

THIS DOCUMENT CAN BE FOUND IN:

- public libraries;
- district authorities' information centres
- district authorities' highways offices
- Metro's offices; and
- on the internet at www.wyltp.com

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FOREWORD

This Local Transport Plan is a partnership between Metro and the five West Yorkshire district councils. We have worked collaboratively and involved other partners and stakeholders in producing a plan which supports our wider agendas, including health, education and skills, economy and regeneration and community cohesion.

The Local Transport Plan has also been developed through extensive liaison across service areas within our own authorities and other service providers. Accessibility planning, in particular, has been developed through partnership working with the skills, health and economy and regeneration sectors.

We have consulted widely with our key stakeholders and the general public In developing our strategy and programme. Congestion was identified as a key issue through this process. It is clear that tackling congestion is essential to supporting the objectives set out in the Regional Economic Strategy and the Northern Way strategy. This Plan sets out how we can tackle congestion over the next five years through a combination of improving public transport and other alternatives to the car and effective demand management that influences travel choices and prioritises those movements that do most to support the economy.

The Plan is founded in realism and evidence, with the adopted strategy evaluated and refined through modelling and accompanying Strategic Environmental appraisal. The Plan also sets out our performance management arrangements, which will be essential to achieving the desired outcomes and targets.

Consultation responses highlighted the need for long-term planning beyond the period of this Plan. Responses also stressed that the history of under-investment and the resources available to us within Plan period would not be sufficient to deliver the transport network necessary to support West Yorkshire (and Leeds City Region's) economic growth objectives in a sustainable way. This Plan is therefore a step along the way, but is not the limit of our aspirations. We will therefore be setting out our 25 year vision for transport alongside this Plan submission.

Councillor Karam Hussain
Chair of West Yorkshire Passenger Transport Authority

Councillor Ellen Margaret Eaton (OBE)
Leader of City of Bradford Metropolitan District Council

Councillor John Ford
Leader of Calderdale Metropolitan Borough Council

Councillor Kath Pinnock
Leader of Kirklees Metropolitan Council

Councillor Andrew Carter
Leader of Leeds City Council

Councillor Peter Box
Leader of City of Wakefield Metropolitan District Council

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DOCUMENTS REFERRED TO IN THE TEXT

- *Airedale Corridors A Masterplan & Strategy for Airedale*
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- *Advancing Together: A vision and strategic framework for the Yorkshire and Humber Region*
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- Lists of tables, figure and 'documents referred to in the text' for the Appendices are shown in the front of the Appendices document

EXECUTIVE SUMMARY

INTRODUCTION

This second West Yorkshire Local Transport Plan (LTP2) sets out a programme for wide range of improvements to local transport over the period 2006 to 2011. The Plan will:

- deliver a more sustainable transport system, with growth in the use of alternatives to the private car including bus and train use;
- provide improved accessibility to jobs and key facilities such as hospitals;
- improve road safety and reduce road casualties;
- reduce vehicle emissions and improve air quality in those areas worst affected by pollution;
- improve journey safety and security;
- deliver better travel information through the use of modern technology;
- provide better facilities for pedestrians and cyclists; and
- improve the condition of the local highways and bridges.

The Plan will also be an important step towards the longer term vision for transport and provide a firm foundation for future Local Transport Plans.

THE DEVELOPMENT OF THE LOCAL TRANSPORT PLAN

The second West Yorkshire Local Transport Plan has been developed through extensive public consultation. There has been wide consultation and liaison with a broad range of agencies (including transport operators and the Highways Agency), many of whom will also be involved in implementation over the next five years. The consultation has also helped ensure consistency with authorities' wider agendas and service functions (e.g. planning and economic development).

The Local Transport Plan partners (being the five West Yorkshire District Authorities and Metro) have placed the Local Transport Plan as a core element of all their planning and service delivery activities. The partners recognise the interactions between transport and planning and other service delivery activities and are incorporating these in their community strategies and corporate plans.

LTP2 builds on the successes achieved during the first Plan period which included:

- a substantial programme of investment in bus and rail stations (including Park and Ride) delivering higher standards of passenger comfort, security and information;
- good progress on delivering a step change in bus facilities on core bus routes (including accessibility improvements and new bus lanes) through the Yorkshire Bus Initiative;
- a successful and well-targeted road safety programme with casualty reductions exceeding national and local targets, leading to the lowest ever casualty figures for West Yorkshire;
- accommodating increased economic activity in the main urban centres while restraining the growth in car traffic;
- improvements to accessibility through the launch of new MetroConnect services;
- good progress on school travel including school travel plans, Safe Routes To School and MyBus;
- launch of the largest real time passenger information system in the country covering South and West Yorkshire;
- improved safety and security including the provision of CCTV at new bus stations and in a proportion of the West Yorkshire bus fleet;
- delivery of successful, off-road cycle routes;
- significant improvements to the public realm, including enhanced pedestrian facilities;
- good progress in highway network maintenance with programmes that have stabilised the condition of carriageways; and
- substantial reductions in the backlog of bridges and structures maintenance and strengthening.

THE WEST YORKSHIRE CONTEXT

Transport is of fundamental importance to the West Yorkshire economy and environment as well helping to determine many aspects of the quality of life enjoyed by residents and visitors.

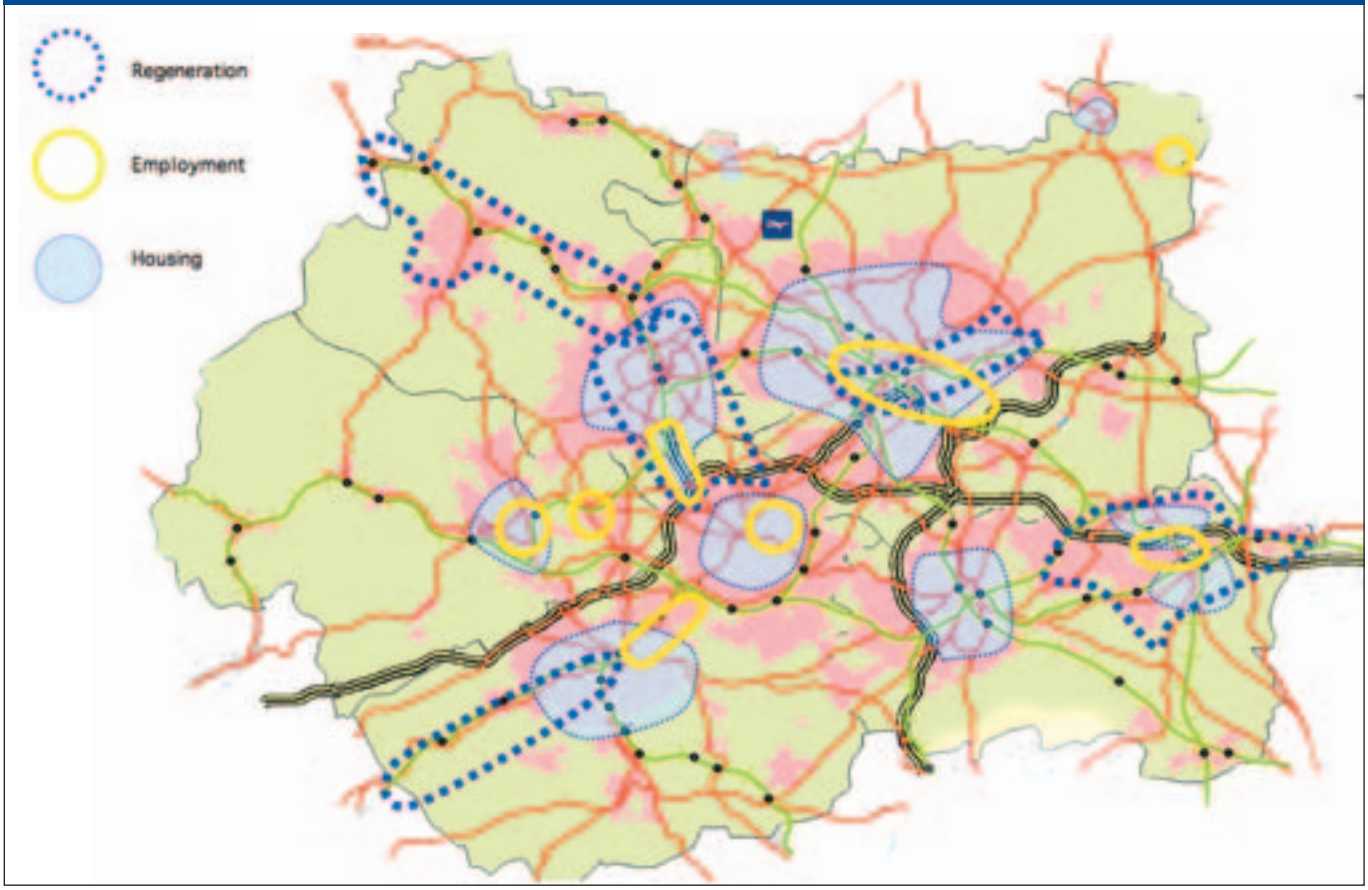
Transport issues vary in importance across West Yorkshire. Congestion is a significant problem in the main urban areas and on the motorways and other strategic routes. Safer roads are an issue for many inner city communities that experience traffic in residential streets. Accessibility is the key concern in the extensive rural areas to the west and south of the county and in former mining areas that border South Yorkshire. Air quality generally exceeds standards, but there are locations where action is required to address traffic related problems.

Economic growth, regeneration and community cohesion are common priorities across West Yorkshire. The Regional Economic Strategy identifies transport as a key priority, along with educational achievement, skills and entrepreneurship.

Leeds is the driver of the West Yorkshire economy, and employment growth of over 30,000 is forecast for 2015. Similar levels are also forecast in Bradford and Airedale, as well as significant employment gains in Wakefield city centre and in the Kirklees Strategic Economic Zone. This growth will result in increases in commuting, including cross-boundary journeys, and catering for this demand in a sustainable way is a key challenge for the Plan period.

There are other regeneration, employment and housing growth areas in West Yorkshire, as shown on Figure E.1. The implications of these growth areas are reflected in the Plan strategy and programme.

FIGURE E.1 KEY AREAS OF DEVELOPMENT AND REGENERATION



It is recognised that a long-term approach to transport is required and the Local Transport Plan partners have been working with the West Yorkshire Economic Partnership and other stakeholders to develop a longer term Transport Vision. This Vision is being extended, through liaison, to cover the Leeds City Region and a draft has been prepared to complement the Local Transport Plan. Details of the Vision work to date can be found via the internet (www.wyltp.com).

LTP2 OBJECTIVES

The objectives have been developed from the analysis of transport issues in West Yorkshire and through consultation. The objectives are designed to complement the aspirations outlined in Advancing Together: A Vision and Strategic Framework for Yorkshire and the Humber, and facilitate the implementation of the Regional Economic Strategy, the Regional Spatial Strategy/Regional Transport Strategy and local Community Strategies across West Yorkshire. The objectives are consistent with the longer term transport vision and provide the focus for progress over the five year Plan period.

The Plan objectives, set out with reference to the national shared priorities for transport agreed by the Department for Transport (DfT) and the Local Government Association are:

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.

DELIVERING ACCESSIBILITY

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

TACKLING CONGESTION

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

SAFER ROADS

- To improve safety for all highway users.

BETTER AIR QUALITY

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

EFFECTIVE ASSET MANAGEMENT

- To improve the condition of the transport infrastructure.

PLAN STRATEGY

The Plan strategy has been developed through widespread consultation, the use of transport models and informed by the independent Strategic Environmental Assessment. A corridor and area based approach was used to test the strategy against the specific issues identified.

Assessments have been made on economic growth and associated increasing prosperity, regeneration, employment and housing growth and constraints on the existing transport network. The implications are that the transport strategy must seek to make best use of existing infrastructure as well as developing the use of alternatives to the car in order to manage traffic growth and congestion and provide the connectivity necessary for economic competitiveness.

The core strategy involves high public transport investment together with demand management measures. This core approach is developed through a series of strategies based upon the priorities of Delivering Accessibility, Tackling Congestion, Safer Roads, Better Air Quality and Effective Asset Management. The overall strategic approach also includes consideration of impacts on greenhouse gas emissions and climate change.

The strategic elements are set out in Table E1.

TABLE E1: DELIVERING ACCESSIBILITY

A1	Improve physical accessibility by making bus stops more accessible, improving the continuity and signage of cycle and walk routes
A2	Maintain and improve road, pavement and Rights of Way conditions for pedestrians, cyclists, vehicle and freight users
A3	Minimise road weight and width restrictions
A4	Maintain and develop public transport networks through our bus and rail strategies
A5	Maintain and enhance concessionary fare schemes and address cost barriers for job-seekers
A6	Raise awareness of public transport and improve information
A7	Embed accessibility in other strategies, e.g. Local Development Frameworks

TABLE E1: BETTER AIR QUALITY

AQ1	Traffic demand management measures, focusing on commuter journeys
AQ2	Encouraging more sustainable travel
AQ3	Actions to reduce vehicle emissions
AQ4	Measures to adapt to the effects of climate change

TABLE E1: SAFER ROADS

S1	Provide an appropriate road environment with facilities for each user group
S2	Provide the relevant skills for driving, riding, walking and cycling
S3	Promote awareness of road safety issues and the road user's responsibility to others
S4	Encourage the correct behaviour of all road users
S5	Improve safety through new technologies that can reduce the risk of injury

TABLE E1: TACKLING CONGESTION

C1	Encourage modal switch to public transport
C2	Manage the demand for travel
C3	Make the best use of the existing capacity
C4	Improve the highway network
C5	Encourage more cycling and walking
C6	Promote smarter travel choices
C7	Promote sustainable land use planning policies and practices

TABLE E1: EFFECTIVE ASSET MANAGEMENT

M1	Maintenance of roads and footways
M2	Strengthening and maintenance of bridges, walls and other highway structures
M3	Maintenance and operation of urban traffic control and CCTV systems (on street and public transport)
M4	Maintenance of lighting, signs and road markings
M5	Maintenance of bus stations, shelters and stops
M6	Maintenance of car and lorry parks
M7	Maintenance of Rights Of Way
M8	Winter maintenance
M9	Reducing accident claims and better use of resources and materials

THE PLAN PROGRAMME

The Plan programme has been developed within the capital funding guidelines provided by the DfT and assumptions about third party and revenue funding over the Plan period. The Plan assumes DfT support over 5 years for a capital maintenance programme of £146m and £150m for new investment (integrated transport). This is based on the DfT's firm allocation for 2006/2007 and indicative allocations for the remaining years of the Plan.

The capital programme for implementation using the funding allocated by DfT is set out in Table E2. This programme will be supplemented by third party funding and the revenue programmes of the partner authorities.

The investment programme will provide:

- a new rail station;
- three new bus stations and, through provisionally approved major scheme funding, a new bus-rail interchange to support the regeneration of Castleford;
- the replacement of Metro's AccessBus fleet so that the entire fleet is low-floor with Euro 2 (or better) engines;
- further local road safety schemes;
- more bus lanes with improved enforcement through the targeted use of camera technology;
- 800 bus stop Real Time Passenger Information (RTPI) displays, complementing the current availability of RTPI via the internet (www.wymetro.com), WAP and SMS (text message)
- more Safe Routes to School;
- the completion of Metro's programme of modern bus shelters, and the provision of bespoke bus departure information at all 14,000 stops in West Yorkshire;
- on and off road cycle routes;
- improved roads and pavements;
- more bridges strengthened to take modern HGVs;
- better control of traffic through signal improvements and variable message signs; and
- improved town/city centre streetscapes.

TABLE E2: SUMMARY PROGRAMME FOR WEST YORKSHIRE - LTP CAPITAL EXPENDITURE

TYPE OF MEASURE	PLANNED EXPENDITURE (£ 000s)						CONTRIBUTION TO SHARED PRIORITIES					
	2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	DELIVERING ACCESSIBILITY	TACKLING CONGESTION	SAFER ROADS	BETTER AIR QUALITY	EFFECTIVE ASSET MANAGEMENT	ENHANCING THE QUALITY OF LIFE
Bus Priority/HOV	4,308	3,592	3,101	4,118	4,779	**19,898**	✓	✓		✓		✓
Public Transport Interchanges	2,472	4,575	4,287	3,375	3,925	**18,634**	✓	✓		✓		✓
Park and ride	0	620	0	750	750	**2,120**	✓	✓		✓		✓
Bus infrastructure (exc. interchanges)	7,453	5,152	5,551	4,662	4,754	**27,572**	✓	✓		✓	✓	✓
Cycling Schemes	1,115	1,390	1,587	1,825	1,598	**7,515**	✓	✓	✓	✓		✓
Walking Schemes (inc. ROWs)	1,081	1,227	1,625	2,295	2,571	**8,799**	✓	✓	✓	✓		✓
Travel Plans	115	117	138	139	144	**653**	✓	✓	✓	✓		✓
Local Safety Schemes	2,806	2,297	3,357	2,839	2,664	**13,963**	✓		✓			✓
Safe Routes to School	1,050	1,050	1,040	1,065	1,140	**5,345**	✓	✓	✓	✓		✓
Road crossings	596	598	1,085	1,111	1,206	**4,596**	✓		✓			✓
Traffic Management and Traffic Calming	3,896	3,170	3,187	3,337	3,578	**17,168**	✓	✓	✓	✓	✓	✓
Local Road Schemes	200	840	943	1,590	1,990	**5,563**	✓	✓	✓	✓	✓	✓
Miscellaneous	3,399	2,518	3,360	4,413	4,832	**18,522**	✓	✓	✓	✓	✓	✓
Integrated Transport Total	**28,491**	**27,146**	**29,261**	**31,519**	**33,931**	**150,348**						
Roads and footways	17,921	18,244	18,842	19,438	20,427	**94,872**	✓	✓	✓	✓	✓	✓
Bridge and wall strengthening and maintenance	8,417	8,629	9,401	10,237	10,774	**47,458**	✓		✓		✓	✓
Miscellaneous	634	637	643	655	647	**3,216**	✓	✓	✓	✓	✓	✓
Maintenance Total	**26,972**	**27,510**	**28,886**	**30,330**	**31,848**	**145,546**						
Grand Total	**55,463**	**54,656**	**58,147**	**61,849**	**65,779**	**295,894**						

OUTCOMES AND TARGETS

The Plan will make a significant contribution to supporting regeneration, economic growth and social inclusion and environmental enhancement across West Yorkshire. It will also improve the quality of life for residents and make West Yorkshire a more attractive place to work in and to visit.

The transport specific outcomes and targets are set out in Table E3.

TABLE E3: LTP2 TARGETS

KEY OUTCOME INDICATORS		LOCAL TARGETS TO 2010/11	BASELINE POSITION
Mandatory M1	A local accessibility target	Ensure that 89.5% of households without access to a car are within 30 minutes of a hospital by public transport	89.5%
Mandatory M2	Bus punctuality	Increase bus punctuality to 95% by 2010/11 for all registered services. A year on year reduction in Excess Waiting Time for Frequent services	87% 1.29mins Excess Waiting Time
Mandatory M3	Satisfaction with local bus services (BVPI 104)	Increase bus satisfaction to 59% by 2009/10	54%
Mandatory M4	Annualised index of cycling trips	A 10% increase in overall cycling levels by 2010/11	100 (indexed)
Mandatory M5	Average journey time per person mile on key routes	Process of target setting still ongoing - awaiting DfT data and guidance - to be finalised by July 2006	n/a
Mandatory M6	Change in peak period traffic flows to urban centres	Traffic growth in urban centres in the morning peak period (0700-1000) from 2003/04 to 2010/11 to be restricted to: Bradford 3%, Halifax 3%, Huddersfield 3%, Leeds 3% and Wakefield 3%	100 (indexed)
Mandatory M7	Mode share of journeys to school	Setting of target on hold until DfES data available in 2007	n/a
Mandatory M8	Public transport patronage (BVPI 102)	A 5% increase in bus patronage by 2010/11. (This is based on current predictions of the impact of changes to concessionary fares from April 2006)	199.1 million
Mandatory M9	Total KSI casualties (BVPI 99)	A 40% reduction in the number of people KSI from the 1994/98 average by 2010 (National Target), stretched to a 30% reduction from the 2002-2004 average by 2010	1484
Mandatory M10	Child KSI casualties (BVPI 99)	A 50% reduction in the number of children KSI from the 1994/98 average to 2010 (National Target), stretched to a 40% reduction from 2002-2004 by 2010 (related to PSA)	272
Mandatory M11	Total slight casualties (BVPI 99)	A 15% reduction in the number of people slightly injured from the 2002-2004 average by 2010	11,391
Mandatory M12	NO_2 annual average concentration in designated AQMAs	A 10% reduction NO_2 in the Leeds AQMAs. Targets will be set for other AQMAs as they are declared during LTP2	45.8 g/m^3
Mandatory M13	Change in area wide road traffic	No more than a 5% increase in 16-hour weekday traffic flows, weighted by road length, at a representative sample of sites from 2003/04 levels by 2010/11	100 (indexed)
Mandatory M14	Principal Road Network where maintenance work should be considered (BVPI 223, formerly BVPI 96)	Reduce the percentage of the Principal Road carriageway network where maintenance should be considered, from 36% in 2004/05 to 27% by 2011	36%
Mandatory M15	Non-Principal road network where maintenance work should be considered (BVPI 224a, formerly BVPI 97a)	Reduce the length of the Non-Principal classified carriageway where maintenance work should be considered, from 13% in 2003/04 to 5% by 2011	13%

Mandatory M16	Unclassified road network where structural maintenance should be considered (BVPI 224b, formerly BVPI97b)	Reduce the length of the unclassified carriageway network where structural maintenance should be considered, from 16% in 2003/04 to 9% by 2011	16%
Mandatory M17	Footways where structural maintenance should be considered (BVPI 187)	Reduce the percentage of footway Category 1, 1a and 2 networks where structural maintenance should be considered. From 24% in 2003/04 to 14% in 2011	24%
Local L1	Satisfaction with LTP funded public transport facilities	Increase satisfaction with LTP funded public transport facilities to 90% by 2010/11	87%
Local L2	Cycling trips to urban centres during the morning peak	A 20% increase in cycling trips to Leeds, Wakefield and Halifax centres during the AM peak (0730-0930) by 2010/11	100 (indexed)
Local L3	AM peak period mode split to urban centres	Reduce the proportion of car-based trips into central Leeds from 57% to 55% by 2010/11 No increase in car mode share in Bradford, Halifax, Huddersfield and Wakefield	Leeds = 57% Bradford = 74% Halifax = 74% Huddersfield = 65% Wakefield = 62%
Local L4	Peak period rail patronage	Increase peak time (07.30 to 09.30) rail patronage on local train services into Leeds by 20% to 2010/11	10,200
Local L5	Patronage on Quality Bus Corridors (QBCs)	Increase in bus patronage above the West Yorkshire patronage baseline on QBCs	dependent on route and year
Local L6	Number of pedestrians KSI in road traffic collisions	A 50% reduction in the number of pedestrians KSI from the 1994/98 average by 2010, and stretched to a 30% reduction from the 2002-2004 average by 2010	1994-98 = 525 2002-04 = 359
Local L7	Annual road traffic emissions of NOx across West Yorkshire principal road network	A 20% reduction in NOx from 2004/05 to 2010/11	18,800 tonnes/yr
Local L8	Annual road traffic emissions of CO_2 across West Yorkshire principal road network	No increase in CO_2 emissions from 2004/05 to 2010/11	2.82million tonnes/yr
Local L9	Structures with weight and/or width restrictions	To reduce temporary restrictions on council owned bridges to 1.5% from 4.3% in 2005	4.3%
Local L10	The percentage of bus shelters that meet modern standards	95% of bus shelters to meet modern standards by 2010/11	31%

RISKS AND PERFORMANCE MANAGEMENT

The Plan partners have developed a register of the most significant risks to implementation and achievement of outcomes and targets. The Plan includes a strategy to manage and mitigate risks.

The partners are also developing new arrangements to enhance the focus on implementation and achievement of Plan outputs, outcomes and targets. This approach to effective delivery includes a strengthened performance management framework which will be based upon rigorous monitoring of programmes, expenditure and progress towards targets and the early use of corrective action.

New partnership arrangements involving the district authorities, Metro and key stakeholders will be put in place to oversee the continuing development and delivery of LTP2.

BONUS FUNDING AND MAJOR SCHEMES

The Plan sets out how the targets and outcomes could be 'stretched' if additional (bonus) funding were made available. The stretched targets include a greater reduction in road casualties and greater use of sustainable travel modes.

The Plan also provides information on major transport schemes, costing over £5 million, that are under consideration by the Regional Transport Board or are being developed as the most cost effective means of meeting local objectives within the overall Plan strategic approach.

Schemes currently being delivered or under development include the East Leeds Link road (which will enable creation of up to 30,000 new jobs in the strategic Aire Valley Leeds area), Leeds Inner Ring Road Stage 7, Castleford Interchange, two strategic road links in Wakefield which will facilitate regeneration and the A65 Quality Bus Initiative that is a regional transport priority.

The cancellation of Leeds Supertram will require investment in replacement schemes and work to date has identified three major schemes; a strategic bus-based Park and Ride site at Stourton, a new Southern access to Leeds rail station and the development of a high quality Bus Rapid Transit system designed to provide the reliability, capacity and service needed on the main public transport corridors.

A further seven major schemes have been prioritised for the second LTP period. The transport vision for the City Region will identify the investment needed to improve the area's internal connectivity, links with other City regions and is likely to generate further strategic investment priorities that are likely to come forward in the future.

INTRODUCTION

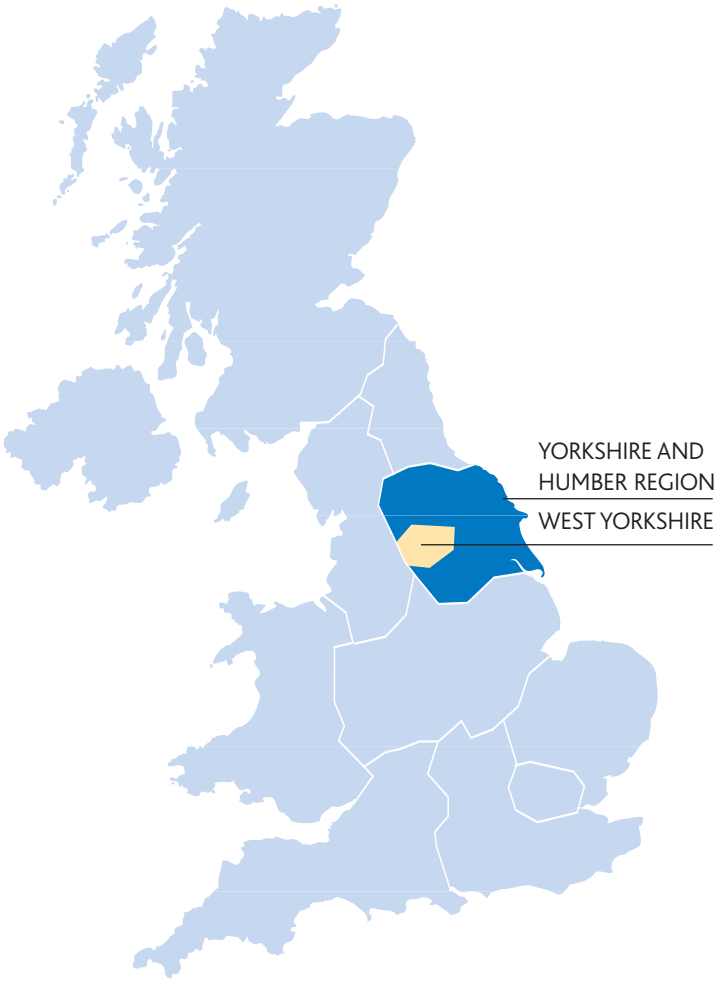
The second West Yorkshire Local Transport Plan (LTP2) sets out a transport strategy for West Yorkshire and a five year expenditure programme for 2006/07 to 2010/11.

The first LTP for West Yorkshire covered the period from 2001/02 to 2005/06 (LTP1).

The production of LTP2 is a statutory requirement. The Department for Transport (DfT) uses LTPs to allocate capital funding for local transport between local authorities.

LTP2 has been developed by the West Yorkshire LTP Partnership (the Partnership) comprising Metro and the five District Councils (the districts), City of Bradford Metropolitan District Council, Calderdale Council, Kirklees Metropolitan Council, Leeds City Council and City of Wakefield Metropolitan District Council. LTP2 also covers part of the Peak District National Park.

LTP2 has been prepared in accordance with DfT Guidance after consultation with the public, transport providers, stakeholders, interested organisations and neighbouring local authorities. It takes into account the DfT's advice about the level of funding available for second LTPs.



LTP2 AIMS TO:

- Reflect the Partnership's commitment to the long-term vision for the region;
- Reflect the Partnership's commitment to local community strategies developed by the Local Strategic Partnerships (LSPs).
- Support other strategies including the Regional Spatial Strategy for Yorkshire and Humber to 2016 (RSS), the Regional Economic Strategy (RES) and within RSS, the Regional Transport Strategy (RTS).
- Help to contribute towards the delivery of beneficial economic, social and environmental outcomes.
- Provide a delivery framework for the LTP2 programme which will support the achievement of our LTP2 targets.

FIGURE 1: WEST YORKSHIRE WITHIN THE WIDER REGIONAL CONTEXT

DOCUMENT STRUCTURE

LTP2 IS STRUCTURED IN FOUR MAIN PARTS.

PART 1	"The Wider Context" sets out the context for LTP2 in terms of transport connectivity, economic, social changes, national, regional and local policy. Corresponding implications for local transport are shown, together with links to the LTP2 strategy and programme. Part 1 also presents our long term transport objectives.
PART 2	"Strategies" sets out the LTP2 core strategy using the DfT's shared priorities as a framework, particular issues and individual strategy elements.
PART 3	"Strategy Delivery" sets out the five year LTP2 expenditure programme from 2006/07 to 2010/11 with reference to the strategy elements, timing, funding sources and levels and solutions that provide the best value for money. Part 3 also indicates how the Partnership could stretch or reach its LTP2 targets earlier, if 'bonus' funding and funding for major schemes was made available.
PART 4	"Performance Management" sets out local indicators and targets that will be used to monitor progress towards meeting the LTP2 objectives. It also looks at the risks to achieving the targets and the processes that will be used to manage those risks.
	In addition, there are a number of Appendices that provide more technical details.

INTRODUCTION

LTP2 has an important role to play in supporting the objectives of the Yorkshire and Humber Region, and also locally in delivering the long-term vision contained in Community Strategies developed by each of the five district LSPs.

All of the Community Strategies contain six similar themes which together set out the long-term Community Vision for West Yorkshire. These include:

1	promoting and regenerating local economies, with continuing growth;
2	access to jobs, and an improved quality of life;
3	continuous learning and development opportunities;
4	safer, healthier people able to get help when in need;
5	strengthened, cared for communities; and
6	a better local environment cared for in a sustainable way.

Improvements to the local transport system through LTP2 (and future LTPs) are required to support the overall long-term Community Vision for West Yorkshire.

This Community Vision is reflected in the seven 'shared priorities' agreed by the Government and the Local Government Association (LGA) in 2002. These are:

1	raising standards across our schools;
2	improving the quality of life of children, young people, families at risk and older people;
3	promoting healthier communities by targeting key local services, such as health and housing;
4	creating safer and stronger communities;
5	transforming our local environment;
6	promoting the economic vitality of localities; and
7	meeting transport needs more effectively.

These priorities are important for the Partnership. They reinforce the need to continue to develop transport through partnership working as well as co-ordinated planning with other sectors and Government Departments, for example the Office of the Deputy Prime Minister (ODPM), health, education, environment, trade and industry departments.

The seventh shared priority has been updated by the Government and the LGA to:

"improving access to jobs and services, particularly for those most in need, in ways which are sustainable: improved public transport; reduced problems of congestion, pollution and safety."

This shared priority for transport is informed by the recent Government transport related White Papers and in some cases, detailed national transport strategies (for walking, cycling, motorcycling, safety and air quality). These strategies provide direction for the Partnership's long-term strategy for transport, and the types of schemes and priorities that will be implemented to contribute to national objectives.

The DfT's and LGA's shared priorities for transport are:

- delivering accessibility;
- tackling congestion;
- air quality;
- safer roads; and
- effective asset management.

CONNECTIVITY

THE WIDER STRATEGIC NETWORKS

West Yorkshire is generally well connected to the wider strategic transport network. It is located at the centre of the Trans European Network Route 10 with good links:

- to north and south by road (the A1, M1, A1(M)) and by rail using the East Coast Main Line (ECML); and
- to east and west by road (the M62, A63) and by rail (the Trans-Pennine and Caldervale lines).

West Yorkshire also has an international airport, Leeds Bradford International Airport (LBIA), and is within a reasonable travel distance to Manchester Airport and the new Robin Hood Sheffield-Doncaster Airport.

The main transport corridors (as shown in Figure 1.1 and Table 1.1) carry a mix of local, sub-regional, regional and national trips including freight movements. Maritime ports are located to the east and west.

A challenge for the national, regional and local authorities is to develop a strategic transport network that is fit for purpose to cater for these different trip needs. This need is emphasised in the report of the Northern Way Steering Group, Moving Forward: the Northern Way as well as the RSS and RES and will also support the development of the City Region.

As the strategic network is outside the direct responsibility of the Partnership we will continue to work with other agencies including the Highways Agency (HA), Network Rail, DfT and long distance rail franchisees to ensure that measures delivered by LTP2 complement the improvements on the strategic transport network being delivered by others.

FIGURE 1.1: THE WIDER STRATEGIC TRANSPORT NETWORK

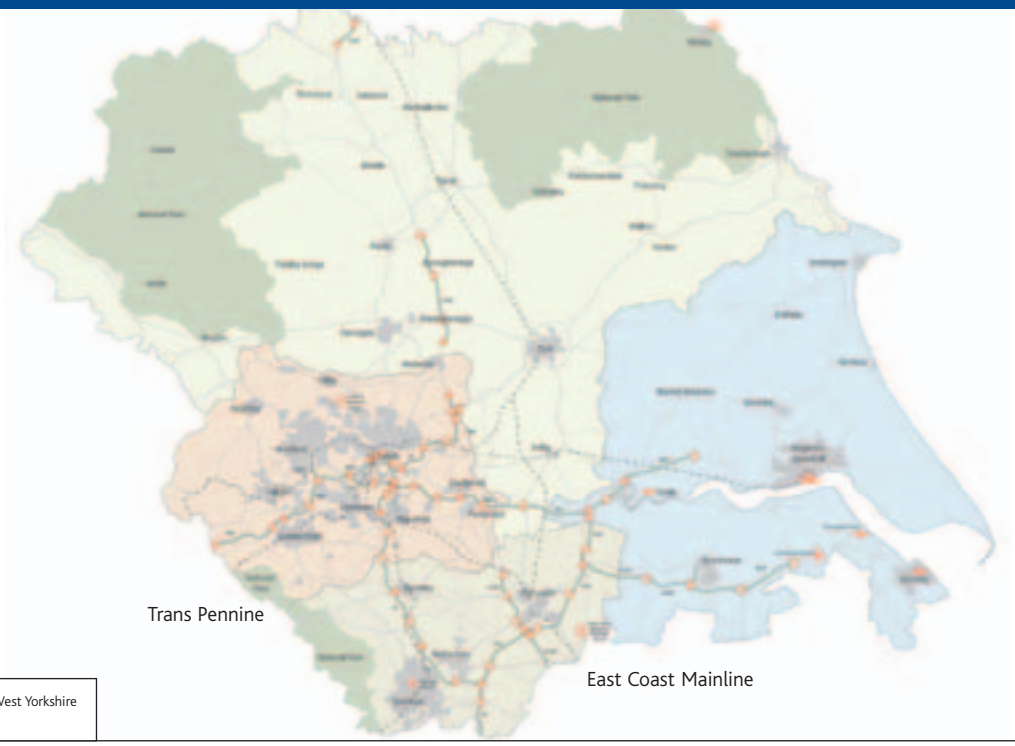


TABLE 1.1: KEY TRANSPORT CORRIDORS IN WEST YORKSHIRE

TO / FROM	ROAD ROUTES	RAIL ROUTES
Skipton (and on to the north west)	A650 A65	Airedale line Settle/Carlisle route
Harrogate	A658 A61	Harrogate line
York	A64	ECML Transpennine York and Selby line Harrogate line
Selby (and on to the north east)	A63	York and Selby line
Hull	M62 (HA responsibility)	Transpennine
Doncaster	M62/A1 (HA responsibility) A638	Wakefield line ECML
Barnsley	M1 (HA responsibility) A61 A637	Hallam line Penistone line
Sheffield (and on to the Midlands)	M1 (HA responsibility) A61	Midland Mainline Virgin Cross Country Wakefield line Hallam line Penistone line
London	M1 (HA responsibility)	ECML Midland Mainline
Manchester (and on the North West)	M62 (HA responsibility) A58 A62	Transpennine Caldervale line Huddersfield line

THE LOCAL NETWORKS

The local transport network in West Yorkshire was originally established along the corridors formed by the natural topography of the area. This consists of several, often steep sided valleys in the west, flattening out towards the east.

The polycentric pattern of development within West Yorkshire has resulted in a complex transport network. This complexity is shown in Figure 1.2, and in more detail in Table 1.2 for the main routes.

Local, regional and national cycle and walking networks cater for local accessibility as well as leisure.

LBIA not only caters for business and leisure travellers from within West Yorkshire but also the neighbouring regions. There is, however, very significant 'leakage' of air travel to Manchester and other airports.

The Partnership intends to make the best use of these networks through effective management and appropriate enhancements.

FIGURE 1.2: THE LOCAL TRANSPORT NETWORK

TABLE 1.2: IMPORTANT ROAD AND RAIL ROUTES WITHIN WEST YORKSHIRE

TO / FROM	FROM / TO	ROAD ROUTE	RAIL ROUTE
Leeds	Bradford	M621/M62/M606 A647 arterial A657 arterial	Airedale and Caldervale lines
Leeds	Wakefield A61	M621/M1/A650	ECML Midland Mainline Virgin Cross Country Wakefield line
Leeds	Huddersfield	M621/M62/A644/A62	Transpennine line Huddersfield line
Leeds	Halifax	M621/M62/A629 A58	Caldervale line
Bradford	Wakefield	M606/M62/M1/A650 A650	Caldervale line
Bradford	Huddersfield	A641	Caldervale line
Bradford	Halifax	A647 A641/A58	Caldervale line
Wakefield	Huddersfield	A642	Huddersfield line
Wakefield	Halifax	A650/M1/M62/A629	Caldervale line Huddersfield line
Huddersfield	Halifax	A629	Caldervale line

CROSS BOUNDARY MOVEMENTS IN/OUT OF WEST YORKSHIRE

In recent years there has been an increase in the demand for travel into and out of West Yorkshire.

Figure 1.3 provides an indication of these movements for the journey to work. These trip patterns are a useful reference as they are one of the most important components of the travel market, place the most stress on the available infrastructure and in many cases dictate the capacity provided.

Of particular note are:

- the net inflow of trips to West Yorkshire and particularly to the Leeds district;
- the large number and widespread distribution of trips in and out of Leeds district, demonstrating its role as a driver for wider economic growth; and
- the significant cross boundary movements between West Yorkshire districts and other local authorities, particularly to/from Wakefield district.

The main cross boundary commuting movements are (in priority order) to/from: Barnsley; Harrogate and Selby; Greater Manchester; Craven; York; and Doncaster. The majority of trips are made by car (85%), which is partially attributable to the dispersed origins and destinations.

Rail is the most important public transport mode for medium to long distance trips. Rail use accounts for more than 10% of the total trips for the following significant cross boundary movements in/out of West Yorkshire:

- to Greater Manchester from Calderdale and Kirklees districts (10-12%);
- to Leeds district from Doncaster (12%);
- to Leeds district from Craven (31%); and
- between York and Leeds district (11-12%).

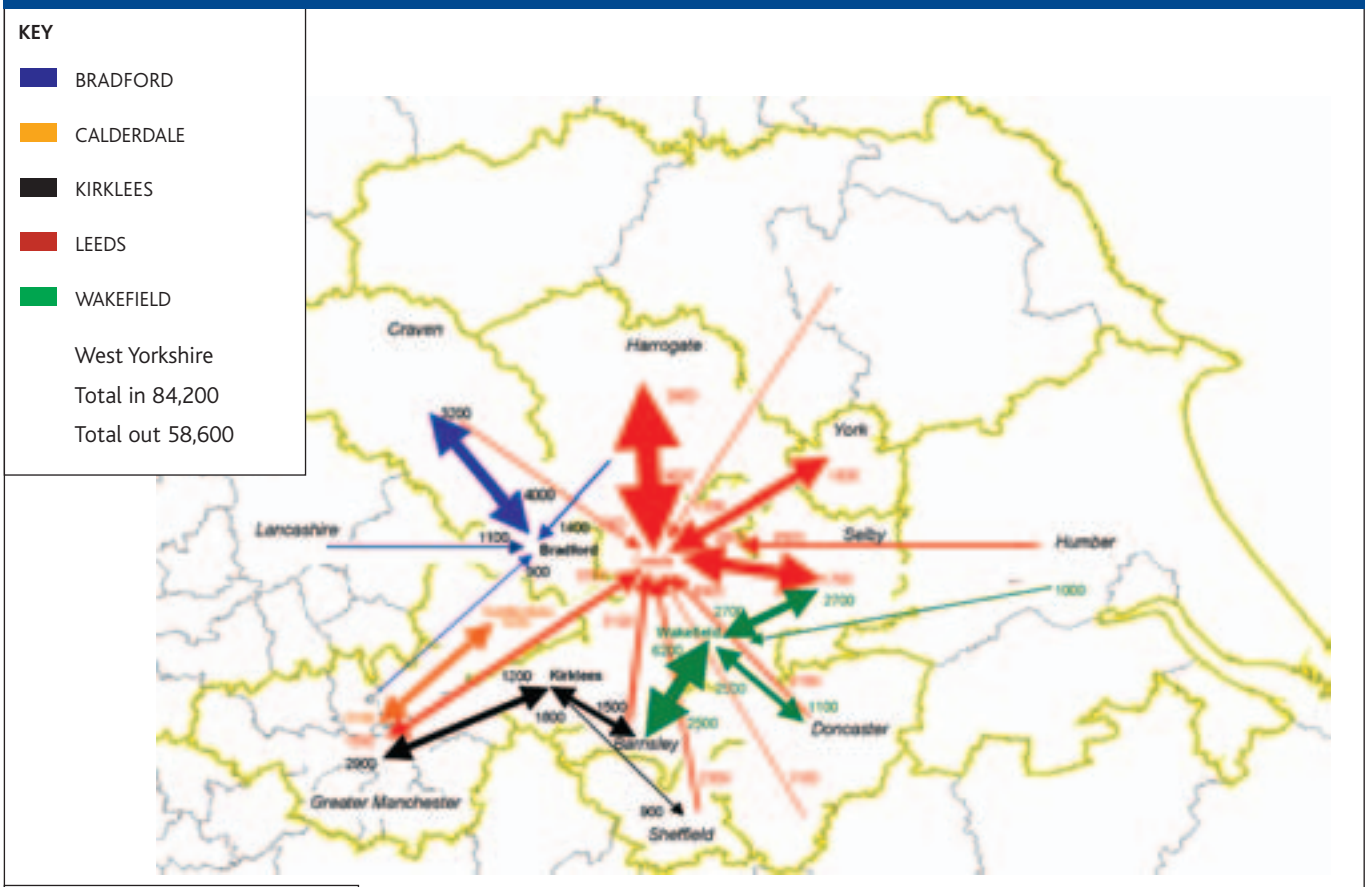
Bus use for short distance trips across the boundaries is more significant, and reflects the journey to work catchments close to the boundary. For example, 7% of trips from Barnsley to Kirklees district, and 6% from Barnsley to Wakefield district are by bus.

A broad assessment indicates that there are also about 10,000 daily commuting trips passing through West Yorkshire of which 84% are by car. The highest proportion (about 25%) are to and from Greater Manchester.

These car movements do not generally create problems directly at the boundaries. Congestion problems can arise when the local and cross boundary movements merge, for example at M1 junction 40, M62 junction 25 and at Wakefield and Huddersfield rail stations.

One of the big challenges in LTP2 will also be to address cross boundary ticketing on public transport, for example through the introduction of an extended MetroCard ticket.

FIGURE 1.3: 2001 CENSUS JOURNEY TO WORK TRIPS IN/OUT OF WEST YORKSHIRE (MOVEMENTS GREATER THAN 1,000 ±10%)



MOVEMENTS WITHIN WEST YORKSHIRE

Journey to work statistics from Census 2001 also show that there are significant movements between districts within West Yorkshire.

Figure 1.4 shows that:

- all districts have a net outflow of commuting with the exception of Leeds which has a significant net inflow
- the highest two way flow is between Leeds and Bradford districts;
- there is a significant amount of commuting to the Leeds district from Wakefield and Kirklees districts; and
- there is a considerable dispersal of flows in/out of Kirklees district to all of the other districts within West Yorkshire.

Trips within the districts are still dominant with over 70% of residents living and working in the same West Yorkshire district.

The main mode for these trips to work is the car. Public transport accounts for between 16% (Kirklees) and 24% of trips (Leeds) of these trips.

Within West Yorkshire there is a wide dispersal of commuting trips which makes the provision of public transport difficult. Traffic monitoring in West Yorkshire shows that car use has been increasing since 1970, with a corresponding reduction in the use of bus, walking and cycling.

The average commuting distance for those working in West Yorkshire has increased by 25% (from 8.1km in 1991 to 10.1km in 2001). Combined with an increase in employment, particularly in Leeds, this has produced a 37% increase in the number of person kilometres travelled (from 6.2 million in 1991 to 8.5 million in 2001), and the trend is set to continue.

The average household car ownership level has increased (from 0.82 cars per household in 1991 to 0.98 in 2001) and is set to rise by over 37% from 2001 to 2021 to 1.3 cars per household.

The proportion of households without a car is reducing.

Despite the high car use, there are a number of inter-district flows where public transport use represents at least 10% of the overall mode share. For example rail use is high (over 75%) for trips into Leeds City Centre from the Bradford district on the Airedale corridor. For bus use the significant movements are:

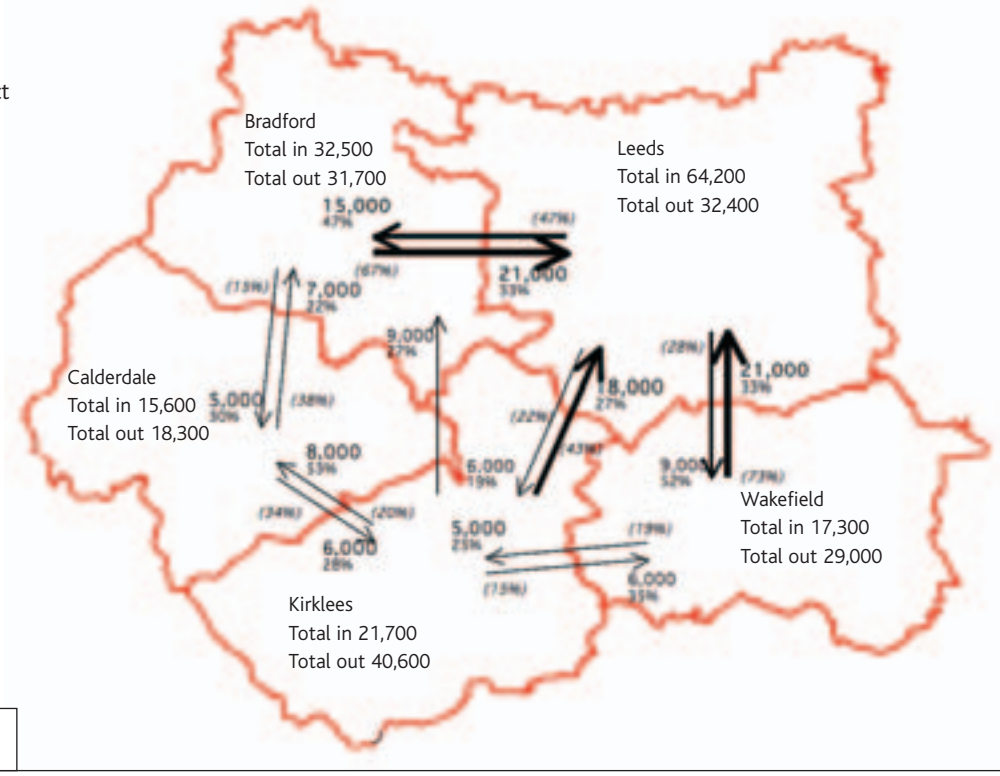
- Bradford to Calderdale 10%;
- between Calderdale and Kirklees 10%; and
- Wakefield to Leeds 11%.

The challenge is to achieve greater public transport use in other locations, enhance the walking and cycling experience and therefore offer realistic alternatives to car travel.

FIGURE 1.4: 2001 CENSUS JOURNEY TO WORK TRIPS BETWEEN THE DISTRICTS IN WEST YORKSHIRE (MOVEMENTS GREATER THAN OR EQUAL TO 5,000)

15% Percentage into district

(15%) Percentage out of district



TRANSPORT IN CONTEXT

The Partnership is committed to contributing to the economic, environmental and social vision outlined in Advancing Together: A vision and strategic framework for the Yorkshire and Humber Region developed by the Yorkshire and Humber Assembly, Yorkshire Forward and Government Office for Yorkshire and the Humber. The vision is to be:

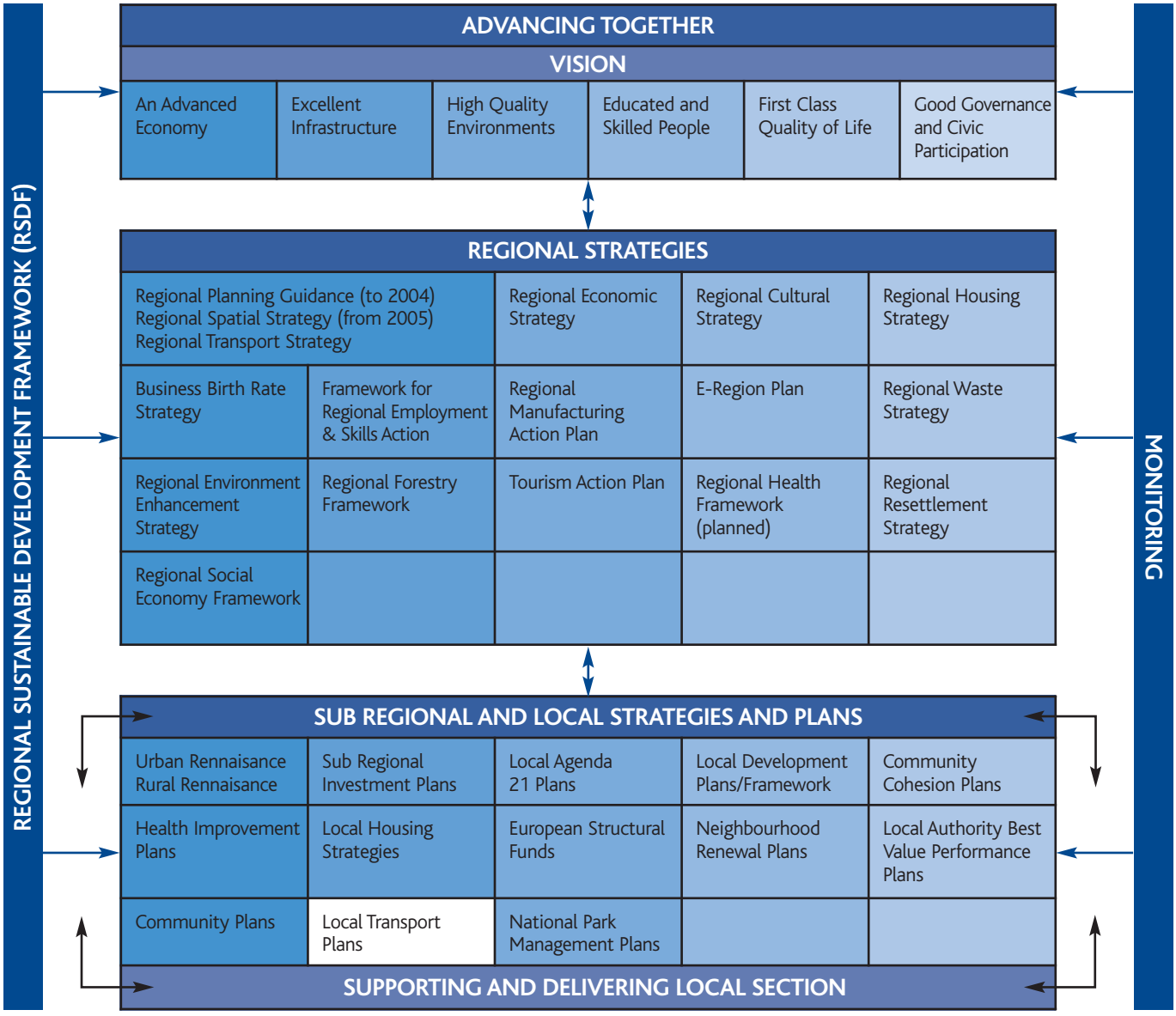
"a recognisably world class and international region where the economic, environmental and social well being of all our region and its people advances rapidly and sustainably."

It is supported by the strategic framework for regional, sub-regional and local strategies and plans shown in Figure 1.5.

LTP2, within the constraints of the funding available, aims to:

- articulate the transport implications of the various strategies and plans;
- cater for the needs of West Yorkshire; and
- support the wider needs of the Leeds City Region and the Northern Way growth strategy, which recognise the economic contribution of West Yorkshire over a wider area.

FIGURE 1.5: LINKS BETWEEN REGIONAL AND LOCAL STRATEGIES AND PLANS



In the following pages, strategic themes in the RSS form a basis for considering wider influences and their implications for transport. These themes are:

- economic regeneration and growth;
- promoting social inclusion;
- urban and rural renaissance; and
- conserving and enhancing natural resources.

ECONOMIC GROWTH AND REGENERATION

CURRENT SITUATION

- 0.9 million people work in West Yorkshire (43% of the region), and around 40% (378,000) of the jobs in West Yorkshire are in Leeds.
- Employment has grown by 8.9% (76,840 from 1991 to 2001), which is similar to the 8.2% growth regionally, and 10.4% growth nationally.
- The highest growth has been in Leeds (16%). The number of people living and working in West Yorkshire has grown with Leeds and Kirklees seeing the largest growth (11% and 10% respectively).
- 2.1 million people live in West Yorkshire (42% of the region), an increase of 3.3% (65,518 from 1991 to 2001) compared to 2.7% regionally and 2.5% nationally.

FUTURE GROWTH

- Trip End Model Presentation Program (TEMPRO) growth forecasts for 2011 and 2016 for employment are lower than the recent past trends (2005 to 2011 of 4% (36,400) and 2005 to 2016 of 7% (73,900) with 50% in Leeds, 30% in Bradford and 17% in Kirklees).
- TEMPRO growth forecasts for 2011 and 2016 for residents are lower than the recent past trends (2005 to 2011 of 1% and 2005 to 2016 of 3%), mostly in Leeds, Bradford and Kirklees.
- Up to 5,000 jobs are forecast in Kirklees in the A62 corridor. Leeds is to provide an additional 50,000 jobs by 2025, with 27,700 jobs by2015, a significant proportion in the Aire Valley.
- 85,000 new homes are proposed between 1998 and 2016 (under review) with a 50% increase in one person households expected by 2016.

SKILLS

- West Yorkshire has four universities (Leeds, Leeds Metropolitan, Bradford, and Huddersfield).
- Levels of poor literacy and numeracy are higher than the regional and England averages.
- Levels of GCSE attainment are lower than the average for England, and similar to the regional average, however there are notable variations within West Yorkshire.
- Over 33% of West Yorkshire's adult population do not have qualifications.
- 63 (50%) of the 126 wards in West Yorkshire are ranked in the poorest 25% nationally for education deprivation.

West Yorkshire has suffered from the decline of traditional industries with substantial job losses in coal mining, steel, engineering and textiles. According to the West Yorkshire Economic Partnership's (WYEP's) 2005 Strategic Economic Assessment the main employment growth in West Yorkshire is forecast to be with large employers such as in the communications and financial services sector, however manufacturing still accounts for over a fifth of employment. Part of the economic growth prospects for the region relies on growth in employment opportunity in and around West Yorkshire, and the strength of West Yorkshire's diversity.

Within West Yorkshire, the RES identifies that Leeds will continue to be a key driver and catalyst for employment growth in the region, building on its current successes. These include:

- a significant growth in the number of people working (16% from 1991 to 2001);
- an unemployment rate lower than the national average;
- the fastest growing UK city outside London;
- the second largest legal and financial centre in England; and
- the fifth largest shopping centre in the UK in terms of floor space.

The role of Leeds as a national core city enables it to support growth, lead the way in creating sustainable growth and revive local economies, ensuring that the urban centres of Bradford, Kirklees, Wakefield and Calderdale districts also benefit.

The outlook for Leeds is for further employment and residential growth, borne out by past trends shown in Figures 1.6 and 1.7, however, Bradford is also identified in the RES as a key driver for employment growth.

Future growth within West Yorkshire will not be restricted to the main urban centres. Within existing regional strategies (RSS and RES) and local policies several other areas have been nominated for regeneration, employment and housing development. These are broadly identified in Figure 1.8 and explored in more detail later in Part 1.

The primary focus for regeneration in the RSS in West Yorkshire is the former coalfield areas to the east and south east of West Yorkshire and around East Leeds in the Aire Valley.

Note: The TEMPRO forecasts shown in Figure 1.6 are indicative only. For example the decline in forecast jobs for Wakefield does not reflect the large developments planned for Castleford and other areas which should offset any declines elsewhere.

FIGURE 1.6: CHANGE IN WORKPLACE POPULATION (PEOPLE WORKING IN WEST YORKSHIRE)

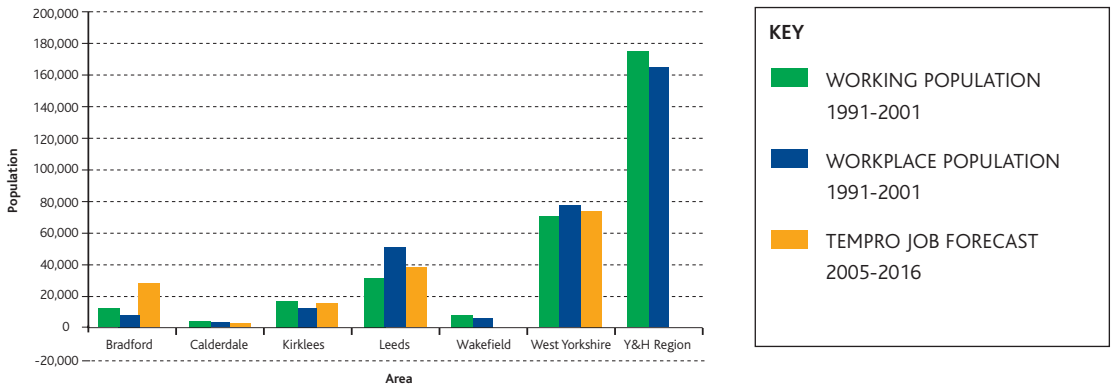
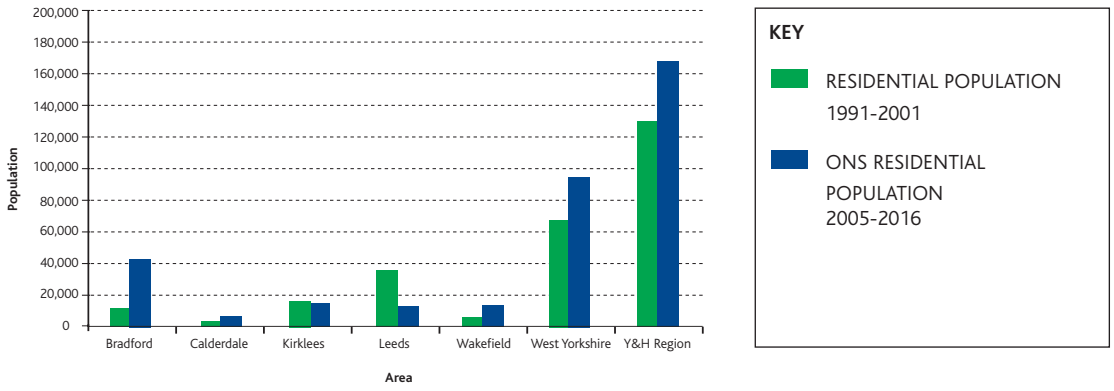


FIGURE 1.7: CHANGE IN RESIDENTIAL POPULATION



Other areas of influence include the core cities of Manchester and Sheffield and others such as Harrogate, Selby, Skipton Doncaster, York and Barnsley (including the Dearne Valley to the north of Barnsley).

The role of the airports is also important with significant growth at the North of England airports identified in the Government's White Paper The Future of Air Transport (and in particular the growth at Manchester Airport, LBIA and Robin Hood Sheffield Doncaster).

The implication of regeneration, economic and residential growth is that the number and distance of trips is likely to increase further, putting greater demands on the local and strategic transport networks.

Changes over time in employment and residential populations are shown in figures 1.9 and 1.10. The implication from this changing relationship is that travel patterns are already complex and may become more so.

FIGURE 1.8: KEY AREAS OF DEVELOPMENT AND REGENERATION

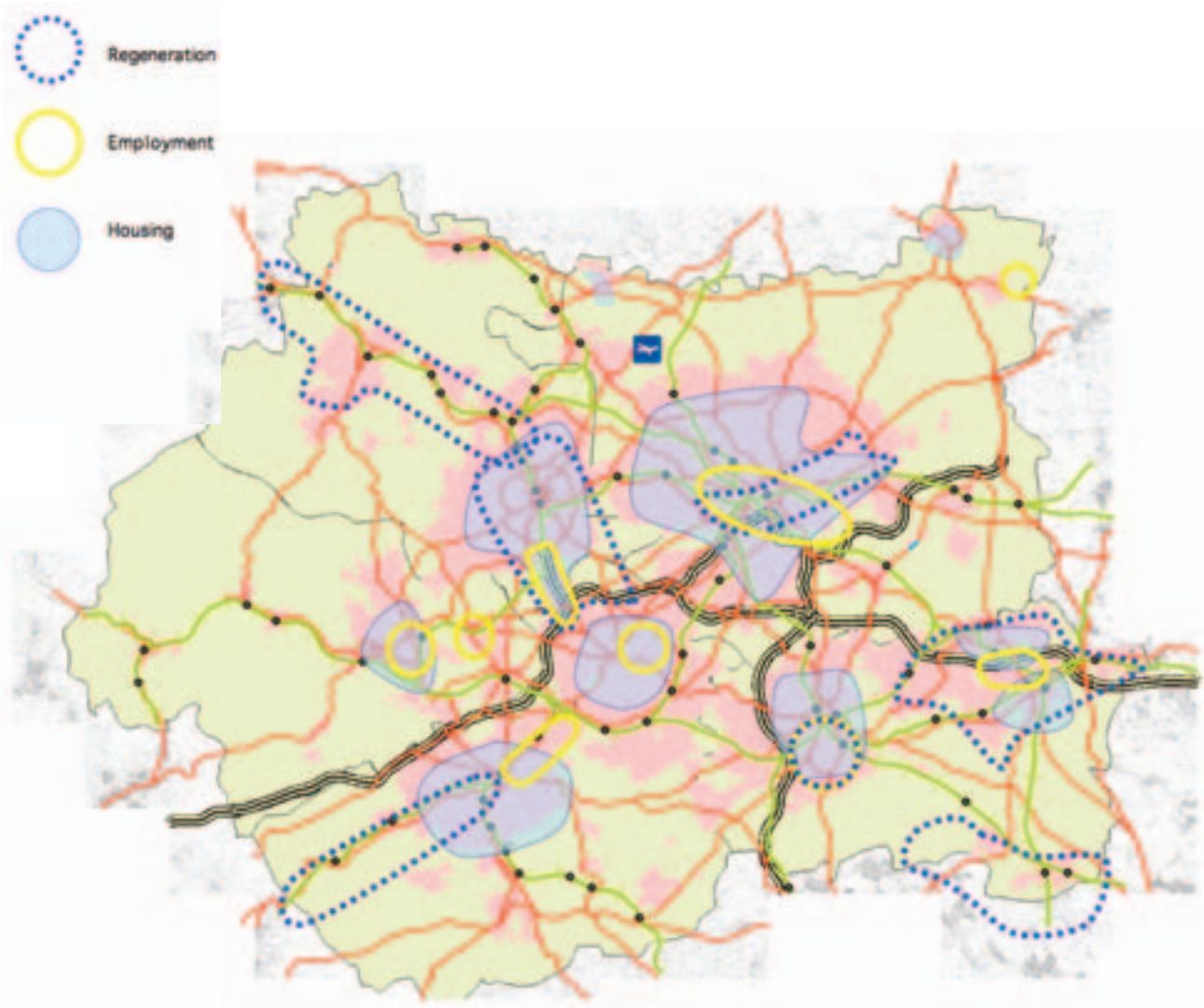


FIGURE 1.9: CHANGE IN NUMBERS OF OCCUPIED JOBS BY WARD BETWEEN 1991 AND 2001

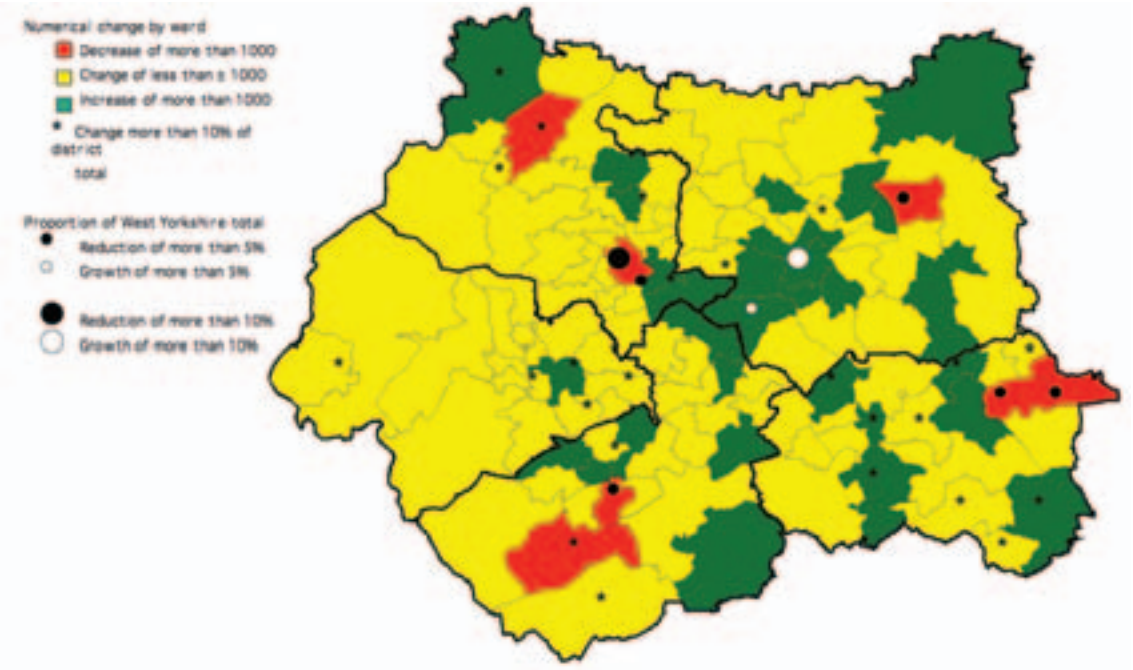
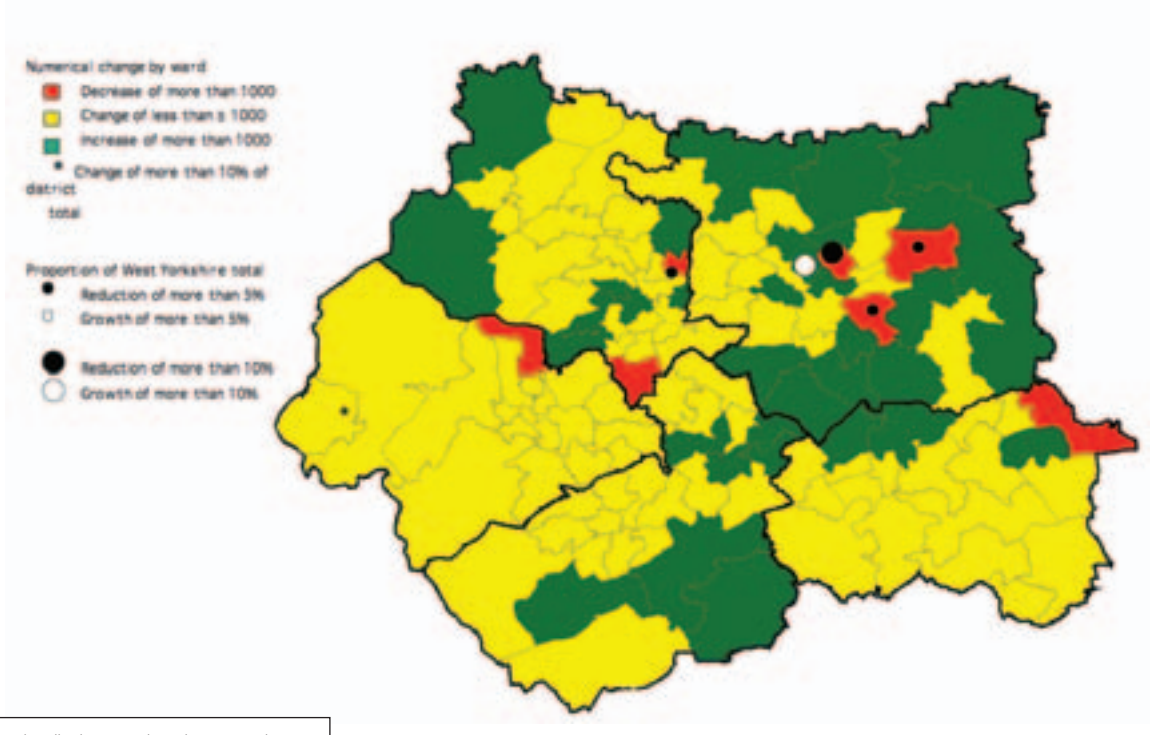


FIGURE 1.10: CHANGE IN RESIDENTIAL POPULATION BY WARD BETWEEN 1991 AND 2001



PROMOTING SOCIAL INCLUSION

CURRENT SITUATION

Deprivation

- Whilst West Yorkshire contains some relatively affluent areas, Table 1.4 identifies that 20% (270) of the 1381 Super Output Areas (SOAs) are in the top 10% of the most deprived in England and 33% (456) are in the top 20%.
- Claritas Lifestyle data identifies 22% of households with children in West Yorkshire as living in poverty (similar to regional figure, higher than Great Britain figure of 19.9%).

Demographics

- 11% of the population in West Yorkshire belong to ethnic minority groups, with a high ethnic proportion in Bradford (22% in 2001).
- West Yorkshire has a similar age profile to that nationally.

Future growth

- TEMPRO forecasts for a 17% increase in the population over 64 years of age between 2011 and 2016.
- The black and ethnic minority population of Bradford is forecast to increase to 35% by 2020 according to the Bradford Corporate Plan.

Within West Yorkshire the factors influencing the level of social inclusion are:

- deprivation;
- affordable housing;
- physical barriers to accessibility (as defined in the Disability Discrimination Act 1995– DDA);
- rural accessibility;
- access to the public transport network; and
- access to key services and facilities.

West Yorkshire has relatively high levels of deprivation, illustrated in Figure 1.11, and an objective has been set in the RES to halve the number of deprived wards in the region.

The key areas identified for regeneration by the district authorities and in the RSS and RES are a mechanism to address deprivation, by ensuring investment, infrastructure provision and environmental improvements are targeted towards these areas.

Community Cohesion is an important part of the shared vision of the West Yorkshire partners. It is recognised that transport has a role in the development and implementation of Community Cohesion strategies by assisting equity of access and outcomes, addressing barriers between communities and addressing concerns about safety and security. There is also a role for transport organisations in their employment and recruitment policies and seeking to ensure that the wider community is reflected in workforces.

Particular implications for transport are the need to ensure accessibility (particularly by public transport) and to manage the road safety risks.

In terms of accessibility, the lack of employment opportunity can contribute to deprivation. Making the Connections: Final Report on Transport and Social Exclusion by the Social Exclusion Unit (SEU) indicates that 38% of job seekers consider transport issues a key barrier to getting a job. As such, effective transport networks are necessary to connect people to economic opportunity and to underpin the sub-regional labour market.

The RES specifically highlights the need to tackle rural access and social exclusion especially through transport services and housing provision. Examples include community led transport solutions and rural transport partnerships.

In terms of safety, there is a general trend for the most deprived wards to have higher casualty rates (see Part 2 for more details). This is reinforced by reference to disadvantaged areas in the road safety strategy.

TABLE 1.3: RANKING OF DEPRIVATION IN SUPER OUTPUT AREAS

	TOTAL SOAS	SOAS IN TOP 10%		SOAS IN TOP 20%	
Yorkshire and Humber Region	3,293	572	17%	976	30%
West Yorkshire	**1,381**	**270**	**20%**	**456**	**33%**
Bradford	307	93	30%	128	42%
Calderdale	129	15	12%	30	23%
Kirklees	260	33	13%	74	28%
Wakefield	209	29	14%	73	35%
Leeds	476	100	21%	151	32%

Note:

The rankings are based on the 'absolute' score of the 2004 Index of Multiple Deprivation, which considers income, employment, health, education and training, housing, and geographical access to services.

The lower the value of the Index, the higher the level of deprivation.

FIGURE 1.11: DISTRIBUTION OF 2004 LEVELS OF DEPRIVATION IN WEST YORKSHIRE

INDEX OF MULTIPLE DEPRIVATION RANK

- 36 - 5000
- 5001 - 10000
- 10001 - 15000
- 15001 - 20000
- 20001 - 25000
- 25001 - 30000
- 30001 - 35000

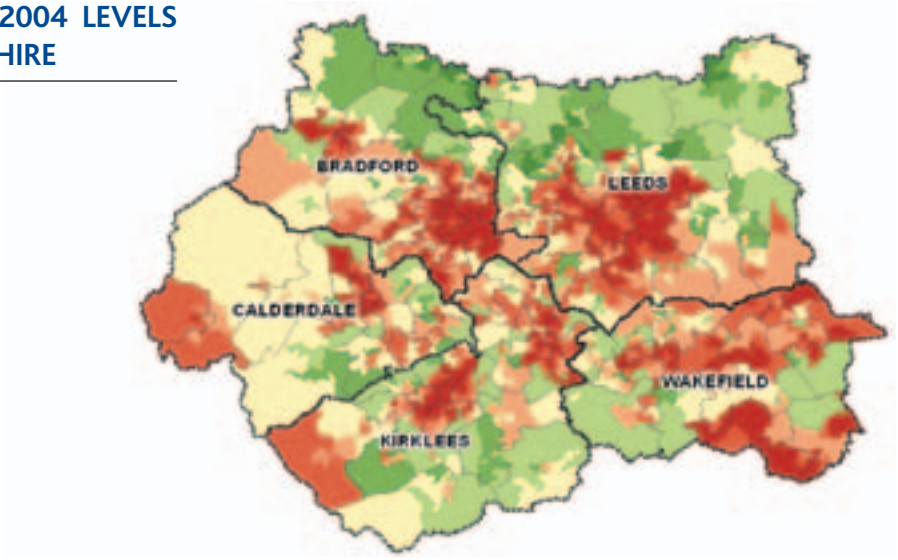


TABLE 1.3: DECEMBER 2004 RSS HOUSING ALLOCATIONS

DISTRICT AUTHORITY	HOUSING ALLOCATIONS 1998 – 2016
Bradford	18,150
Calderdale	7,485
Kirklees	7,455
Leeds	33,855
Wakefield	17,475
Total	**84,420**

Note: These are under review as part of the process of developing the RSS

The Regional Housing Strategy (RHS - within RSS) identifies the need to widen the range of housing opportunities across the region, and the need for a significant proportion of new housing to be affordable housing. The key area for growth in affordable housing identified in the RSS is the high demand areas of Leeds, particularly to the north of the city, which will need to be supported by accessible transport services.

Promoting social inclusion includes addressing the range of barriers to accessibility identified by the SEU, which include requirements related to DDA.

Around 80% of the population lives in defined settlements. While many of these locations are small in scale, the populations in the larger settlements live in a range of urban environments from inner city, suburban to peripheral edge of town estates. The smaller locations are compact and comprise a mix of traditional 'village' housing and edge of centre estates and infill housing. The remaining 20% live in smaller undefined settlements or in isolated dispersed low density areas, which experience the rural accessibility issues mentioned earlier.

The defined urban settlements are well covered by a combination of the rail network and the higher frequency core bus network as shown in Figure 1.12. Whilst the majority of the key areas for future housing development are in the urban areas, accessibility will continue to be an issue for the smaller market towns such as Wetherby and Otley.

While the location of employment opportunities has a great influence on the economic health of West Yorkshire and directly affects the condition of the transport network, particularly at peak times, the location of other facilities has an impact on social conditions.

Figure 1.12 also shows the distribution of some key facilities in relation to the defined settlements and the core bus/rail network. The facilities included are hospitals, supermarkets, doctors and further education.

The figure shows that generally these key facilities are located close to part of the public transport network. These are exceptions, for example, supermarkets and doctors in south Kirklees and the Wharfedale hospital in Otley.

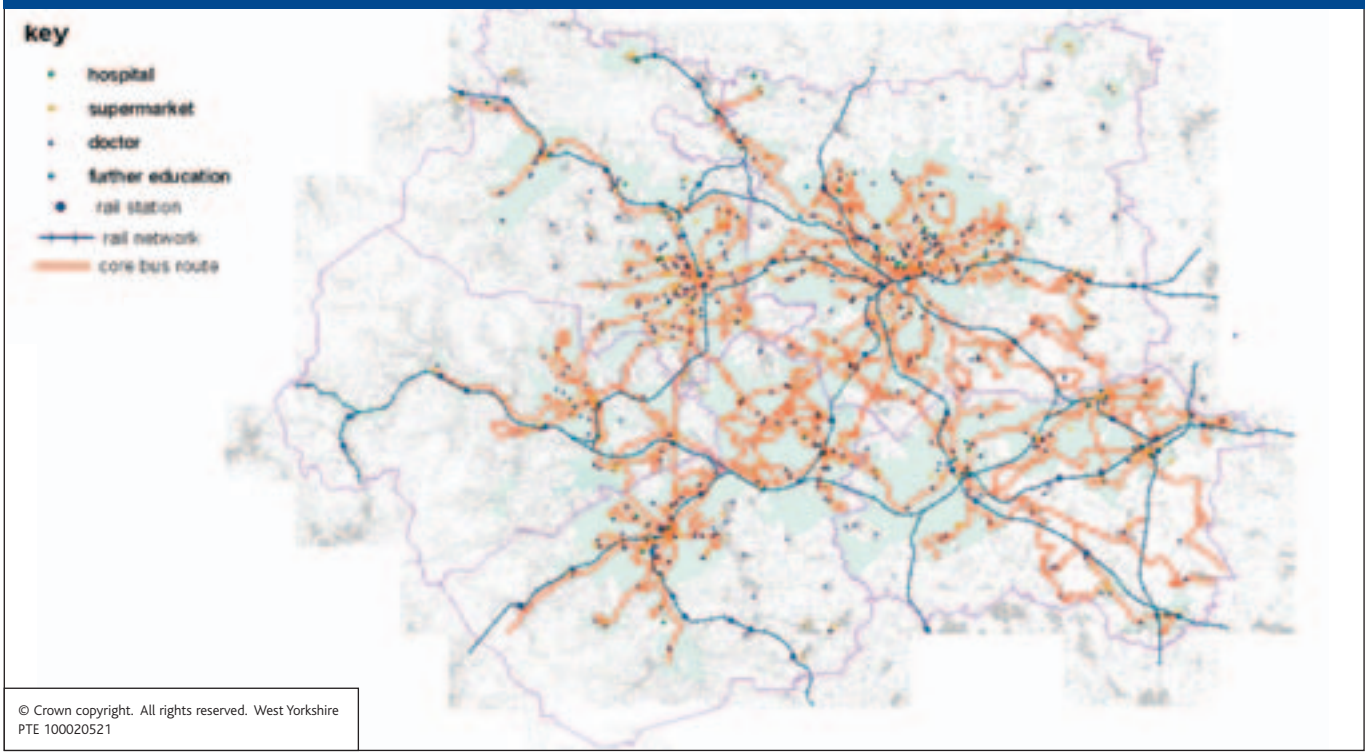
The conclusions to be drawn are that the public transport network provides good coverage which, with additions, could cater for all the defined settlements. It is clear that, with appropriate interchange, there is the opportunity to travel between a wide range of origin and destination points. In addition, future facilities and services need to be located in accessible locations.

The RES identifies the importance of providing transport to education and learning opportunities to ensure communities are connected to job opportunities. Figure 1.12 indicates several further education sites not serviced well by rail or core bus routes.

In summary, to improve social inclusion the Partnership needs to:

- improve accessibility and reduce the road safety risks for deprived areas to assist in reducing the level of deprivation in West Yorkshire and the region;
- ensure accessibility improvements for the rural areas of West Yorkshire; and
- support affordable housing and other facilities with improved public transport accessibility.

FIGURE 1.12: TRANSPORT NETWORK IN RELATION TO URBANISATION AND FACILITIES WITHIN WEST YORKSHIRE



URBAN AND RURAL RENAISSANCE

CURRENT SITUATION

- The RES identifies action for implementation of an urban renaissance led approach to long term strategic planning for West Yorkshire's major towns of:

• Bradford • Halifax • Huddersfield
• Leeds • Wakefield • 'The Five Towns'

- There are also areas nominated within the wider region including Barnsley, Doncaster, Rotherham and Selby.
- RES also supports the renaissance of market towns such those in the Upper Calder Valley in Calderdale.

In the past the growth of settlements has generally occurred linearly along the main river valley transport corridors, at bridging points and cross roads and around specific locations where the land held specific resources for example the coalfields. Later, and since the increase in the availability of the private car, more peripheral settlements have grown up away from the main transport corridors, in between radial corridors and peripherally to the urban centres.

Employment, retail and leisure centres have been developed away from the urban centres where people live, along the motorway network and other high capacity roads, particularly at and around junctions.

It is increasingly being recognised in Unitary Development Plans (UDPs) and emerging Local Development Frameworks (LDFs) that further dispersed developments are not sustainable, in terms of additional traffic generation and accessibility by those without access to cars.

More recently the focus has changed to development within the urban centres, along transport corridors, within larger settlements or peripherally to smaller settlements.

The RSS highlights that one of the aims of the urban and rural renaissance is to counter the dispersal of homes and businesses, so that existing settlements are better places to live, work and invest.

The RES highlights that the urban renaissance programme in the region is driving both social and economic agendas in a co-ordinated way, building capacity locally, instilling confidence to invest and supporting the planning system to deliver sustainable communities through high quality design and community participation.

To assist in urban and rural renaissance, the Partnership needs to:

- support specific urban / rural renaissance projects; and
- better integrate land-use and transport planning so that more of people's ordinary needs for work and services are met in locations close to where they live, and are readily accessible by good quality public transport, cycling or walking. This also means minimising the impact of traffic in urban areas and sensitive rural environments.

CONSERVING AND ENHANCING NATURAL RESOURCES

CURRENT SITUATION

- In 2001, 70% of the journey to work trips made by people working in West Yorkshire were by car
- 13% of West Yorkshire is classified as 'areas of special environmental designation'
- Each district has been set a target of ensuring a high percentage of new housing development is located on previously used or brown-field land

The way people choose to live their lives and travel, influences the rate at which natural resources are consumed.

Past trends in West Yorkshire of high car use (away from major transport corridors), increasing car use and longer distances travelled overall are inconsistent with the RSS theme relating to 'conserving' natural resources. These trends also contribute to worsening air quality, climate change, noise levels, amenity, health and severance.

As well as seeking to mitigate these trends by promoting and improving sustainable transport choices, transport can support other strategies that seek to reduce or minimise the use of natural resources, for example:

- re-use of brown-field sites (RSS requirement);
- location of housing close to public transport corridors with higher densities; and
- using the planning process to ensure that sites are designed around sustainable modes.

According to the WYEP Partnership's 2005 Strategic Economic Assessment the environment of West Yorkshire provides potential for tourism, investment, social well-being and attracting people to the sub-region. In the future, this potentially means more trips to attractions both within and around West Yorkshire, for example the Saltaire World Heritage Site in Bradford, the Peak District National Park or the Yorkshire Dales in North Yorkshire.

We also recognise that access improvements to airports should give priority to public transport to support the conservation of natural resources.

To play its part in conserving natural resources, the Partnership needs to:

- where possible, reduce trips and make them more sustainable; and
- support higher concentrations of development and re-use of land with appropriate infrastructure and services.

ENHANCING QUALITY OF LIFE IN OTHER WAYS

CURRENT SITUATION

Health

- Levels of obesity, weekly alcohol consumption, and blood pressure are higher than the national average in the region.
- Levels of physical activity in the region are amongst the lowest in England.
- Life expectancy is lower than the regional and national levels in some districts.
- Changes in the health sector are resulting in the rationalisation of hospital patient services.

Security

- Levels of crime are above average for the region.
- There is a current fear of crime associated with using the transport network.

Transport improvements in West Yorkshire can contribute towards national priorities for other quality of life areas such as health and crime.

The Regional Public Health Group for Yorkshire and the Humber Our Region, our Health: Consultation Report highlights poor health indicators in the region compared to those nationally. The Government's White Paper Choosing Health: Making Healthier Choices Easier, sets out a number of national health priorities. One of these is to lower levels of obesity. In this case, by supporting walking and cycling, the Partnership can help to promote physical activity and contribute to lower levels of obesity.

Changes in the health sector are resulting in the rationalisation of services. For example, some health services once offered in Pontefract are relocating to Wakefield and Dewsbury. Although this rationalisation may result in more efficient health service delivery, service users may experience increased costs and time accessing these services as a result.

Levels of crime in West Yorkshire are higher compared to the region as a whole. Fear of crime can lead to individuals and communities feeling isolated and socially excluded. Metro's market research shows that fear of crime is a deterrent to travelling by public transport at night. This fear of crime is much greater than the incidence of actual crime.

These and other factors need to be taken into account during the development of our accessibility strategy.

The Partnership will ensure that the links are made between transport and delivery of other government priorities through joint working with other relevant organisations.

LONG TERM TRANSPORT OBJECTIVES

TRANSPORT OBJECTIVES FOR LTP2

Objectives for LTP2 have been developed in the context of the emerging long term vision, but are based on the shared priorities for LTP2 and reflect the likely resources available to the partnership.

A wide ranging process of consultation and information gathering was undertaken to develop the objectives for LTP2. This process is described in Part 2 "Strategies".

The Partnership has established an overall objective for transport together with an objective relating to each of the shared priorities (and the Partnership's fifth priority of effective asset management). The LTP2 objectives support the aspirations outlined in Advancing Together: A vision and strategic framework for West Yorkshire, RES and RSS/RTS. They also support local Community Strategies across West Yorkshire.

The linkages between our Objectives, the Community Vision for West Yorkshire and the RTS objectives are shown in Appendix A.

THE OBJECTIVES ARE:
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.

DELIVERING ACCESSIBILITY
- To improve access to jobs, education and other key services for everyone.

TACKLING CONGESTION
- To reduce delays to the movement of people and goods.

SAFER ROADS
- To improve safety for all highway users.

BETTER AIR QUALITY
- To limit transport emissions of air pollutants, greenhouse gases and noise.

EFFECTIVE ASSET MANAGEMENT
- To improve the condition of the transport infrastructure.

LONG TERM VISION

Our analysis of current transport movements within West Yorkshire and the role of transport in supporting the wider economic, social inclusion and sustainability objectives has led to the development of a long term vision for transport.

As larger transport schemes typically take many years to plan and deliver, it is important to establish a shared vision for the long term. This will provide the framework for successive Local Transport Plans and development work on longer-term schemes.

The vision is evidence based and includes substantial supporting analysis quantifying the future transport challenges and interventions required over the next 25 years.

Extensive consultation on the vision has been undertaken in parallel with consultation on the final LTP. This has included a series of stakeholder workshops including with the WYEP, LSPs, public transport users, businesses, elected members, transport providers, regional bodies and neighbouring authorities.

One of the key issues that emerged during the initial consultation was that the vision needed to be wider than the West Yorkshire administrative area and cover the whole of the City Region.

An initial vision has been produced and this is available at www.wyltp.com. Work is now underway to extend this work to the City Region and further consultation will be undertaken with stakeholders across the City Region. A final version of the vision will be available for submission as part of the City Region Development Programme later in the year.

TRANSPORT INFLUENCES, POLICY DRIVERS AND LINKS TO THE STRATEGY AND PROGRAMME

The influences and policy drivers discussed in the previous section are now considered in more detail.

In Figure 1.13, West Yorkshire has been divided into geographical areas. In Tables 1.5 and 1.6, influences and policy drivers in each area have been referenced to responses in LTP2, either in the form of LTP2 strategy elements, other strategies or LTP2 programme measures, fully described in Part 2 "Strategies" and Part 3 "Strategy Delivery".

There is a limit to what can be achieved within the constraints of the funding available for LTP2. The longer term Vision for transport in West Yorkshire is discussed later in Part 1.

FIGURE 1.13: SPATIAL AREAS OF WEST YORKSHIRE

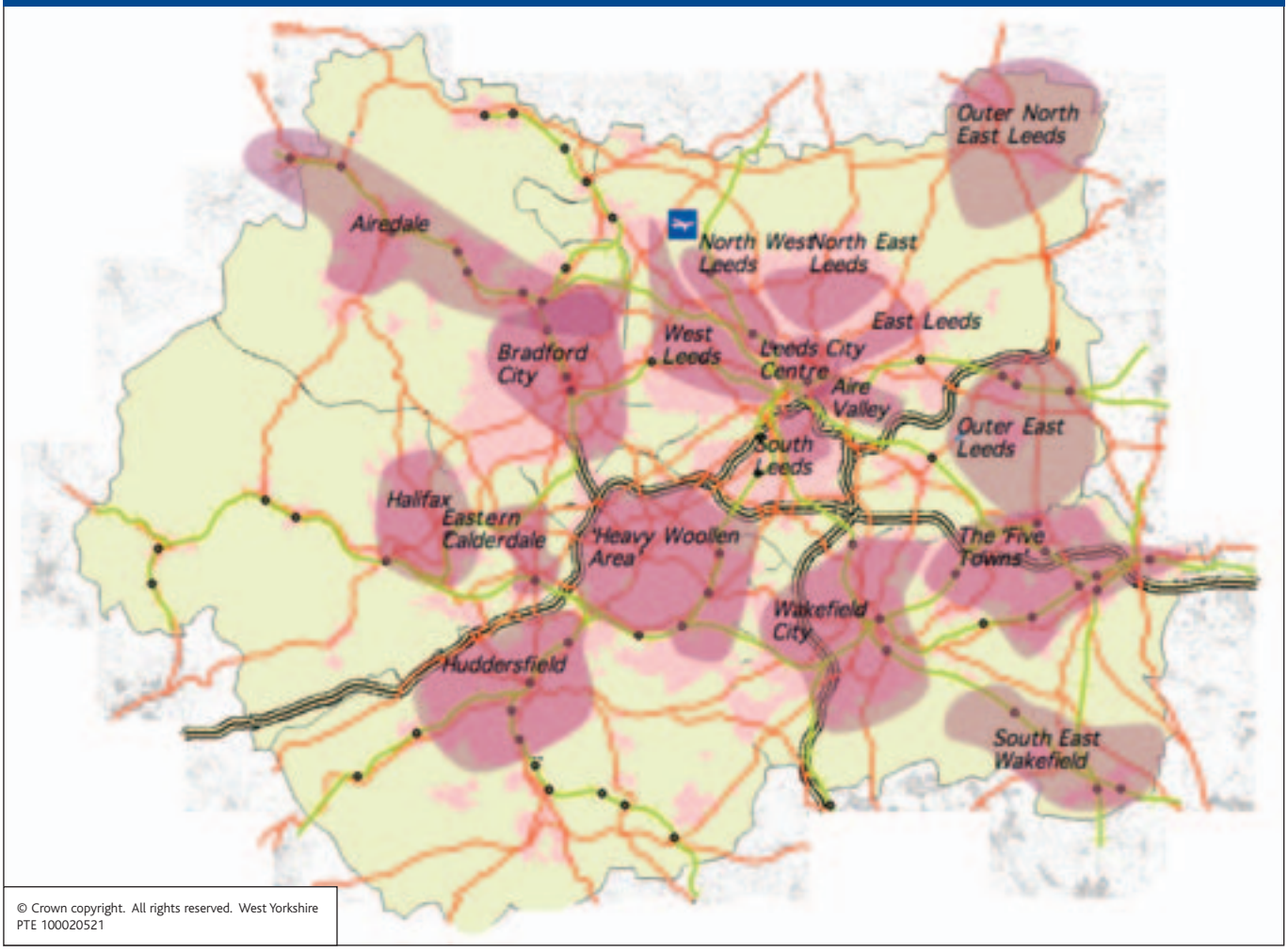


TABLE 1.5. CROSS BOUNDARY, WEST YORKSHIRE WIDE AND LOCAL TRANSPORT IMPLICATIONS WITH LTP2 SOLUTIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSE (PART 2) /OTHER STRATEGY RESPONSE	LTP 2 PROGRAMME ACTION (PART 3)/ OTHER PROGRAMME
WEST YORKSHIRE WIDE	• National Health Service (NHS) Trusts in West Yorkshire are reconfiguring acute services.	• Potential reduction in accessibility to health services	Delivering Accessibility A1,A2,A4,A5,A6,A7 Tackling Congestion C5,C6,C7	• Develop joint action plan with NHS and ongoing Travel planning activity (Appendix C)
	• Reconfiguration of Primary Care Trusts (PCTs)	• Potential reduction in accessibility to health services	Delivering Accessibility A1,A2,A4,A5,A6,A7 Tackling Congestion C5,C6,C7	• Develop joint action plan with NHS and ongoing Travel planning activity (Appendix C) • City Region/Zone 6 Metrocards (Cross Boundary Table 2.12)
CROSS BOUNDARY - NORTH YORKSHIRE	• RES • RSS • Northern Way Growth Strategy • Leeds City Region	• Increased travel by public transport between North and West Yorkshire	Tackling Congestion C1 Leeds City Region Development Plan	• Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Real Time Passenger Information (RTPI) System Development (Capital Programme Table 3.26)
		• Increased demand for car park capacity at boundary stations (e.g. Steeton and Silsden)	Tackling Congestion C1	• Park and Ride at Rail stations (Capital Programme Table 3.26) • City Region/Zone 6 Metrocards (Cross Boundary Table 2.12)
		• Increased car based commuting to/from Leeds and Bradford (particularly from the Harrogate area)	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 Revised Leeds Transport Strategy	• Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Regional Demand Management Strategy (Part 3 Major Schemes) • Developer funded rail station(s) (Part 3 Use of Other Funding) • Yorkshire Forward joint funding package for extra rolling stock (Part 3 Use of Other Funding) • City Region/Zone 6 Metrocards (Cross Boundary Table 2.12)

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSE (PART 2) /OTHER STRATEGY RESPONSE	LTP 2 PROGRAMME ACTION (PART 3)/ OTHER PROGRAMME
CROSS BOUNDARY - SOUTH YORKSHIRE	• RES • RSS • Northern Way Growth Strategy • Leeds and Sheffield City Regions	• Increased travel by public transport between South and West Yorkshire (including better, faster Leeds – Sheffield links)	Tackling Congestion C1 Leeds City Region Development Plan	• Park and Ride at Rail stations (Capital Programme Table 3.26) • Wakefield Westgate Station (Part 3 Major Schemes) • City Region/Zone 6 Metrocards (Cross Boundary Table 2.12)
		• Increased congestion on routes between West Yorkshire and Barnsley and Doncaster	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 Highways Agency Route Management Strategy (HARMS) Leeds City Region Development Plan	• A638 Doncaster Road Quality Bus Corridor (QBC) (Capital Programme Table 3.23) • Cudworth and West Green Bypass Regional Transport Schemes • Regional Demand Management Strategy (Part 3 Major Schemes)
		• Increased demand for travel between Barnsley District and A1	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 HARMS Leeds City Region Development Plan	• Hemsworth A1 Link (Part 3 Major Schemes)
CROSS BOUNDARY - GREATER MANCHESTER	• RES • RSS • Northern Way Growth Strategy • North West RES • North West RSS • Leeds and Manchester City Regions	• Increased travel by public transport between West Yorkshire and Greater Manchester (including capacity Leeds-Huddersfield-Manchester and faster Bradford-Manchester links)	Tackling Congestion C1	• Park and Ride at Rail stations (Capital Programme Table 3.26) • RTPI System Development (Capital Programme Table 3.26) • Operator Funding (TPE rolling stock) (Part 3 Use of Other Funding)
		• Increased car based commuting to/from Greater Manchester and West Yorkshire	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 HARMS	• HA Motorway widening • Operator Funding (TPE rolling stock) (Part 3 Use of Other Funding)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
BRADFORD CITY CENTRE AND SURROUNDING URBAN AREA	• Key employment driver for the region (RES). • Employment growth area (RSS). • Second priority regeneration area (RSS). • Bradford 2020 Vision for strengthening the link between Leeds and Bradford (LSP). • UDP/LDF • Bradford Centre Regeneration Master Plan	• Greater demand for commuter rail capacity on the Airedale and Calderdale Lines	Tackling Congestion C1	• Developer funded rail station(s) (Part 3 Use of Other Funding) Yorkshire Forward joint funding package for extra rolling stock (Part 3 Use of Other Funding)
		• Increased congestion within the inner ring road area.	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF	• Bradford City Centre traffic management (Capital Programme Table 3.7) • Bradford City Centre and West Bradford Integrated Transport Scheme (Part 3 Major Schemes)
		• More congestion on the A6177 Outer Ring Road, particularly at its junctions with radial routes to city centre (including the A647, Manningham Lane, Toller Lane and Tong Street)	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF	• A647 Leeds Road/A6177 Killinghall Rd Junction improvement (Capital Programme Table 3.7) • A650 Tong St bus priority (Capital Programme Table 3.7) • A6177 Queens Road/Bolton Road Junction signalisation (Capital Programme Table 3.7) • A6177 Southfield Lane/Little Horton Lane junction improvement (Capital Programme Table 3.7) • A6177 Sticker Lane/A650/Cutler Heights Lane junction Bonus Funding (Bonus Funding Table 3.30)
		• Increased congestion on the three main highway routes into Leeds from Bradford.	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF Leeds-Bradford connectivity work	• A647Leeds Road/A6177 Killinghall Road junction improvement (Capital Programme Table 3.7) • A658 Harrogate Road/New Line junction improvement (Capital Programme Table 3.7)
		• Additional trips in M606 corridor likely to be by car, due to limited public transport accessibility (e.g. no bus services on the M606 to adjacent areas).	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF	• Other DfT funding (e.g. Kickstart/Challenge Funding) (Part 3 Use of Other Funding) • Operator funding (Part 3 Use of Other Funding) • Developer contributions to public transport (Part 3 Use of Other Funding)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSE (PART 2) /OTHER STRATEGY RESPONSE	LTP 2 PROGRAMME ACTION (PART 3)/ OTHER PROGRAMME
BRADFORD CITY CENTRE AND SURROUNDING URBAN AREA	• £259 million, 16 acre Broadway retail development site. • Manningham Master Plan (Single Regeneration Budget Area) including Listers Mill Redevelopment. • Significant housing location on Thornton Road • M606 corridor - employment growth area and second priority regeneration area (RSS) • Significant housing location sites off A650 Tong Street • Potential relocation of services from St Lukes Hospital to Halifax	• Conflict between local trips, accessing new development, and through movements.	Tackling Congestion C3,4,5,6,7	• Traffic Management/Urban Traffic Management and Control (UTMC) (Capital Programme Table 3.27)
		• Increased congestion on the M606-A6177- A650 and A650, and a further redistribution of traffic from the M606 to A650 due to congestion at the M606/ M62 junction.	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF	• Bradford City Centre and West Bradford Integrated Transport Scheme (Part 3 Major Schemes) • A650 Tong St bus priority (Capital Programme Table 3.7) • A6177 Sticker Lane/A650/Cutler Heights Lane junction Bonus Funding (Bonus Funding Table 3.30)
		• Reduced air quality, particularly for the five 'Areas of Concern' (AOCs) in the city centre.	Air Quality AQ1,AQ2,AQ3,AQ4	• Bradford City Centre traffic management (Capital Programme Table 3.7) • Bradford City Centre and West Bradford Integrated Transport Scheme (Part 3 Major Schemes)
		• Reduced accessibility to health services	Delivering Accessibility A1,A2,A4,A5,A6,A7 Tackling Congestion C1,C6,C7 LDF Tackling Congestion C1,C6,C7 LDF	• Other DfT funding (e.g. Kickstart/Challenge Funding) (Part 3 Use of Other Funding) • Operator funding (Part 3 Use of Other Funding) • Develop joint action plan with NHS and ongoing Travel planning activity (Appendix C)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
AIREDALE	• Employment growth area (RSS). • First priority regeneration area around Keighley (RSS). • The report Airedale Corridors A Masterplan & strategy for Airedale (covering the main towns of Shipley, Bingley, Keighley). • UDP/LDF • Large 6 acre employment site near Shipley • Two large employment sites in Silsden. • Significant housing in Bingley • Saltaire World Heritage site – with a role to attract new investment in the region (WYEP).	• Increased pressure on road and rail capacity in the Aire Valley where the topography concentrates local movements and through movements (for North Yorkshire).	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF	• Airedale Integrated Transport Scheme (Part 3 Major Schemes) • A658 Harrogate Rd/New Line junction improvement (Capital Programme Table 3.8) • Baildon, Shipley and Greengates High Occupancy (HOV) Lanes (Bonus Funding Table 3.30) • Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Developer funded rail station(s) (Part 3 Use of Other Funding)
		• Limited interchange due to severance caused by the A6038 separating the existing bus and rail stations at Shipley.	Delivering Accessibility A1,A6,A7	• Shipley area traffic management (Capital Programme Table 3.8) • Airedale Integrated Transport Scheme (Part 3 Major Schemes)
		• Further congestion in Shipley (on the A650) where capacity is already limited.	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF	• Airedale Integrated Transport Scheme (Part 3 Major Schemes) • Phase 1 Countrywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Shipley area bus priority measures (Capital Programme Table 3.8) • Shipley area traffic management (Capital Programme Table 3.8)
		• Pressure on parking capacity at Steeton and Silsden rail station (on the Airedale line) for demand within West Yorkshire and North Yorkshire	LDF	• City Region/Zone 6 Metrocards (Cross Boundary Table 2.12) • Park and Ride at Rail stations (Capital Programme Table 3.26) • Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes)
		• Further congestion in Keighley where capacity is already limited	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF	• Keighley area bus priority measures (Capital Programme Table 3.8) • Keighley town centre traffic management (Capital Programme Table 3.8) • A6035 Bradford Road/Dalton Lane junction (Bonus Funding Table 3.30)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
RURAL AREAS OF BRADFORD	• Two thirds of the district area is rural. • UDP/LDF • Emphasis to address rural accessibility issues to ensure communities are connected to job opportunities (RES). • Connecting rural areas with opportunities and services traditionally only available in the urban centres.	• Increased car travel across the Worth Valley, due to cross-valley movements not catered for by public transport (e.g. no core bus or rail services).	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 Tackling Congestion C1,C5,C6,C7 LDF	• Other DfT funding (e.g. Kickstart/Challenge Funding, Rural Bus Subsidy Grant) (Part 3 Use of Other Funding) • Operator funding (Part 3 Use of Other Funding) • Yorkshire Forward (Rural Transport Funding) (Part 3 Use of Other Funding)
		• Difficult access to services and jobs from more isolated rural communities (e.g. around Haworth and Oxenhope).	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 Tackling Congestion C1,C5,C6,C7 LDF	• Other DfT funding (e.g. Kickstart/Challenge Funding, Rural Bus Subsidy Grant) (Part 3 Use of Other Funding) • Yorkshire Forward (Rural Transport Funding) (Part 3 Use of Other Funding)
HALIFAX	• Economic and residential growth in Halifax and Sowerby Bridge. • UDP/LDF	• Increased Congestion in and around Halifax and Sowerby Bridge	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 UDP/LDF	• Westgate traffic management and pedestrian facilities (Capital Programme Table 3.9) • Improvements to traffic management system (particularly for pedestrians) (Capital Programme Table 3.9) • Calder Valley Cycle Route (Capital Programme Table 3.11)
		• Contribution to reduced air quality in the two existing air quality AOCs (one in Central Halifax and one in Sowerby Bridge	Air Quality AQ1,AQ2,AQ3,AQ4	• Elements of bus priority, bus infrastructure, cycling, walking and UTMC (Capital Programme Table 3.27)
EASTERN CALDERDALE	• Economic growth between Hipperholme junction on the A58 and Brighouse, and economic and residential growth in Brighouse centre and around Clifton near the M62 (UDP). • UDP/LDF	• Further congestion associated with the Hipperholme junction, the M62 and the town of Brighouse.	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 UDP/LDF	• Elements of bus priority, bus infrastructure, cycling, walking and UTMC (Capital Programme Table 3.27)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
RURAL AREAS OF CALDERDALE	• Emphasis to address rural accessibility issues to ensure communities are connected to job opportunities (RSS) • The existing transport network (in terms of major road, rail and core high frequency bus routes) is confined to the Calder Valley and Ryburn Valley • UDP/LDF	• Limited accessibility for rural settlements not directly along those corridors	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 Tackling Congestion C1 LDF	• Elements of bus priority, bus infrastructure, cycling, walking and UTMC (Capital Programme Table 3.27)
		• Accessibility to core high frequency bus routes along the Calder Valley does not extend west past Hebden Bridge	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 Tackling Congestion C1	• Todmorden District Centre improvements (Capital Programme Table 3.11)
		• An air quality AOC in Hebden Bridge, in the 'narrow' Calder Valley at the junction of the A646 and the A6033 despite a high rail mode share for journey to work trips from Calderdale to Greater Manchester (11.5%)	Tackling Congestion C1,C2,C4,C5,C6 Air Quality AQ1,AQ2,AQ3,AQ4	• Hebden Bridge District Centre improvements (Capital Programme Table 3.11)
HUDDERSFIELD	• Economic Growth of Leeds and Bradford (RES) • UDP/LDF • Huddersfield Renaissance Town • Riverside Development • Main focus for housing development within Kirklees. • Key focus for employment growth (industrial) on A62 Leeds Road – Strategic Economic Zone (SEZ) • Northern Way Growth Strategy • North West RES • Potential relocation of services from Huddersfield Royal Infirmary to Halifax	• Overcrowding on peak time trains	Tackling Congestion C1	• Operator Funding (TPE rolling stock) (Part 3 Use of Other Funding)
		• Increasing congestion on the seven main radial roads and the ring road	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF proposed congestion criteria and developer funded improvements	• A629 Huddersfield to Halifax QBC (Capital Programme Table 3.12) • A62 Huddersfield to Marsden QBC (Capital Programme Table 3.12) • A62 Leeds Road Major Scheme Bid (Part 3 Major Schemes) • Huddersfield – Dewsbury – Leeds QBC (Bonus Funding Table 3.30) • Developer contributions to highway and public transport improvements (Part 3 Use of Other Funding)
		• Accessibility is restricted by the need to interchange	Delivering Accessibility A1,A4,A5,A6,A7 Tackling Congestion C1,C6,C7 LDF proposed accessibility criteria and improvements by developers	• St Georges Square bus/rail interchange (Capital Programme Table 3.12

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
HUDDERSFIELD		• Increasing congestion around junctions and on routes to motorways	HARMS LDF control of developments near motorways plus proposed congestion criteria and developer funded improvements	• HA Motorway Widening • Developer contributions to highway and public transport improvements (Part 3 Use of Other Funding)
		• Reduced air quality, especially as there are a number of potential AOCs.	Air Quality AQ1,AQ2,AQ3,AQ4	• A629 Huddersfield to Halifax QBC (Capital Programme Table 3.12) • A62 Huddersfield to Marsden QBC (Capital Programme Table 3.12) • A62 Leeds Road Major Scheme Bid (Part 3 Major Schemes) • Huddersfield – Dewsbury – Leeds QBC (Bonus Funding Table 3.30)
		• Reduced accessibility to health services	Delivering Accessibility A1,A2,A4,A5,A6,A7 Tackling Congestion C1,C6,C7 LDF	• Develop joint action plan with NHS and ongoing Travel planning activity (Appendix C)
HEAVY WOOLLEN AREA (MAIN TOWNS: DEWSBURY, BATLEY, MIRFIELD, CLECKHEATON, HECKMONDWIKE)	• Employment growth in south Dewsbury, Cleckheaton and elsewhere • Economic Growth of Leeds and Bradford (RES) • UDP/LDF • Increased housing • Regeneration of "Mill Mile" • PCT programme of centralising service delivery in 'super centres' in main towns	• Overcrowding on peak time trains	• Tackling Congestion C1	• Operator Funding (TPE rolling stock) (Part 3 Use of Other Funding)
		• Accessibility restricted and the potential for increased bus patronage limited, by the complex bus network. • Congestion in and around each town centre and radial routes/junctions.	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 Tackling Congestion C1 LDF proposed accessibility criteria and improvements by developers Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF proposed congestion criteria and developer funded improvements	• Structures strengthening and Major Maintenance (Part 3 Major Schemes) • Thornhill to Fieldhead QBC (Capital Programme Table 2.13) • Huddersfield – Dewsbury – Leeds QBC (Capital Programme Table 2.13) • Heckmondwike Town Centre traffic management (Capital Programme Table 2.13) • Calder Valley Greenway (Capital Programme Table 2.13) • Dewsbury to Batley cycle/pedestrian/equestrian route (Capital Programme Table 2.13) • Developer contributions to public transport (Part 3 Use of Other Funding)
		• Reduced accessibility to primary care services	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7 Tackling Congestion C1, C6, C7 LDF	• Develop joint action plan with PCT and ongoing Travel planning activity (Appendix C)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
RURAL SOUTH KIRKLEES	• Colne Valley Objective 2 regeneration area • Yorkshire Forward's Renaissance Market Towns Initiative – Marsden and Slaithwaite • LDF/UDP • North West RES	• Accessibility to services and jobs difficult	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 Tackling Congestion C1 LDF proposed accessibility criteria and improvements by developers	• Fenay Greenway cycling/pedestrian/equestrian facilities (Capital Programme Table 3.14) • Colne Valley Greenway cycling/pedestrian/equestrian facilities (Capital Programme Table 3.14)
		• Increased car use, and the associated impacts	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 South Pennines Integrated Transport Strategy	• A6024 and A635 traffic calming and reduction measures (in support of SPITS) – (Cross-Boundary Table 2.12)
		• Many retaining walls and bridges to maintain	Asset Management M2	• Ottiswell Bridge (Capital Programme Table 3.14) • Structures Strengthening and Major Maintenance (Part 3 Major Schemes)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
LEEDS CITY CENTRE	• Fastest growing UK city outside London. • Key employment growth area for the region (RSS) • UDP/LDF • Growth in housing development and mixed use development in the city centre and surrounding area (e.g. Holbeck Urban Village) • Northern Way Growth Strategy • Leeds City Region	• Greater demand for rail capacity on strategic and local rail network from commuters	Tackling Congestion C1 LDF Revised Leeds Transport Strategy	• Wakefield Westgate Station (Part 3 Major Schemes) • Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Operator Funding (TPE and GNER rolling stock) (Part 3 Use of Other Funding) • Developer funded rail station(s) (Part 3 Use of Other Funding) • Developer contributions (possible additional rolling stock for Hallam and Pontefract Lines) (Part 3 Use of Other Funding) • Yorkshire Forward joint funding package for extra rolling stock (Part 3 Use of Other Funding)
		• Increased congestion on key roads/routes	Tackling Congestion C1,C2,C3,C4,C6,C7 Revised Leeds Transport Strategy LDF TIF	• Dynamic Signing (Capital Programme Table 3.16) • Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Park and Ride at Rail stations (Capital Programme Table 3.26) • Inner Ring Road Stage 7 (Part 3 Major Schemes)
		• Increase in pressure on long stay car parking in city centre	Tackling Congestion C1 Revised Leeds Transport Strategy TIF	• Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes)
		• Increase in pressure on bus services and demand for new services	Tackling Congestion C1 Revised Leeds Transport Strategy TIF	• Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Developer contributions to public transport (Part 3 Use of Other Funding)
		• Increased delay to bus services due to increased congestion	Tackling Congestion C1 Revised Leeds Transport Strategy TIF	• Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes)
		• Increased demand for cycling and walking	Tackling Congestion C5,C6,C7 Delivering Accessibility A1,A2,A7 LCC Cycling and Walking Strategies	• Sheepscar pedestrian routes (Capital Programme Table 3.16)
		• Reduced Air Quality	Air Quality AQ1,AQ2,AQ3,AQ4 Air Quality Action Plans (AQAPs) TIF	• Inner Ring Road Stage 7 (Part 3 Major Schemes)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
AIRE VALLEY LEEDS	• Significant employment site for the region (RSS) • UDP/LDF • Focus on local employment as a priority • 29,000 jobs and 1,000 to 2,700 housing units (2016+)	• Increased demand for travel/new trip patterns	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 Tackling Congestion C1,C2,C3,C4,C5,C6,C7 Aire Valley Transport Strategy Revised Leeds Transport Strategy LDF	• East Leeds Link Road (Part 3 Major Schemes)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
EAST LEEDS	• UDP/LDF • Key area for growth in housing and employment • East and South East Leeds (EASEL) Area Action Plan (15-20 year programme) providing additional housing and employment • East Leeds Extension (anticipated to start in 2011 subject to the UDP Review Inspector's Report) providing additional housing and employment land at Manston Lane • Housing and employment planned as part of the Allerton Bywater Millennium Village development on the A656 • Swarcliffe Private Finance Initiative (PFI) to the south east of the A64/A6120 junction providing more housing and a neighbourhood shopping centre • Expansion of Thorpe Park off the M1	• Increase in pressure on local roads and strategic highway network	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF Revised Leeds Transport Strategy HARMS	• Halton, Harehills and Seacroft 20mph zone (Capital Programme Table 3.17) • Harehills traffic calming (Capital Programme Table 3.17) • Greenways e.g. Colton to Wetherby (Bonus Funding Table 3.30) • East Leeds Link Road (Part 3 Major Schemes) • Inner Ring Road Stage 7 (Part 3 Major Schemes) • Other DfT funding (e.g. Kickstart/Challenge Funding, Rural Bus Subsidy Grant) (Part 3 Use of Other Funding) • Operator funding (Part 3 Use of Other Funding) • Developer contributions to public transport (Part 3 Use of Other Funding)
		• Need for connectivity with Aire Valley	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 LDF Aire Valley Transport Strategy	• Greenways e.g. Colton to Wetherby (Bonus Funding Table 3.30) • Inner Ring Road Stage 7 (Part 3 Major Schemes) • East Leeds Link Road (Part 3 Major Schemes) • Other DfT funding (e.g. Kickstart/Challenge Funding, Rural Bus Subsidy Grant) (Part 3 Use of Other Funding) • Operator funding (Part 3 Use of Other Funding) • Developer contributions to public transport (Part 3 Use of Other Funding)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
NORTH EAST LEEDS	• Economic Growth of Leeds (RES) • Northern Way Growth Strategy • UDP/LDF infill housing	• Increased pressure on local roads e.g. A61 and subsequent increase in congestion	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF Revised Leeds Transport Strategy	• A61 QBC Stonegate Road junction and King Lane (Capital Programme Table 3.19) • Meanwood Road Bus Priority Measure (Capital Programme Table 3.19)
		• Increased pressure on A6120 Leeds Outer Ring Road	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF Revised Leeds Transport Strategy	• A6120 Leeds Outer Ring Road (initial measures scheme) (Part 3 Major Schemes)
		• Increased pressure on public transport e.g. further pressure on the Harrogate Line	Tackling Congestion C1,C2,C3 LDF Revised Leeds Transport Strategy Harrogate Line Study	• A61 QBC Stonegate Road junction and King Lane (Capital Programme Table 3.19) • Roundhay Road HOV (Capital Programme Table 3.19) • Chapeltown Road bus lane (Capital Programme Table 3.19) • Yorkshire Forward joint funding package for extra rolling stock (Part 3 Use of Other Funding) • Operator funding (Part 3 Use of Other Funding) • Developer contributions to public transport (Part 3 Use of Other Funding)
		• Impact on strategic network and local roads e.g. A58	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8 Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF Revised Leeds Transport Strategy	• Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Other DfT funding (e.g. Kickstart/Challenge Funding, Rural Bus Subsidy Grant) (Part 3 Use of Other Funding) • Operator funding (Part 3 Use of Other Funding) • Developer contributions to public transport (Part 3 Use of Other Funding)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
NORTH WEST LEEDS	• Economic Growth of Leeds (RES) • Northern Way Growth Strategy • UDP/LDF infill housing • Potential housing (not yet approved) at Woodside Quarry Horsforth • LBIA	• Potential increase in traffic on A65 and other local roads and subsequent increase in congestion	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF Revised Leeds Transport Strategy	• Burley Road Bus Priority (Capital Programme Table 3.20) • Abbey Road Bus Priority (Capital Programme Table 3.20) • Yeadon – Guiseley Walking and Cycle route (Capital Programme Table 3.20) • Leeds A65 QBC (Part 3 Major Schemes) • A660 Maple Grange to Otley widening (Bonus Funding Table 3.30) • Developer funded rail station(s) (Part 3 Use of Other Funding)
		• Increase in pressure on public transport e.g. further pressure on the Harrogate Line	Tackling Congestion C1 LDF Revised Leeds Transport Strategy	• Leeds A65 QBC (Part 3 Major Schemes) • Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Yorkshire Forward joint funding package for extra rolling stock (Part 3 Use of Other Funding) • Developer funded rail station(s) (Part 3 Use of Other Funding)
		• Adequacy of public transport and road links to LBIA	Tackling Congestion C1 LBIA Masterplan Revised Leeds Transport Strategy	• A6120 Leeds Outer Ring Road (initial measures scheme) (Part 3 Major Schemes)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
WEST LEEDS	• Economic Growth of Leeds (RES) • Northern Way Growth Strategy • UDP/LDF infill housing • Significant housing development • Kirkstall Forge along the A65 (not in UDP) • Highroyds at Menston (in UDP as a major development site in the Green Belt) • Potential increase in employment as part of West Leeds Regeneration	• Potential increase in traffic on A65, A6120 Leeds Outer Ring Road and other local roads and subsequent increase in congestion	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF Revised Leeds Transport Strategy Leeds-Bradford connectivity work	• "West Leeds Schemes" A647 QBC (Capital Programme Table 3.21) • Pudsey Bus Station (Capital Programme Table 3.21) • Armley Pedestrian Scheme (Capital Programme Table 3.21) • A6120 Leeds Outer Ring Road (initial measures scheme) (Part 3 Major Schemes) • Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes) • Yorkshire Forward joint funding package for extra rolling stock (Part 3 Use of Other Funding) • Developer funded rail station(s) (Part 3 Use of Other Funding)
		• Increase in pressure on bus services	Tackling Congestion C1 LDF Revised Leeds Transport Strategy Leeds-Bradford connectivity work	• A647 QBC (Capital Programme Table 3.21) • "Metro Schemes" Pudsey Bus Station (Capital Programme Table 3.26) • Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes)
		• Increase in pressure on rail services e.g. further pressure on the Harrogate Line and Wharfedale Line	Tackling Congestion C1 LDF Revised Leeds Transport Strategy Leeds-Bradford connectivity work	• Yorkshire Forward joint funding package for extra rolling stock (Part 3 Use of Other Funding) • Developer funded rail station(s) (Part 3 Use of Other Funding)
SOUTH LEEDS	• UDP/LDF • Significant housing and employment at Sharp Lane, north west of the M1/M62 • Beeston Hill and Holbeck Land Use Framework	• Potential increase in traffic on A653 and other local roads	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 Revised Leeds Transport Strategy LDF	• A63 Dewsbury Road Bus Priority (Capital Programme Table 3.22) • Phase 1 Countywide Park and Ride Delivery Programme (Part 3 Major Schemes)

TABLE 1.6: AREA SPECIFIC TRANSPORT IMPLICATIONS

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
WAKEFIELD CITY	• Economic Growth of Leeds and Bradford (RES) • Major city centre developments will be realised during life of LTP2 • Priority for regeneration (RSS) • UDP/LDF • Key focus for employment growth • Northern Way • North West RES	• More congestion on radial routes	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 LDF	• Wakefield Westgate Station (Part 3 Major Schemes) • A61 North Wakefield Gyratory System/Wakefield Inner Ring Road (Part 3 Major Schemes) • A638 Doncaster Road QBC (Capital Programme Table 3.23) • A642 Horbury Road busways/bus lanes (Capital Programme Table 3.23) • A636 Denby Dale Road HOV lanes (Capital Programme Table 3.23) • Kirkgate Bus Gate (Capital Programme Table 3.23) • Ings Road/Westgate junction improvements (Capital Programme Table 3.23) • Phase 1 Countrywide Park and Ride Delivery Programme (Part 3 Major Schemes)
		• Poor cyclist and pedestrian accessibility within the city centre and to/from hinterland	Delivering Accessibility A1,A2,A3,A7,A8 Tackling Congestion C5,C6,C7 Safer Roads S1,S2,S3,S4,S5 Asset Management M1,M3,M4,M7,M8 Components of the Rights of Way Improvement Plan (ROWIP) LDF	• Wakefield Westgate Station (Part 3 Major Schemes) • Ings Road/Denby Dale Road local safety scheme (Capital Programme Table 3.23) • Wakefield sub-urban area local safety scheme (Capital Programme Table 3.23) • Wood Street pedestrianisation (Capital Programme Table 3.23) • "Action Plan <£200k" Various cycle schemes proposed to provide a network of routes, serving new employment sites, education facilities and retail centres (Capital Programme Table 3.27)
		• Reduced air quality at AOCs on Doncaster Road and other corridors	Tackling Congestion C1,C2,C3,C4,C5,C6,C7 Air Quality AQ1,AQ2,AQ3,AQ4	• Combination of several of the actions listed above

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
THE 'FIVE TOWNS', WAKEFIELD	• Urban and rural renaissance (RSS) • Priority for regeneration (RSS) • Economic growth of Leeds (RES) • UDP/LDF • Substantial housing allocations may be released • Key focus for employment growth in Castleford and Pontefract • Reorganisation of hospital services on Pinderfields hospital in Wakefield city • Northern Way	• Greater demand for commuter rail capacity on the Hallam and Pontefract lines	Tackling Congestion C1 LDF	• Developer contributions (possible additional rolling stock for Hallam and Pontefract Lines) (Part 3 Use of Other Funding) • Castleford Town Centre Scheme (including the Interchange) (Part 3 Major Schemes)
		• Increased demand for road travel and corresponding congestion	Tackling Congestion C1,C2,C3,C4,C5,C6,	• Glasshoughton Coalfields Link Road (Part 3 Major Schemes) • Various cycle schemes proposed to provide a network of routes, serving new employment sites, education facilities and retail centres (Capital Programme Table 3.27)
		• Increased congestion at Town End junction at Pontefract (A645; A639)	Tackling Congestion C1,C2,C3,C4,C5,C6,C7	• Schemes" Jubilee Way local safety scheme (Capital Programme Table 3.24)
		• Employment sites need to be accessible	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8	• Other DfT funding (e.g. Kickstart/Challenge Funding, Rural Bus Subsidy Grant) (Part 3 Use of Other Funding) • Operator funding (Part 3 Use of Other Funding) • Developer contributions to public transport (Part 3 Use of Other Funding)
		• Access to health facilities	Delivering Accessibility A1,A2,A3,A4,A5,A6,A7,A8	• Other DfT funding (e.g. Kickstart/Challenge Funding, Rural Bus Subsidy Grant) (Part 3 Use of Other Funding) • Operator funding (Part 3 Use of Other Funding) • Developer contributions to public transport (Part 3 Use of Other Funding)
		• Reduced air quality, particularly at the existing AOCs at Pontefract, Castleford and Knottingley	Air Quality AQ1,AQ2,AQ3,AQ4 AQAP Tackling Congestion C1,C2,C3,C4,C5,C6,C7 HARMS	• Difficult to address at a district level. HA to address through M62 widening and 'integrated' measures at junctions • Glasshoughton Coalfields Link Road and Castleford Interchange (Part 3 Major Schemes) will mitigate some of the AQ problems

AREA	INFLUENCE /POLICY DRIVER	TRANSPORT IMPLICATION	LTP2 STRATEGY RESPONSES	LTP 2 PROGRAMME ACTION
SOUTH EAST WAKEFIELD	• Economic growth of Leeds (RES) • Priority for Regeneration • Focus for employment growth in South Elmsall and South Kirkby • UDP/LDF	• Capacity issues on peak time rail services • Increased demand for use of railway stations	Tackling Congestion C1	• Operator Investment (GNER) (Part 3 Use of Other Funding) • Wakefield Westgate Station - may permit additional local services to operate (Part 3 Major Schemes)
		• Options for accessibility improvements need to be assessed	Tackling Congestion C1,C2,C3,C4,C5,C6,C7	• Hemsworth – A1 Link Road (Part 3 Major Schemes) • Various cycle schemes proposed to provide a network of routes, serving new employment sites, education facilities and retail centres (Capital Programme Table 3.27)

INTRODUCTION

Part 2 describes how the LTP2 objectives and core strategy were developed.

Particular issues and individual strategy elements are then described using the DfT's "shared priorities for transport" as a framework, including:

- Delivering Accessibility;
- Tackling Congestion;
- Safer Roads;
- Air Quality and Vehicle Emissions.

Three further sections cover the important local transport priorities of:

- Effective Asset Management
- Quality of Life; and
- Regional and Cross Boundary Issues.

Each of the main sections is presented according to the following topic headings, with more information where required:

- The challenge;
- Where we are now;
- Where we want to be;
- What we are going to do in LTP2.

Part 2 includes examples of how the development of LTP2 has and will continue to influence other strategies.

DEVELOPMENT OF THE OBJECTIVES AND THE CORE STRATEGY

A wide ranging process of consultation and information gathering was undertaken to develop the objectives for LTP2. A further stage was to evaluate the extent to which alternative core strategies fulfilled the objectives.

The process of information gathering leading to the selection of the objectives can be summarised as follows:

- consultation with the public, within each of the district authorities and Metro, with neighbouring local authorities, stakeholders, other service providers and public transport operators. Distinct choices were offered to the public and respondents were encouraged to make a realistic choice; and
- consideration of the wider context, policy drivers, transport implications, existing information sources and forecasts referred to in Part 1 "The Wider Context".

The extent to which alternative core strategies fulfilled the objectives was evaluated by:

- The use of a Strategic Transport Model (STM) for West Yorkshire to model transport outcomes from different LTP2 core strategy scenarios, taking into account economic growth impacts referred to in Part 1 "The Wider Context".
- Likely environmental outcomes of the scenarios modelled in the STM, with reference to the Strategic Environmental Assessment (SEA) scoping report.
- Alignment with consultation results.

Figure 2.1 shows the process leading to the selection of the objectives and core strategy.

FIGURE 2.1 DEVELOPMENT OF THE OBJECTIVES AND SELECTION OF THE CORE STRATEGY

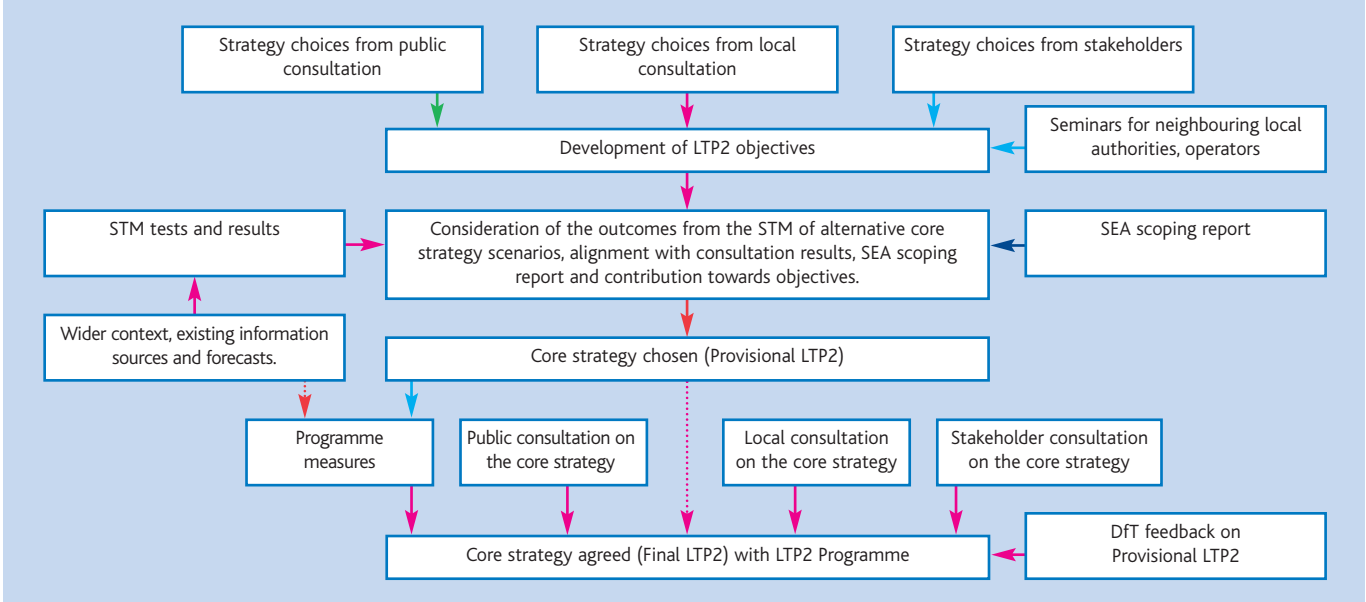
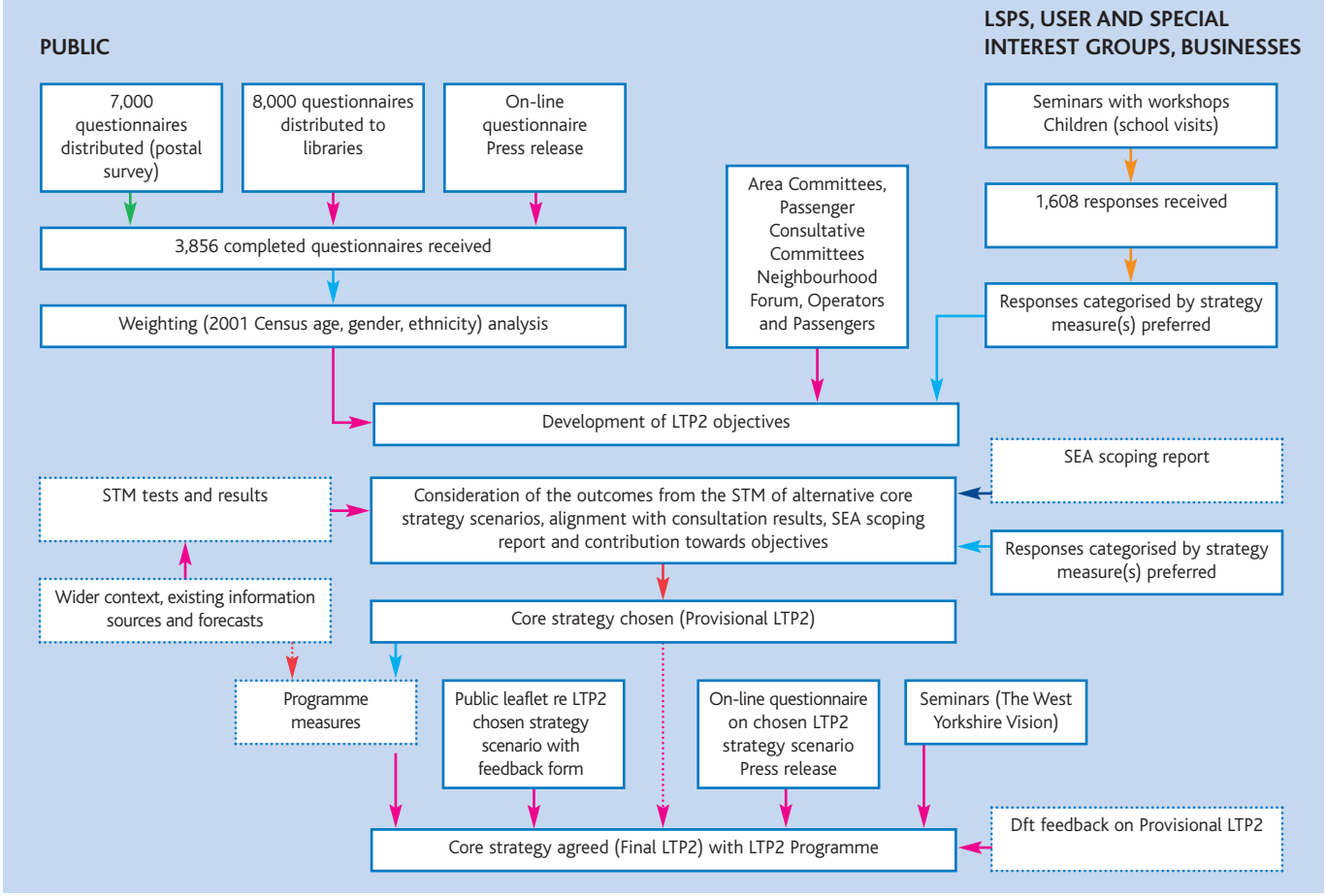


FIGURE 2.2 THE CONSULTATION PROCESS



CONSULTATION

Consultation for LTP2 included the public, LSPs, the WYEP, user and interest groups, children, a sample of businesses, passenger and area committees. Around 4,000 responses were received from the public alone. Each issue or policy preference was quantified, enabling the Partnership to rank these in order of preference. The consultation exercise included:

- workshops with all five LSPs, user and special interest groups, the WYEP and other key partners, including transport and infrastructure operators;
- internal consultation within authorities including, Area Committees and services covering land use planning, economic development environment and education;
- a questionnaire mail-out and internet based questionnaire to engage the general public; and
- public transport passengers.

The consultation process is shown in full in Figure 2.2. An extract of the results of public and stakeholder consultation is provided in Appendix N.

A quantified approach to consultation allowed the importance of different issues and preferences to be expressed clearly. In summary, the public's top three local transport problems (in order of magnitude) were:

- congestion;
- long travel times; and
- the state of the roads/cycle lanes and pavements.

The public's views on issues, together with the other consultation and information sources enabled appropriate LTP2 objectives to be formulated.

The public's top three strategy choices for improving local transport were:

- reducing congestion;
- better bus services; and
- lower public transport fares and easier ticketing.

Pricing as a means of managing demand, and thus congestion, was offered as a potential strategy choice, but was not widely supported despite an over arching concern about congestion.

EXISTING INFORMATION SOURCES AND FORECASTS

A wide range of information sources were used to update our understanding of local transport issues. This information was later used to develop sub-objectives and individual strategy elements following on from the core strategy.

Sources used included:

- experience of the types of measures that have proved to be most successful at achieving specific outcomes;
- the use of forecasts of future housing development and economic growth;
- Metro's market research programme;
- the use of working groups with representatives from the Partnership to consider particular issues;
- data on casualty statistics, road safety audits, air quality monitoring information, market research data, speed data from ITIS Holdings Plc, National Census data, and data from the Civil Aviation Authority;
- outputs obtained from Metro's Bus Model (SimBus), Metro's Public Transport Accessibility Model (PTAM) and Accession (DfT's accessibility model);
- the SEA; and 2005 Strategic Economic Assessment
- cross-boundary issues identified with adjoining local authorities.

USE OF THE STM

The West Yorkshire STM was used to forecast the outcomes arising from a number of potential core strategy scenarios (Table 2.1). The STM takes into account forecast future changes in population, car ownership, employment, fuel prices and growth in households. These factors were applied globally or zonally where appropriate.

Each scenario represented a different combination of capital schemes and policy approaches potentially deliverable through LTP2. The available outputs from the STM were used as 'proxies' to enable an assessment of performance against the preferred choices identified in consultation.

TRANSPORT OUTCOMES

Strengths and weaknesses of each of the core strategy scenarios in relation to the objectives were examined by comparing the following outcomes:

- changes in modal share;
- traffic flows across major town and city cordons;
- overall vehicle km travelled; and
- estimates of emissions of Nitrogen Oxides (NOx,), Particulate Matter (PM_{10}) and Carbon Dioxide (CO_2)

Outcomes of the alternative core strategy scenarios are summarised in Table 2.2 and a summary of findings set out below.

- Large reductions in car use into Leeds were experienced in scenarios where significant demand management measures were coupled with high public transport investment. Other scenarios showed an increase or comparatively modest reductions.

- Spatially the highest shifts to bus were experienced in Wakefield and Halifax.
- Trips into defined cordons continued to rise in all scenarios. The highest increases were experienced in scenarios where public transport investment was highest. New trips were predominantly by bus although in car orientated scenarios this trend was car based.
- The impact on rail mode share was minimal across all scenarios. This reflects limited rail interventions in the STM. This also reflects limited LTP2 investment and influence.
- The benefits of a Leeds based cordon charge appeared to be very localised.
- Emissions outputs showed across the board improvement. A cordon charge in Leeds however assisted in improving emissions to a greater degree than other scenarios. CO_2 levels were most affected.
- Where public transport interventions were made traffic speed improvements were experienced in key centres. This improvement is enhanced by significant demand management measures in Leeds.

The outcomes from the alternative core strategy scenarios are set out in Table 2.2.

TABLE 2.1: SCENARIOS TESTED USING THE STM

CORE STRATEGY SCENARIO	DESCRIPTION
Scenario 1 'Do-minimum'	■ Assumes no real intervention from Partners to 2011 ■ Assumes some market led increase in bus and rail fares, bus service quality and parking charges. ■ This option was used as a baseline to measure the effects of the 'do-something' strategy options against
Scenario 2 High public transport investment with high level demand management measure	■ Improved bus speeds on all radials into key centres ■ Low growth in bus fares ■ Investment in bus quality ■ Improved bus frequency ■ Investment in 6 new rail stations ■ Improvements on six rail routes into Leeds ■ Work Place Parking charges in all key centres ■ Cordon charge in Leeds
Scenario 3 High public transport investment with high level of parking charge increases	■ Improved bus speeds on all radials into key centres ■ Low growth in bus fares ■ Investment in bus quality ■ Improved bus frequency ■ Investment in 6 new rail stations ■ Improvements on six rail routes into Leeds ■ Double parking charges between 2006 and 2011
Scenario 4 High public transport investment with medium level parking charge increase	■ Improved bus speeds on all radials into key centres ■ Low growth in bus fares ■ Investment in bus quality ■ Improved bus frequency ■ Investment in 6 new rail stations ■ Improvements on six rail routes into Leeds ■ Increase parking charges between 2006 and 2011 by 50%
Scenario 5 Low public transport investment with low level demand management measures	■ As per do minimum option ■ Increased parking supply by 10% in key centres

TABLE 2.2: MODEL OUTPUT FOR SCENARIO TESTS

CORE STRATEGY SCENARIO	EFFECT				
	MODE SHARE	TRIP GROWTH	VEHICLE KM	EMISSIONS	SPEED
Scenario 1 'Do-minimum'	Little or no change in mode share for bus	The numbers of trips into key centres continues to grow	Small growth in vehicle km across West Yorkshire	NOx - reduces by approximately 29% in all centres PM_{10} - reduces by approximately 34% in all centres CO_2 - small reduction in all centres	Small speed reductions within main urban centres
Scenario 2 High public transport investment with high level demand management measure	Growth in mode share for bus in each of the key centres. Highest growth into Leeds Reduction in mode share for car in each of the key centres. Highest reductions into Halifax and Wakefield	The numbers of trips into key centres continues to grow. Highest growth into Halifax and Wakefield	Small growth in vehicle km across West Yorkshire	NOx - reduces by approximately 32% in all centres * PM_{10} - reduces by approximately 38% in all centres * CO_2 - reduction in all centres * * In all cases reductions in Leeds are significantly higher	Speed increases within main urban centres particularly Leeds
Scenario 3 High public transport investment with high level of parking charge increases	Growth in mode share for bus in each of the key urban centres. Highest growth into Halifax and Wakefield Reduction in mode share for car in each of the key urban centres. Highest reductions into Halifax and Wakefield	As option 2 above	Reduction in vehicle km across West Yorkshire	NOx - reduces by approximately 32% in all centres PM_{10} - reduces by approximately 38% in all centres CO_2 - reduction in all centres	Speed reductions within main urban centres
Scenario 4 High public transport investment with medium level parking charge increase	As Option 3 above	As option 3 above	As option 3 above	All results similar to option 3 above	As option 3 above
Scenario 5 Low public transport investment with low level demand management measures	Increased car mode share in all centres by up to 9%. Reduced bus mode share by up to 7% in all centres	Increased trips to key centres. Increases not as marked as options with more P/T centred strategy	Small growth in vehicle km across West Yorkshire	NOx - reduces by approximately 25% in all centres PM_{10} - reduces by approximately 25% in all centres CO_2 - increases in all centres	Large speed reductions in key urban centres

The outcomes of alternative core strategy scenarios shown in Table 2.2 were carefully considered in relation to the objectives. The core strategy scenarios were also reviewed against the consultation findings. Additional criteria influencing the choice of core strategy was that:

- it should support and complement the RSS, RTS, RES and RHS;
- it should support Community Strategies developed by the LSPs;
- it should improve connectivity within West Yorkshire and the wider City Region so as to spread the economic benefits of Leeds;
- it should enable land use and economic development strategies in the districts;
- it should build upon good practice and learn from unsustainable planning decisions of the past;
- it should add value to the investments already delivered and the partnerships created as part of LTP1;
- it should support the polycentric nature of settlement in West Yorkshire; and
- it should provide value for money and be affordable.

The core strategy scenario chosen for LTP2 was a combination of Scenarios 4 and 5, that is, high public transport investment from the Integrated Transport allocation with demand management appropriate to local circumstances. Detailed feedback from consultation was used to develop sub-objectives and individual strategy elements following on from the core strategy.

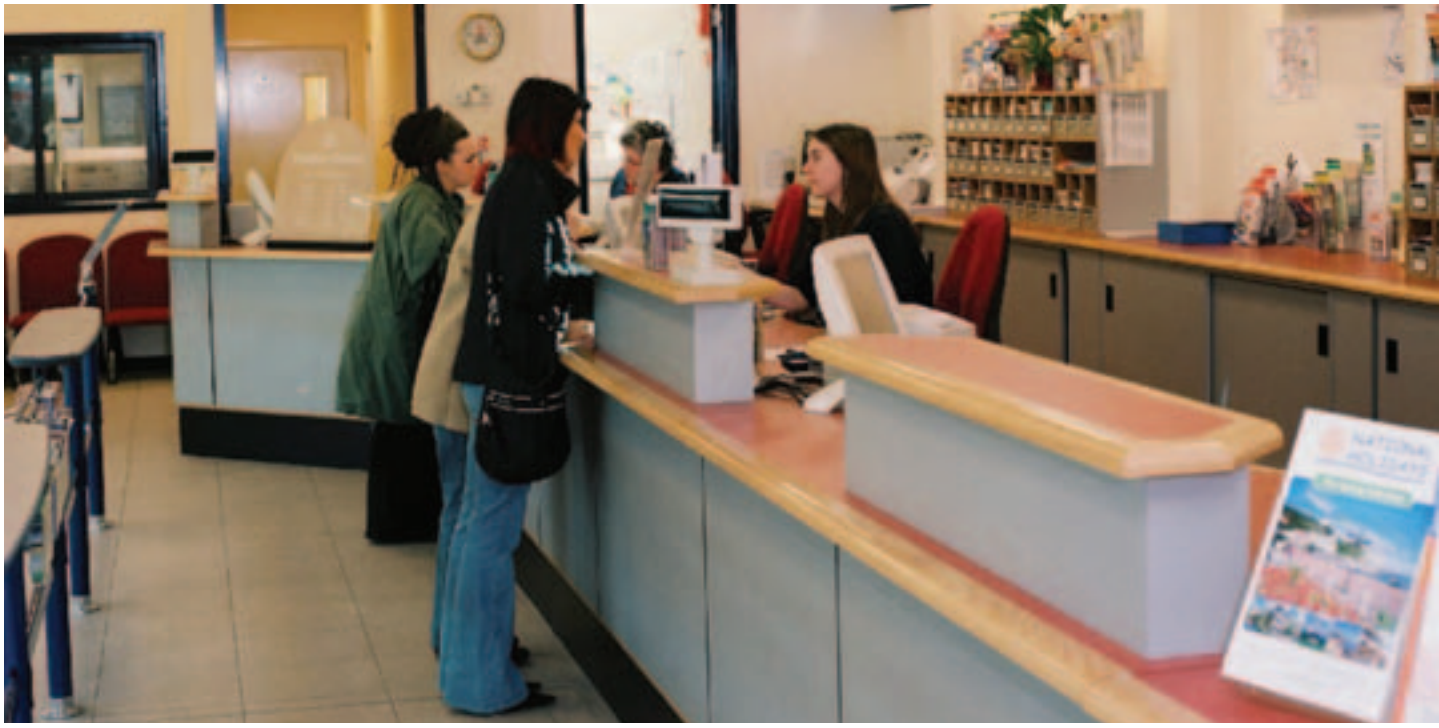
The balance of the core strategy is reflected in our LTP2 capital expenditure programme (set out in Part 3 "Strategy Delivery")

Our proposed public transport expenditure, comprising 47% of the Integrated Transport allocation, is the largest single expenditure element and exceeds the LTP norm of 30% quoted by the DfT. We have set additional local targets for public transport to enable better measurement of the impact of this expenditure. Revenue expenditure on public transport will remain the biggest element of revenue expenditure.

Our approach to local demand management is described later in Part 2.

There is a slightly lower percentage of expenditure in LTP2 on safety schemes as progress towards targets has been good. However, maintaining expenditure in other areas, such as road crossings, also contributes towards Safer Roads.

Value for money considerations are fully described in Part 4 "Performance Management".



THE LOCAL TRANSPORT PLAN AND OTHER STRATEGIES

LTP2 has been developed through close joint working between Metro and the five district authorities and liaison with a wide range of other bodies and agencies, including the five West Yorkshire LSPs and the WYEP. The process has enhanced the linkages between transport and other strategies and has also built a strong basis for further liaison and co-ordination of plans and joint projects.

The relationship between transport, productivity and economic growth is fundamentally important. Transport is now identified as one the key priorities in the revised RES and connectivity is one of the key themes being developed through the WYEP and Sub-Regional Investment Plan. The alignment of LTP2 with other sub-regional investment initiatives has been discussed at the WYEP Board and these relationships will continue to play a key role in the implementation of the RES.

The importance of transport and the associated shared responsibilities have been discussed with a wide range of agencies, including well-attended seminars and workshops organised through the LSPs.

The five district authorities are currently developing LDFs. The inter-relationships between spatial, land use and transport planning are fundamental to this process, with particular attention being focused on development and congestion inter-actions, the need to address climate change and the need for good accessibility. Transport policies consistent with LTP2 are being developed for these documents.

LTP2 is providing part of the framework for the district authorities' Area Action Plans. Leeds City Council and Kirklees Metropolitan Council are also developing Supplementary Planning Documents (SPDs) to facilitate developer contributions towards public transport.

The LTP is increasingly influencing the corporate plans of district authorities, with more inter-departmental working and better understanding of how transport supports the achievement of wider corporate objectives and how authorities' other activities can reinforce transport strategies. A good example of this is the four half day workshops for Councillors and staff across Kirklees Metropolitan Council to discuss transport. These sessions raised awareness of transport issues and how transport can affect other activities, with one outcome being better communication and joint planning on projects with transport implications.

LTP2 is also becoming increasingly aligned with Community Strategies, particularly those aspects relating to road safety, community safety and accessibility. The LTP has influenced the development of the Regeneration Plan in Leeds which is the strategy for delivering the 'Narrowing the Gap' priorities of Leeds Initiative (the LSP). The Plan includes public transport actions and measures, consistent with LTP2, to improve access to employment, social, cultural, learning and leisure facilities and activities.

Transport is also emerging as the key issue in the development of the Leeds City Region Development Plan, with growing recognition of the divergence between the West Yorkshire administrative boundaries and travel-to-work areas. The LTP strategy recognises the associated cross-boundary issues and the ongoing discussions on city regions will facilitate new means of addressing these.

The Partnership will continue to work closely with other providers of transport services and infrastructure. Strong joint working and partnership arrangements already exist, e.g. Northern Rail's Partnership Plan which aligns their forward planning with the LTP. Operators and infrastructure providers are involved in the LTP development and implementation framework in a variety of ways, e.g. through the West Yorkshire Integrated Transport Forum. The Performance Management Framework discussed in Section 4 will include a process of reviewing partnership and joint working arrangements to ensure that transport planning remains integrated with other relevant strategies and action plans.

DELIVERING ACCESSIBILITY

THE CHALLENGE

Delivering accessibility is about tackling the barriers that people, particularly those from disadvantaged groups and areas, face in accessing jobs and key services.

Accessibility planning should ensure that barriers to accessibility are identified and improvements made through better transport, working in partnership with delivery agents and delivering jobs and services where they are most needed.

The SEU's report Making the Connections: Final Report on Transport and Social Exclusion emphasised the role of better accessibility as a way of reducing social exclusion. The SEU identified several 'barriers' to accessibility which included the following:

- long travel times;
- remote location of facilities and services;
- poor quality and level of public transport services;
- not having enough confidence to travel (travel horizons);
- lack of physical accessibility; and
- affordability.

The DfT have developed accessibility mapping software, (Accession), and we have used this and our in-house mapping package (PTAM) to measure travel time accessibility in West Yorkshire. Our initial results show generally high levels of public transport accessibility (for example, 95% of pupils of primary school age in receipt of free school meals are within 30 minutes travel time of a primary school by public transport).

We believe that the challenges to be addressed by our accessibility strategy are to:

- maintain the existing high baseline levels of public transport accessibility;
- improve accessibility for those people, services and facilities which have poor accessibility;
- overcome a historical legacy of dispersed land use; and
- better understand local accessibility issues and priorities and through doing so, help to deliver local community strategies.

West Yorkshire is a large and diverse area which makes these challenges more difficult. Potential partners, service providers and stakeholders are numerous and vary within each sector and district authority area.

Accessibility planning takes place against a backdrop of changing economic, social and land use conditions. Although good progress has been made during the period of LTP1 there remains a legacy of aged infrastructure and public transport vehicles. In addition, the increasing cost of service provision presents a challenge to improving physical accessibility and maintaining affordability and network stability.

Our Strategy for delivering accessibility is summarised in this chapter and contained in full in Appendix C.

WHERE WE ARE NOW

Many initiatives have already delivered better accessibility in LTP1. Specific examples include the following:

- working with Jobcentre Plus in Wakefield to provide free travel to job interviews and new jobs, funded by the Single Regeneration Budget;
- a Community Transport initiative in Wakefield, where regeneration funds were used in supporting the communities in the South East area of the District. This included a bus vehicle funded with LTP capital;
- better lighting and improvements to local neighbourhood paths in urban areas;
- addressing safety and security concerns through the delivery of Closed Circuit Television (CCTV) in bus and rail stations and CCTV-on-buses schemes, and by employing a team of Police Community Support Officers operating in bus stations across West Yorkshire;
- a rural minibus service for patients without transport to healthcare in Honley, Kirklees;
- physical accessibility improvements to rail stations on the Airedale and Wharfedale lines;
- introduction of new MetroConnect bus services to provide access to jobs, healthcare and other key services in parts of Leeds, Bradford, Wakefield and Calderdale;
- introduction of MyBus to carry children from home to school, along with a package of home to school measures including SAFEMark and School Plus ticketing products; and
- improvements to AccessBus, a dial-a-ride, door-to-door bus service for people who have difficulty using conventional public transport.

At the same time, core LTP1 activities such as expenditure on road maintenance, tendered public transport, schemes funded through Bus Challenge (including the innovative Leeds Buddying Scheme), travel planning initiatives, concessionary fares, information and cycling and walking schemes have helped to safeguard and extend existing accessibility levels.

Our accessibility strategy in LTP2 is an opportunity to apply 'lessons learned' from LTP1 and elsewhere more consistently, and on a wider scale, and to take into account the contribution of other local authority functions.

Accessibility planning is already used to inform and facilitate dialogue between public transport operators, developers and the district authorities when planning applications are submitted. Metro has also worked with the district authorities to produce technical guidance for new development and public transport (Appendix L).

The district authorities, as Planning Authorities, have begun the preparation of LDFs and accessibility planning is influencing the development of these documents (including core strategies and other Local Development Documents, Area Action Plans and Supplementary Planning Documents).

Accessibility planning needs to fit within the context of community strategies and the priorities of LSPs. Community strategies and related documents have been used to identify local issues and clear linkages have been made with accessibility planning. Existing partnership arrangements have been utilised to contribute to the accessibility planning process and identify areas for joint working

ACCESSIBILITY MAPPING

Our mapping packages currently provide us with strategic information about travel time accessibility. Our performance against the DfT's national core indicators for accessibility shows that accessibility in West Yorkshire is relatively high, as follows:

ACCESS TO SCHOOL

- 98.1% and 99.8% of pupils of compulsory (primary) school age are within 15 and 30 minutes respectively of a primary school by bus; and
- 94.1% and 99.8% of pupils of compulsory (secondary) school age are within 20 and 40 minutes respectively of a secondary school by bus.

ACCESS TO FURTHER EDUCATION

- 84.6% and 99.8% of 16-19 year olds are within 30 minutes and 60 minutes respectively of a further education establishment by bus.

ACCESS TO WORK

- 98.1% and 99.8% of people of working age (16-74) are within 20 minutes and 40 minutes respectively of a workplace by bus; and
- 99.2% and 99.9% of people in receipt of Jobseekers' allowance are within 20 minutes and 40 minutes respectively of a workplace (workplace is a SOA with more than 499 jobs) by bus.

ACCESS TO HOSPITALS

- 85.2% and 99.7% of households are within 30 minutes and 60 minutes respectively of a hospital by bus; and
- 89.5% and 99.7% of households without a car are within 30 minutes and 60 minutes respectively of a hospital by bus.

ACCESS TO GENERAL PRACTITIONERS (GPS)

- 96.4% and 99.7% of households are within 15 minutes and 30 minutes respectively of a GP by bus; and
- 98.4% and 99.9% of households without a car are within 15 minutes and 30 minutes respectively of a GP by bus.

The accessibility maps that we have produced in relation to the core indicators suggest areas for further investigation. For example Figure 2.3 shows that 33% of the population in Calderdale is not within 30 minutes of a hospital by bus. Figure 2.4 highlights that 28% of the population in Wakefield is not within 30 minutes of a further education establishment by bus; the mapping work has shown that this is a particular problem in South East Wakefield.

Additionally, a number of major employment sites across West Yorkshire have limited accessibility, an example being Aire Valley, Leeds. Here, for example, a Metro Connect Service has already been introduced.

Our mapping capability has been further developed to provide us with indicators and maps that include journey times by other modes of travel e.g. walking and cycling. We also intend to investigate the feasibility of incorporating journey cost into the mapping process.

The DfT's core indicators relate to travel time accessibility. For some people, public transport travel time may not be the greatest barrier to accessibility, for example:

- punctuality and reliability were identified as a top priority in public consultation;
- market research also identified personal safety and security as a key area for concern;
- people with disabilities may consider the biggest barriers to accessibility to be physical obstacles; and
- the nearest facility may not be the most suitable facility i.e. parents may place educational quality above ease of access.

The mapping process provides a strategic tool to inform our accessibility analysis; it provides an overall picture of accessibility and has been a starting point for discussions with partner organisations.

DEVELOPING OUR ACCESSIBILITY STRATEGY

Our Accessibility Strategy has been informed by a process of awareness-raising and collation of local evidence. We have undertaken local accessibility assessments, including further mapping work, data gathering and analysis and understanding of local policies, strategies and priorities, and have worked with partners to identify local issues and potential solutions.

AWARENESS RAISING

During the preparation of LTP2 we have engaged with a range of stakeholders in order to raise awareness of accessibility planning. Other public sector services have received DfT guidance on accessibility planning and we have sought to involve them in this process. Activities undertaken to date include:

- an information seminar for land use planners within a district authority;
- two initial awareness raising accessibility planning seminars in West Yorkshire, giving examples of 'best practice' and local case studies;
- consultation with stakeholders and public sector partners on accessibility issues which has raised the profile of accessibility planning; and

- organising two national Beacon Conferences on accessibility planning. These conferences were designed to facilitate information sharing between practitioners and were very well received.

LOCAL ASSESSMENTS: ACCESSIBILITY MAPPING

The accessibility mapping which informed our initial work has also been used to present information to stakeholders and partners. We have also used this information to advise planning officers about the accessibility of new developments.

LOCAL ASSESSMENTS: ISSUE IDENTIFICATION WITH PARTNERS

We have consulted with key partners and representatives of service user groups across the districts to identify accessibility issues and priorities. We have identified issues which are specific to certain services and destinations; issues which are relevant to specific groups of people; and issues which affect access to all services.

We have used this information to form part of our local accessibility assessments.

Key issues arising from local assessments included:

- changes in the way health services are being delivered across West Yorkshire, and the need to influence and involve stakeholders to ensure accessibility is fully considered in the process;
- limited public transport access to employment sites located near motorways and some new employment development sites;
- limited travel horizons for travel to employment and further education, and in some cases, to health services;
- travel cost barriers for job seekers;
- barriers to public transport use for older people, people with disabilities and people with learning difficulties;
- access to local services, largely for rural communities;
- hospital and GP appointments being made for older people at times when concessionary fares are not available;
- excessive public transport travel times to employment and services in certain areas; and
- poor quality pavement and street environments for pedestrians (Figure 2.5 shows some of the concerns local schoolchildren have when asked to take pictures of their journey to school).

FIGURE 2.3: ACCESS TO HOSPITALS BY BUS, CALDERDALE

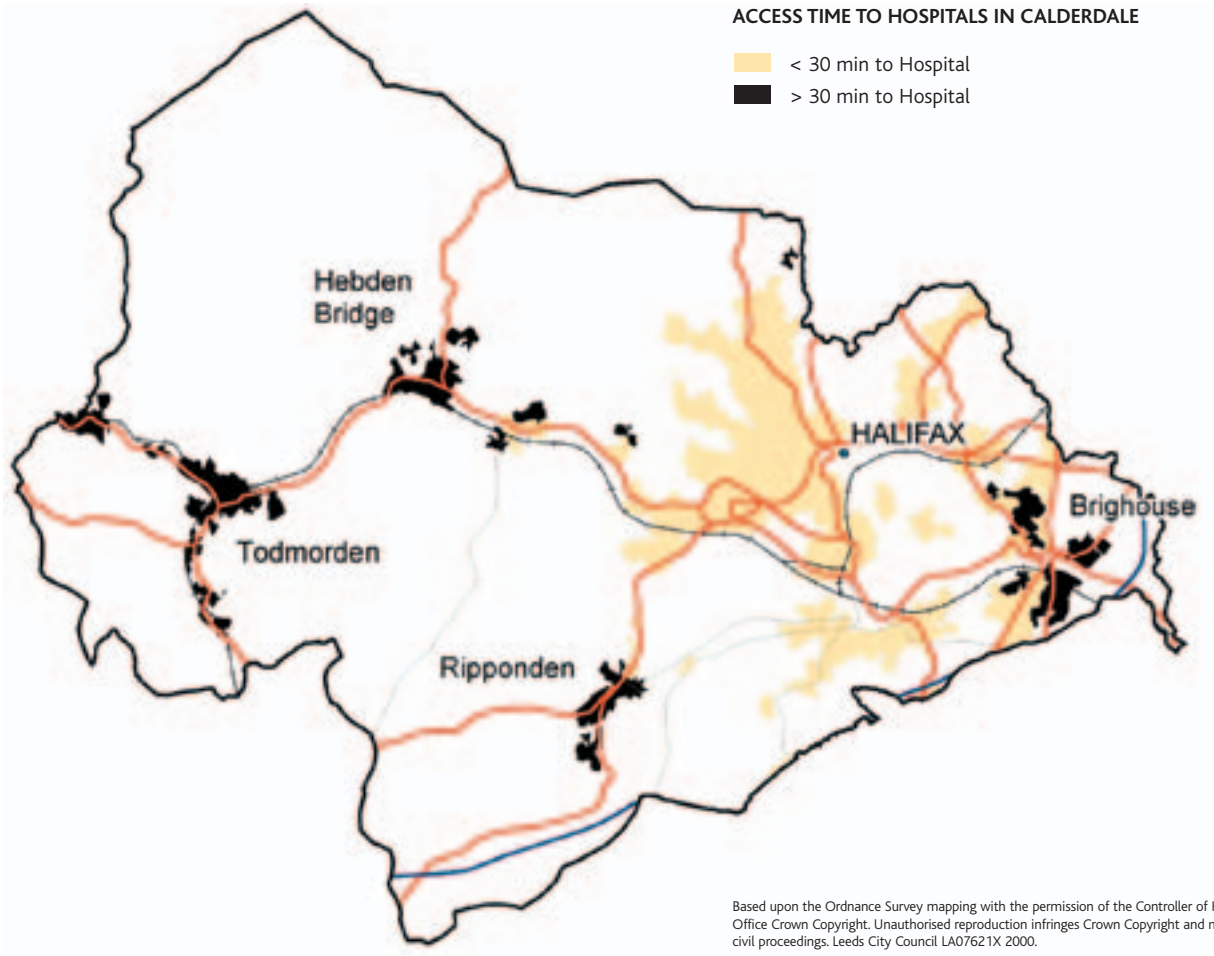
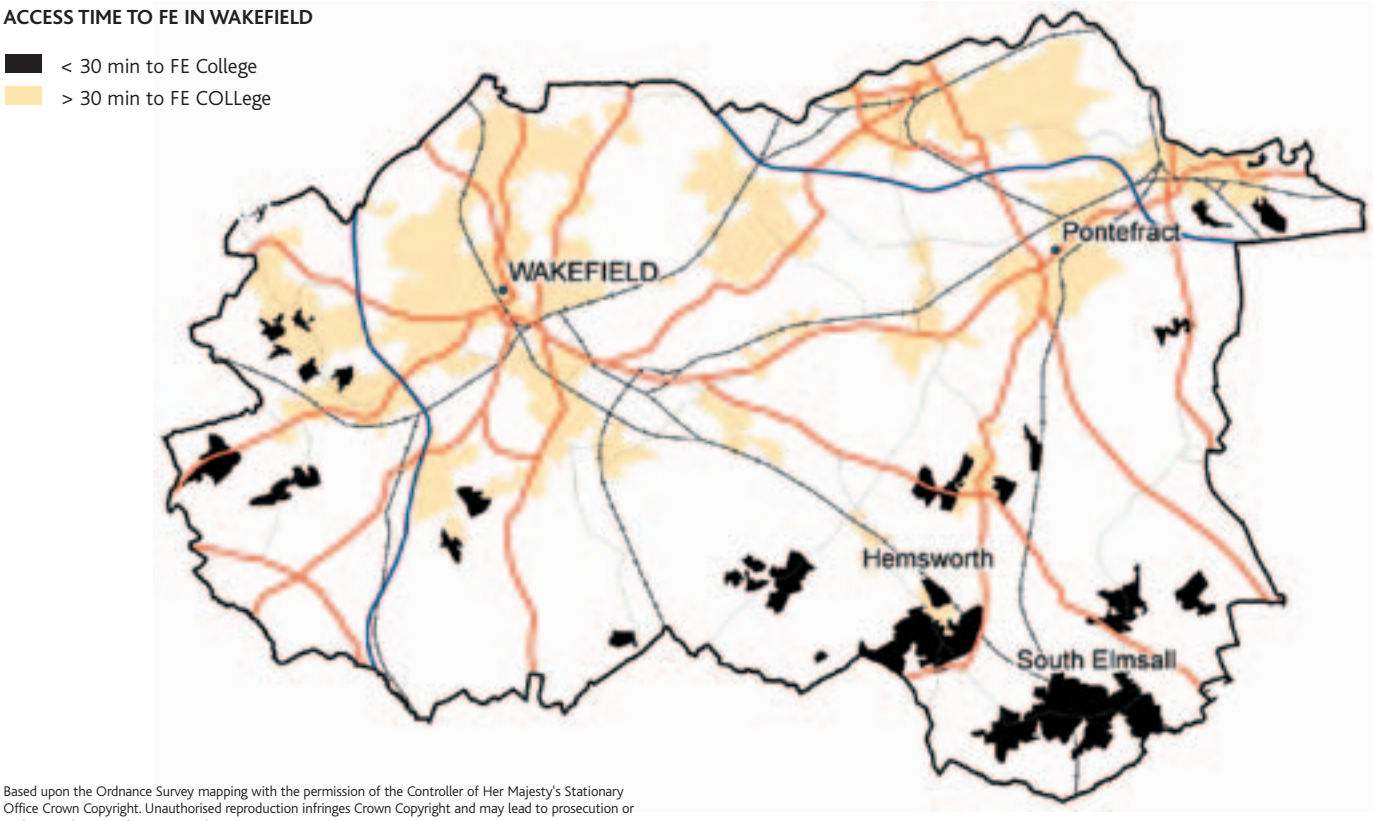


FIGURE 2.4: ACCESS TO FURTHER EDUCATION BY BUS, WAKEFIELD



CONSULTATION

During consultation for LTP2 with stakeholders, including LSPs, the three main priorities that emerged were:

- difficulty getting to facilities and services;
- lack of security; and
- congestion.

When asked what the preferred solutions were, the following three items were the most frequent suggestions made by stakeholders and LSPs:

- promotion and awareness of services
- improved security
- dedicated facilities.

These priorities suggest a need for more revenue funded measures, not necessarily LTP2 capital funded measures.

PRIORITISATION

Issues have been prioritised according to need and opportunity. We have also taken into account partners' policies, objectives and timescales and fit with the broader local context (e.g. community strategy priorities). The availability of partners and resources to deliver within the agreed timescales has also informed the process. The Action Plan in Appendix C contains further details.

FIGURE 2.5: CHILDREN'S VIEWS OF PROBLEMS ON THEIR JOURNEY TO SCHOOL

WHERE WE WANT TO BE

Our objectives for accessibility reflect where we want to be. They are:

- **To maintain and improve access to jobs, education and other key services for everyone;** and
- To improve accessibility for those people, services and facilities which have poor accessibility
- To broaden travel horizons and improve access to information
- To encourage planning for accessibility

We want to address the existing accessibility issues identified in the Action Plan and achieve a greater understanding of the issues we have identified and investigate these in more detail.

We recognise the need to continue to raise awareness of accessibility planning and to continue to engage with others in order to increase our knowledge of local issues.

We want to ensure that accessibility is embedded in policy and decision making processes in order to avoid future accessibility problems. For example ensuring that accessibility criteria and RSS accessibility standards are included in our LDFs and that accessibility criteria are considered when reviewing public transport tendered services. We also want to influence the location decisions of our partners.

Our mapping packages enable us to plot a visual representation of the accessibility implications of land use and location decisions which will help to encourage partners to consider the accessibility implications of their organisational decisions. It is equally important to identify and promote the benefits to organisations of achieving good accessibility. For example, the Honley Surgery minibus has contributed towards:

- meeting National Health Service (NHS) access targets;
- benefits in doctors' time saved outweighing the running costs of the scheme; and
- financial savings being re-invested in new cardio-vascular facilities.

Our Accessibility Strategy is an opportunity to ensure that our existing and new activities have a sound evidence base and draw upon a more rigorous analysis of problems and priorities. In this way, value for money can be maximised.

WHAT WE ARE GOING TO DO IN LTP2

ACTION PLAN

The full Accessibility Strategy is contained in Appendix C. The Strategy contains a detailed Action Plan, which sets out how we will address issues that have been raised during our work to date.

The Action Plan is not an exhaustive list of accessibility issues in West Yorkshire. Over the period of LTP2 we will continue to engage with stakeholders to identify additional priorities.

Delivery of the actions already identified in the Action Plan will require on-going partnership working. Where appropriate we will consult with service users and community groups to develop solutions.

We will also work with operators in reviewing networks and encourage them to invest in modern, physically accessible vehicles. Communities are able to run small-scale passenger transport operations to support and complement the commercial network. Community Transport will be actively encouraged and supported by the Partnership.

Initial work has identified that there are areas which require more investigation in order to fully understand the nature of the problem. For example low take up of further education in South East Wakefield is a particular problem; further analysis is required to understand the cause of this.

The Action Plan details activities that will commence in the first year of LTP2. The Plan will be updated annually to reflect progress and emerging priorities.

APPLYING ACCESSIBILITY ANALYSIS

Accessibility mapping is already used for a range of purposes across West Yorkshire. Recent work has highlighted more areas to which it can be applied in order to improve our service delivery and influence the decisions of partners.

Accessibility analysis is regularly used in travel planning work and has been used to provide information to businesses in relation to recruitment catchment areas and the public transport accessibility of specific sites.

Accessibility planning is already influencing the development of LDFs across the district authority areas and will continue to influence this process. Accessibility data is currently used to assist the planning process; maps have been used to highlight issues relating to specific planning applications.

We will be engaging with partners at a strategic level to ensure that accessibility is given full consideration in future policy development and service delivery. For example potential accessibility issues have been highlighted relating to proposed service reconfiguration within the Kirklees and Calderdale NHS Trust.

The wider availability of accessibility mapping tools will enable accessibility planning to inform other LTP strategies and schemes. For example accessibility mapping and local involvement will be used to inform a rolling programme of bus network review across West Yorkshire, in order to refine the current network and to achieve improved accessibility for socially disadvantaged groups.

Accessibility data is being used to inform the development of a proposal to improve pedestrian access to Leeds city centre.

STRATEGY ELEMENTS

The individual elements of our strategy reflect the wider context of accessibility. These are to:

A1	Improve physical accessibility by making public transport more accessible, and by improving the continuity and signage of cycle and walk routes;
A2	Maintain and improve road, pavement and Rights Of Way (ROWs) conditions for pedestrians, cyclists, vehicle and freight users;
A3	Minimise road weight and width restrictions;
A4	Maintain and develop public transport networks through our bus and rail strategies (see also our strategy for Tackling Congestion);
A5	Maintain and enhance concessionary fare schemes and address cost barriers for job-seekers;
A6	Raise awareness of public transport and improve and target information and marketing;
A7	Embed accessibility in other strategies such as LDFs, health, education, social services and leisure strategies.

SOURCES OF FUNDING

To support the strategy elements, we will need to use revenue funding as well as LTP2 capital funding. We will also need to continue to use other funding sources (described in Part 3 "Strategy Delivery").

For example, a project is currently being developed through the Yorkshire Forward Sub-Regional Investment Plan for two projects supporting travel for work purposes and for Community Transport (West Yorkshire Travel for Work and West Yorkshire Community Connect). They will help to deliver the accessibility improvements outlined in the Action Plan.

We will also seek to reduce the cost of delivering better accessibility through procurement savings following on from the the 'Gershon' report *Releasing Resources for the Frontline: Independent Review of Public Sector Efficiency* and working with the supplier market, for example supporting methods and suppliers that may be able to offer better value for money in the community transport and taxi sectors. We will work with the North West Centre of Excellence in achieving efficiencies during LTP2.

TARGETS

We recognise the importance of setting outcome based targets to deliver accessibility improvements. The work to date has identified a range of issues which require further investigation before we are able to set meaningful targets. For example in Aire Valley, Leeds we could currently set a journey time based target for travel to employment sites in this area, but this would not reflect fully the work being done to deliver skills and training in the target areas. We anticipate being able to set a target to reduce unemployment in areas adjacent to Aire Valley Leeds in future Annual Progress Reports (APRs).

The Action Plan details the range of issues identified and similarly we expect to be able to set outcome targets for the majority of these during the period of LTP2.

There is a requirement in LTP2 to set at least one accessibility target.

Through consultation and mapping our analysis of accessibility issues has identified that the proposed reconfiguration of health services across West Yorkshire is a key priority. Currently 85% of households are within 30 minutes of a hospital by public transport. For households without access to a car the figure is 89.5%.

The Action Plan refers to partnership working with the health authorities so that the reorganisation of health services does not have a negative impact on accessibility. We therefore propose a target to ensure that these levels of accessibility do not decline.

A full explanation of the target is contained in Appendix F.

OTHER ACCESSIBILITY ISSUES

The following strategic areas also fall into the category of delivering accessibility in West Yorkshire.

TAXIS AND PRIVATE HIRE VEHICLES (PHVS)

The flexibility of taxis (Hackney Carriages) and PHVs means that they can fulfil an important role within an integrated public transport service. This is particularly the case where a conventional bus service does not offer a value for money solution and taxis can be used to increase accessibility.

Examples of where taxis can play a role providing rural area services include the recently introduced Pennine Taxibus, some aspects of home-to-schools transport, door-to-door services for disabled people and services to destinations that would be inaccessible to larger vehicles.

We will work to further integrate taxis and PHVs into the overall public transport system by:

- using the licensing system to ensure the provision of safe, reliable taxis and PHVs and a supply of taxis, operating throughout each licensing authority area, that continues to match closely the demand;
- encouraging a higher proportion of accessible taxis;
- through the bus strategy and Yorkshire Bus Initiative (YBI), developing the use of taxis and feeder services into the core bus and rail networks;
- encouraging more formalised arrangements for taxi sharing, particularly to/from commuter rail stations (e.g. by establishing a pilot);
- encouraging higher standards of driver training through the licensing system
- considering the opportunities for through ticketing (between taxis and other modes of public transport);
- improving safety and security (e.g. by promoting the use of CCTV in taxis and making registered PHVs more easily identifiable and by working in partnership with the police and operators to improve safety in town centres at night time); and
- further improving the provision of taxi information at interchanges and in timetables.

Further information on our licensing policies for taxis and PHVs is contained in Appendix G.

FREIGHT ACCESS

The economic prosperity of West Yorkshire depends on the effective operation of supply chains carrying goods to, from and through the county. Some of these supply chains are linked to the European Union (EU) and often stretch as far as the other side of the world.

The great majority of freight in West Yorkshire is carried by road, particularly on the strategic routes (M1, M62 and A1). These routes are congested at peak times and this causes delays for those hauling or expecting deliveries of road borne freight. A challenge of a quite different kind is created by Heavy Goods Vehicles (HGVs) travelling on unsuitable routes in the county. This can have detrimental environmental impacts, including damage to structures or disturbance to local communities.

The difficulties caused by increasing road borne freight have led to proposals to transfer freight carrying to rail or water. These modes are currently under-utilised and the reasons for this are mainly related to their operational costs relative to road haulage. Accepting this, there may be areas where rail and water freight represent viable options, for example, in the carrying of bulk materials, aggregates and large volumes of non-perishable goods.

The success of the alternatives to road borne freight often depends also on the availability of inter-modal transfer facilities. These must exist on the ground to provide for the last road-based link in the delivery supply chain.

Another challenge to rail freight is represented by the current situation for UK railways. Given the difficulties presently being created by cost inflation in some parts of the rail industry, the promotion of rail freight as a relative priority has suffered. For example, the availability of Freight Facility Grants for investment in the wider provision of facilities for inter-modal transfer has been suspended.

There may be some scope for growth in the tonnage of water borne freight. There are already significant amounts being carried on the Aire & Calder Navigation in Wakefield and Leeds. The availability of suitable wharves for inter-modal transfer to road or rail is a constraint to the growth of water borne freight on more of the waterways in West Yorkshire.

DEVELOPING FREIGHT IN LTP2

During the course of LTP1 there were a small number of initiatives, progressed on a piece-meal basis, that have helped with minor, generally local, freight issues. For LTP2 the need for a more strategic approach to the challenges facing freight was identified. The West Yorkshire Freight Study (2003) has been completed with stakeholder participation from the district authorities, businesses and the local community. The suggestions from the consultation were evaluated in terms of deliverability. The study recommended a programme of freight work to be progressed during the life-time of LTP2. The success of the recommended initiatives is dependent upon a high degree of co-operation and commitment from all of the prospective partners involved.

A more comprehensive study of freight in the region has since been completed at a regional level. This comprehensive work provides a valuable broader context for the sub-regional West Yorkshire study to 'nest' within. The consideration of any likely freight initiatives in West Yorkshire will benefit from linking into an understanding of freight within a broader strategic area. For this reason many of the LTP2 freight initiatives are only likely to be progressed effectively if they are part of a region-wide approach.

Improved arrangements for freight access to West Yorkshire will support and foster sustainable economic growth. The Partnership therefore views freight as a key part of our transport and economic responsibilities. To improve freight a number of initiatives have been evaluated and proposed for LTP2. They are designed to complement the recently launched freight strategy for the Yorkshire & Humber Region that will be incorporated in the RSS.

Better management of freight in West Yorkshire requires partnership working with infrastructure providers, Network Rail, British Waterways and the HA. The environmental impacts of freight movement on local communities are a very real issue. Initiatives for improving freight will also be subject to consultation with the local communities likely to be affected by them.

Strategic initiatives for freight access improvements are listed below. They are categorised into West Yorkshire and District specific-initiatives. Many of the initiatives will be progressed more effectively as part of a regional freight strategy, parts of which will be delivered over the same time period as LTP2.

WEST YORKSHIRE WIDE FREIGHT INITIATIVES

- a database for freight information including up to date route information for goods vehicles,
- commercial vehicle priority, where feasible and warranted;
- a framework for preferred lorry routes to be progressed at Regional level with co-operation of the Partnership
- more and consistent goods vehicle specific signing throughout West Yorkshire; and
- a review of driver rest and lorry parking facilities in West Yorkshire.

DISTRICT AUTHORITY SPECIFIC FREIGHT INITIATIVES

- Support for rail and water freight inter-modal facilities. District authorities will provide practical assistance with access and egress measures, and support the planning process for new terminals or services.
- The implementation of route restrictions where HGVs are proving to be the cause of ongoing community disruption or road safety problems.
- The Partnership will work with the HA to make sure that data about traffic conditions is made available to all road users.
- District authorities will endeavour to lead by example in innovation, best environmental practice and efficient performance of vehicle fleets.
- Reviews of goods vehicle delivery conditions in city/town centres will be carried out. The aim will be to improve the co-ordination of deliveries and lessen or mitigate any environmental impacts.
- Ensure road safety issues involving HGVs are given sufficient recognition in the delivery of road safety education programmes and the design of new developments/infrastructure.

COACH ACCESS

Coaches make a significant contribution to local economies and reduce the number of journeys made by car.

Over £1.4 billion is spent in the UK every year on coach holidays and day trips.

Provision of places to set down and pick up passengers close to city and town centres, along with improved access, are important to encourage greater coach use and hence reduce congestion. Coaches, after setting down, can be directed to out of town coach parks to await the return journey. The current facilities for coaches vary greatly between locations.

During the period of LTP2 we will seek to:

- identify the current number and level of facilities available for coaches in major towns and cities in West Yorkshire;
- support the provision of a designated setting down and picking up point in every major town and city centre in West Yorkshire with:
- covered facilities and seating (as a significant proportion of coach travellers are elderly and/or disabled); and
- information for drivers on the provision and location of long stay coach parks.
- Encourage the use of bus priority schemes by coaches.

SURFACE ACCESS TO LEEDS BRADFORD INTERNATIONAL AIRPORT

LBIA plays a vital role in the economy of the Yorkshire and Humber region, being important in supporting commerce and tourism, providing employment and acting as a gateway for a growing number of inward tourists and business visitors to the region. Recent growth indicates that a strong market for air transport presently exists within the Region. LBIA's economic and social contributions are highlighted in the draft RSS.

LBIA's future role within the Region is clear. It will contribute to supporting the growing business and leisure markets for short and medium haul flights to and from Europe, in addition to the charter holiday market. *The Future of Air Transport* White Paper states that;

"Responsibility for bringing forward proposals and securing funding lies with the airport operators, working closely with the DfT, HA and regional and local bodies".

By improving surface access to LBIA the potential for leakage to other Airports is reduced together with longer, potentially unsustainable surface journeys to other airports.

As part of the *Leeds Bradford International Airport Masterplan 2005-2016* a revised Surface Access Strategy (SAS) has been developed by the airport, with an overarching aim "to connect the Airport to its hinterland by the full range of transport modes, allowing for sustainable development within the locality which contributes to the Regional economy and delivers the RSS."

The revised SAS proposes a range of key transport interventions over the next 10 - 15 years that would support the sustainable growth of the LBIA and offer real choices to passengers and staff across the range of transport modes. The proposed connections include a new rail link that not only serves LBIA but also provides opportunities for complementary development and possible park and ride facilities into the centres of Leeds and Bradford. Enhanced links to the national and regional road network, such as the proposal for a new highway link to LBIA from the Leeds Outer Ring Road are also under consideration. The Partnership will continue to work with the Airport to develop the SAS.

SURFACE ACCESS TO OTHER AIRPORTS

The RTS states that maintaining and improving access to all airports serving the region is important. During the period of LTP2 we will investigate, consistent with RTS, improved surface access (across all modes).

The market for UK air travel is fiercely competitive. Choice within this market is mainly driven by cheaper air fares, which means that there is a significant proportion of surface travel to and from airports outside of both West Yorkshire and the Yorkshire & Humber Region. For example, almost three-quarters of all Yorkshire & Humber air travellers depart from airports based outside of the Region. Almost half of the Region's passengers take off from Manchester International Airport.

Humberside and East Midlands Airports are other relatively long established alternatives for West Yorkshire's air passengers and a growing number of trips from the county are now also made to the recently opened Robin Hood Airport, near Doncaster.

In common with LBIA these airports generate their own surface access travel issues and have respective SASs at various stages of revision and completion. Some of the issues within the strategies are also recognised at Regional and National scale, for example, Manchester Airport's surface access requirements are highlighted in the *Moving Forward: The Northern Way* strategy.

During the LTP2 period relevant issues within the SASs of the other airports serving significant numbers of passengers from West Yorkshire will be acted upon wherever possible. For example Wakefield will consider issues around creating better transport links to and from the nearby Robin Hood Airport at Finningley, near Doncaster. This work will further the aim to act on regional and cross boundary transport issues in LTP2.

TACKLING CONGESTION

THE CHALLENGE

Our challenges are to:

- manage the transport network so that people do not suffer undue delay or variations in journey time during their journey, and goods can be moved efficiently;
- manage traffic growth and congestion without inhibiting economic growth; with a particular challenge being to support forecast employment growth of 31,600 jobs over the next 10 years in Leeds;
- to broaden the level of awareness of the benefits for individuals, businesses and society of making Smarter Choices in local travel decisions;
- manage congestion without having a detrimental effect on accessibility for other modes, e.g. pedestrians and cyclists; and
- provide attractive alternatives to the car.

WHERE WE ARE NOW

Across West Yorkshire excellent progress has been made in restraining traffic growth. Traffic growth has remained below the national average despite significant economic growth in the Leeds City Region. Between 1999 and 2004, traffic growth in West Yorkshire was 1% and trends indicate the LTP1 target of less than 5.0% growth between 1999 and 2006 is likely to be achieved.

Surveys show that traffic growth levels are within the 3% morning peak target for 2006 in Bradford, Halifax and Huddersfield, but not on track in Leeds (where the target in LTP1 was zero growth) and Wakefield.

Good progress has been made towards increasing the mode share of public transport in the peak periods. Surveys show a reduction in morning peak car travel from 64% in 1998 to 58% in 2004 across the Leeds central cordon. Over the same time period there have also been significant increases in mode share for bus (24% to 28%), train (9.5% to 10%) and walking (2.2% to 3%). We have seen a 13% increase in commuting by cycle between 1991 and 2001.

In addition we have seen mode shift away from the car to bus on Quality Bus Corridors (QBCs). For example 7% of passengers using the East Leeds Quality Bus Initiative (featuring bus guideways) report that they formerly made their journey by car. We have increased vehicle occupancy from 1.35 persons per vehicle to 1.41 persons on the A647 in Leeds through the use of a High Occupancy Vehicle (HOV) Lane. We have seen a sustained increase in the use of rail. Achievements include 16 additional carriages for the Class 333 electric trains deployed on the Airedale and Wharfedale Lines to meet growing demand.

Traffic managers have also been appointed in each of the five district authorities to implement the Traffic Management Act 2004 (see Appendix J for more information).

LOCATION OF CONGESTION

We used data from ITIS Holdings PLC to map locations on the local highway network (excluding motorways) where congestion occurs. DfT have subsequently provided definitions for mandatory indicators of person journey time per mile and person throughput.

We used the morning peak and inter-peak period to compare the measured speed of traffic with the prevailing speed limit. In Figures 2.6 and 2.7 we have shown those areas where congestion is most serious, that is, where speeds are less than 70% of the speed limit. This provides an indication of where congestion currently occurs. This initial analysis shows that there are congestion problems at a number of locations, particularly in the morning peak, with some continuation into the inter-peak period.

Congestion is experienced in the following groups of locations:

- City Centres (Leeds, Bradford, Huddersfield and Wakefield);
- radial routes to city centres (e.g. A62, A65, A606, A638 and A6037);
- motorway junctions (J26 of M62 and J3 of M621); and
- others (e.g. A650/A629 Keighley, A58 Hipperholme, Brighouse and Shipley)

In Leeds congestion occurs in the city centre, its approaches and further out on the outer ring road and radial routes.

Similarly, in Bradford, congestion occurs on the ring road, in the city centre and in Shipley and Keighley.

In Kirklees district, congestion occurs on the Huddersfield ring road, radial routes and the A62 corridor where employment growth is planned. Other town centres in the 'Heavy Woollen Area' are congestion hotspots.

Central Wakefield experiences congestion in residential areas and around key destinations close to the city centre. The lack of a complete ring road and proximity of the motorway network cause traffic to pass through the city centre.

In Calderdale, problems occur in the Brighouse area associated with access to the M62 motorway and through the town centre on the A641 Huddersfield to Bradford route. The approaches to Halifax, the A58 through Sowerby Bridge and A646 Calder Valley routes also suffer congestion.

Our understanding of congestion will be improved during LTP2 when more accurate flow weighted speed data becomes available to more precisely identify congested areas and target measures either through the LTP2 programme or demand management.

Motorways are outside the control of the Partnership but make a major contribution to congestion. The M62 between Huddersfield and east of the M1 and the M1 from south of Wakefield into Leeds is heavily congested for much of the day and often at a standstill in the extended morning peak. Congestion on the local road network is made worse by traffic trying both to avoid the motorway network and to access/leave it.

Congestion affects buses directly by increasing journey time and causing services to become unreliable. Congestion on public transport in the form of overcrowding can also be a barrier to those joining buses and trains near to the main centres. Many parts of the rail network suffer from overcrowding in the morning and evening peaks such that passengers are unable to board some trains.

FIGURE 2.6 CONGESTED ROAD LENGTHS IN THE MORNING PEAK PERIOD

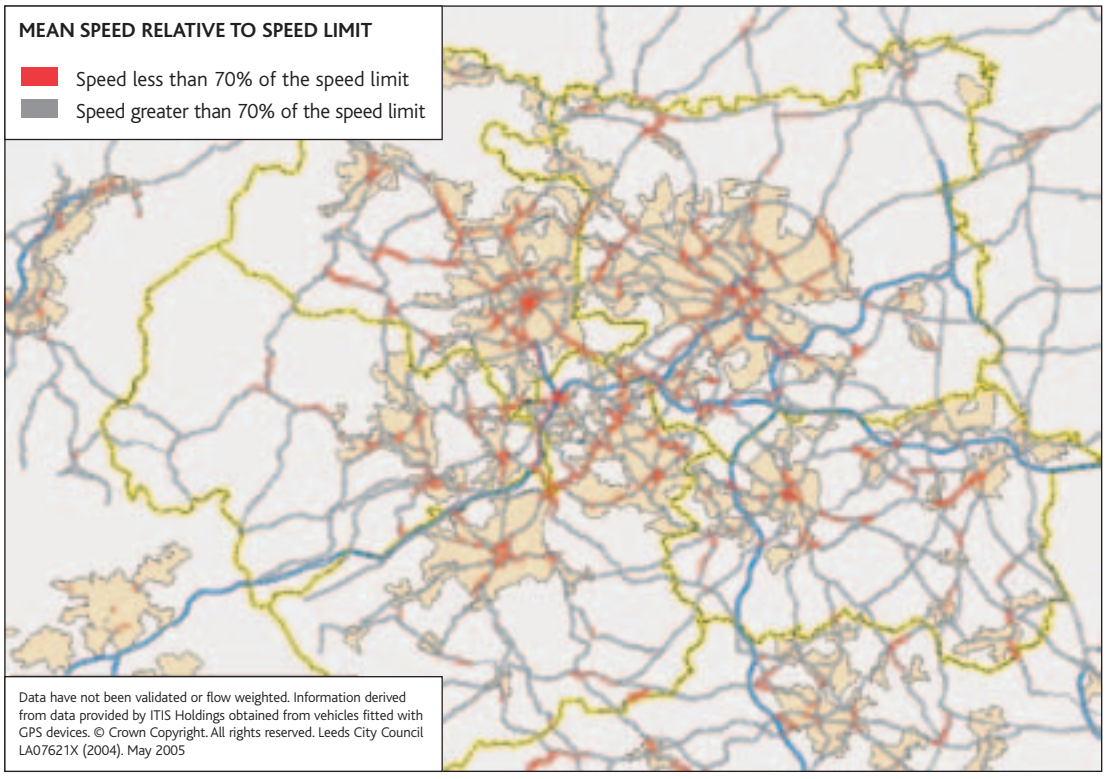
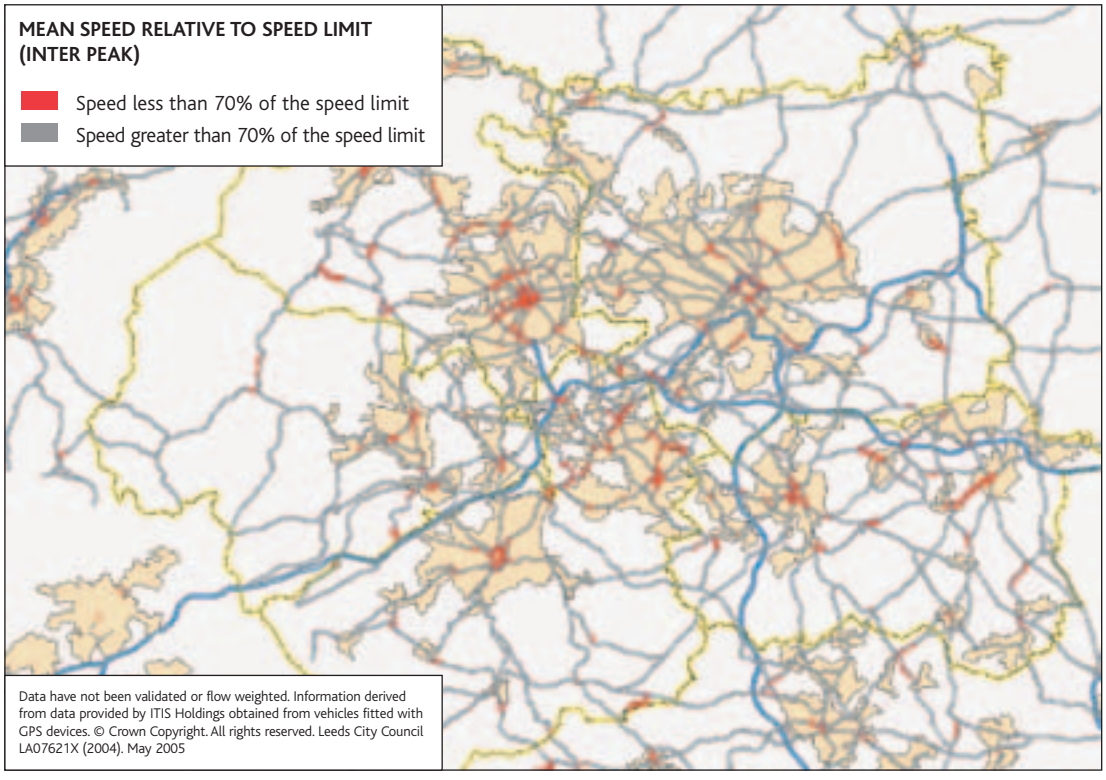


FIGURE 2.7 CONGESTED ROAD LENGTHS IN THE INTER-PEAK PERIOD



IMPACTS OF CONGESTION

TRAVEL BEHAVIOUR

One impact of congestion is that commuters have changed the times at which they travel. It is unclear as to how much of this is due to changes in work practices (flexible working hours) and how much is directly as a result of people wishing to avoid congestion. There is evidence of 'Peak Spreading' in all main centres, but particularly in Leeds, where there is continuing evidence of increasing traffic levels in the period 07:00 to 08:00. In the past 10 years the peak 'hour' for traffic into Leeds has shifted from 08:00 to 09:00 to 07:30 to 08:30.

In addition to longer journey times resulting from increased congestion, of increasing concern is the variability of journey times.

ENVIRONMENTAL

The effects of traffic congestion on the environment are difficult to predict. It is estimated that overall emissions impacting on air quality can increase by 20% to 30% during congested flow conditions and the combined morning and evening peak periods contribute to 55% of weekday pollutants linked to traffic.

ECONOMIC

Congestion has a significant impact on the business community and freight movements by producing excessive and unreliable journey times during the working day. This has been identified as a growing concern in West Yorkshire through LTP2 consultation with business representatives and WYEP.

CAUSES OF CONGESTION

Part 1 described the main patterns of traffic movement in West Yorkshire which contribute to congestion. The main causes of congestion along with predictions of future trends contributing towards congestion over the life of LTP2 and beyond are described below.

ECONOMIC GROWTH

Figure 2.8 illustrates the relationship, at a national level, between Gross Domestic Product (GDP) and distance travelled. Economic growth contributes towards increased levels of congestion as more people travel to work, more business trips are made and freight movements increase.

PLANNING DECISIONS

Planning policies of the 1980s and early 1990s were based on developing sites with good access by car. These decisions have lead to increased numbers of car based trips being made on the network and have added to congestion problems.

INCREASED CAR OWNERSHIP

Figure 2.9 shows that car ownership in West Yorkshire has increased over the last decade and is expected to continue to rise.

FIGURE 2.8 COMPARISON OF GDP AND DISTANCE TRAVELLED

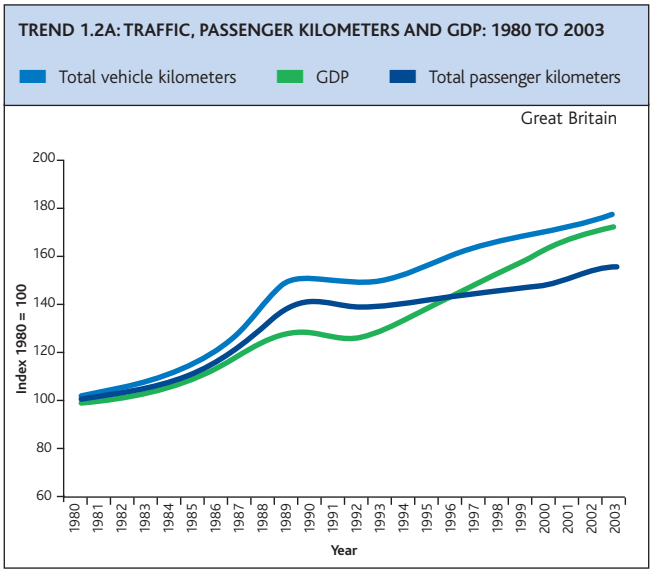
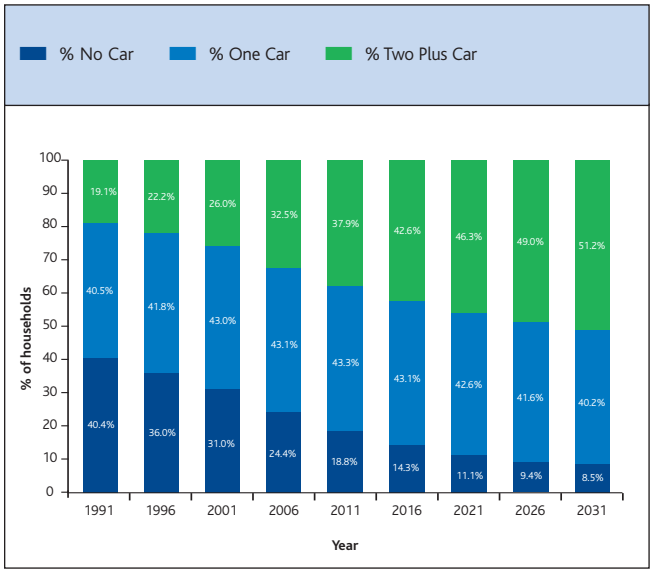


FIGURE 2.9 CAR OWNERSHIP IN WEST YORKSHIRE



The impact that increasing car ownership has had on the modal split of journeys made is demonstrated in Figure 2.10. The graph shows the changes in mode share over the last 30 years for journeys to work and demonstrates the dominance of car use over the last decade at the expense of bus travel.

RELATIVE COST OF PUBLIC TRANSPORT

Figure 2.11 illustrates how the cost of owning and running a car has decreased in comparison to the cost of public transport fares in West Yorkshire over the last two decades. The graph shows that the cost of bus and train fares has consistently exceeded that of motoring costs and the retail price index. The disparity between the costs has contributed to the change in modal share which has been experienced in West Yorkshire.

INCREASED JOURNEY LENGTH

Between 1991 and 2001 the distance people travel to work in West Yorkshire increased by 37% as shown in Figure 2.12. Longer journeys result in traffic being on roads for longer, thus increasing the amount of traffic and adding to congestion. Continuation of this trend will increase the amount of congestion experienced.

INCREASE IN POPULATION

The population of West Yorkshire has increased by 3.3% between 1991 and 2001. Between 2021 and 2028 the population is forecast to increase by over 10%. This trend, combined with the forecast increases in car ownership, could result in further increased car use and potential increases in congestion.

FIGURE 2.10 WEST YORKSHIRE JOURNEY TO WORK MODE SHARE

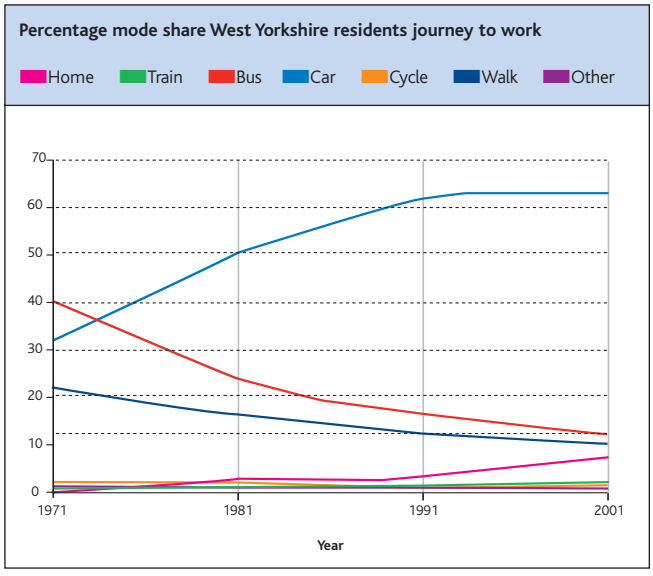


FIGURE 2.11 ACTUAL CHANGE IN LOCAL TRANSPORT COSTS IN WEST YORKS 1985-2003

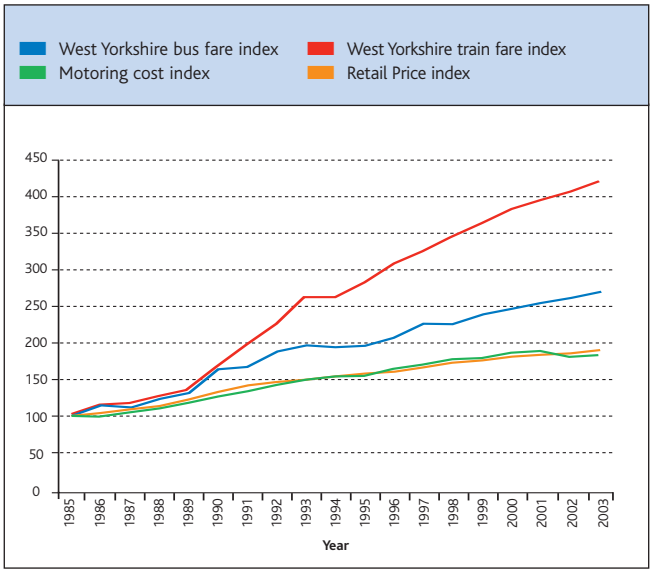


FIGURE 2.12 DISTANCE TRAVELLED TO WORK IN WEST YORKSHIRE

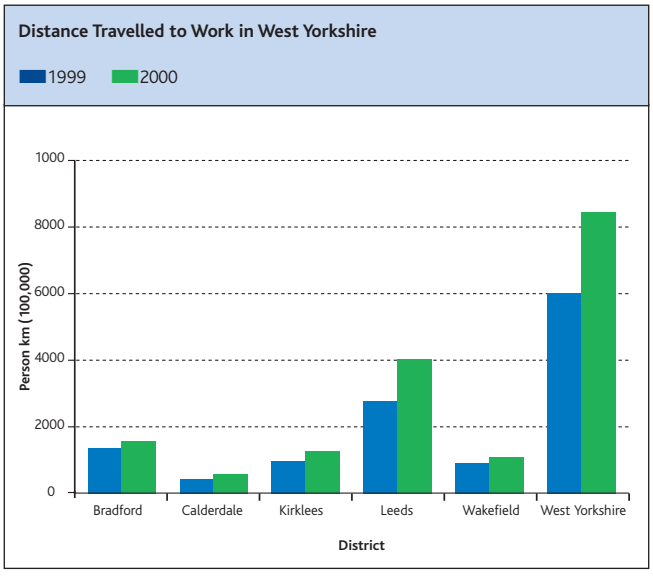
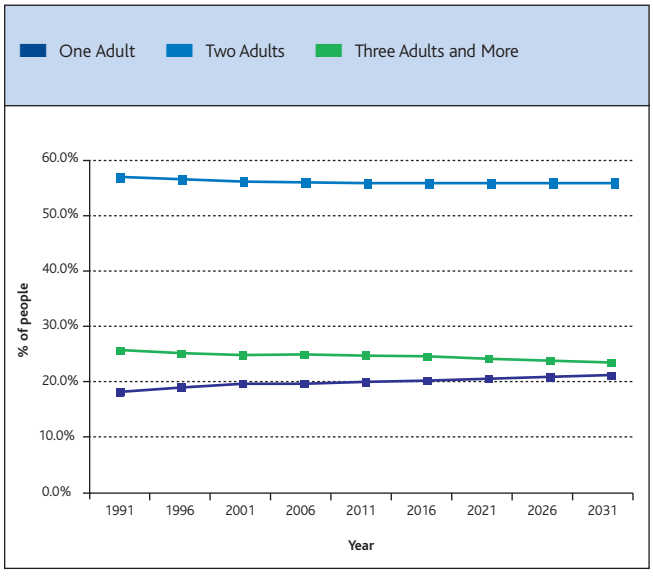


FIGURE 2.13 DISTRIBUTION OF POPULATION BY HOUSEHOLD SIZE IN WEST YORKSHIRE



INCREASE IN POPULATION

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INCREASE IN HOUSEHOLDS

There has been an increase in the number of single person households in West Yorkshire which is forecast to continue, as shown in Figure 2.13. With this increase there will be the need for more travel as there is less scope for linked trips (e.g. sharing the car to work).

CONSTRAINED HIGHWAY CAPACITY

Throughout West Yorkshire there are cases where congestion occurs as a result of more traffic than the highway can accommodate. In many of these situations there is limited scope to increase highway capacity due to the topography of the area or the density of the development in the area in which a congested road is situated.

FUTURE CONGESTION

IMPACT OF FUTURE DEVELOPMENTS

Economic growth is expected to occur in West Yorkshire during the period of LTP2. For example, Leeds continues to be the fastest growing centre outside of London with the generation of over 31,600 jobs forecast in the next decade. It is likely that congestion will increase. Successfully spreading the benefits of Leeds' economic growth to the other areas may add further transport growth pressures.

Economic growth in urban centres probably offers the best opportunity to manage any resulting increases in congestion through local demand management and public transport improvements.

Employment, regeneration and housing developments outside the urban centres are likely to generate traffic growth, but increases in congestion may be less, because current levels of traffic are generally lower in these locations.

Figure 2.14 shows the location of UDP designated development sites and regeneration areas with existing congestion 'hotspots' using ITIS Holdings PLC data. The map shows that most sites, for example the Aire Valley Leeds site to the east of Leeds, developments in Airedale to the north west of Bradford and the A62 corridor to the north east of Huddersfield contain some roads which are already congested.

New developments suggested in the report *Airedale Corridors: A Masterplan and Strategy for Airedale* will place pressure on road and rail capacity where the topography tends to concentrate movements.

The A62 corridor in Huddersfield is a focus for employment growth which may increase pressures on those routes leading to the area which already experience congestion.

Wakefield city centre, the 'Five Towns' and the south east area of the Wakefield district are all priority areas for regeneration.

Brighouse, in the east of Calderdale, will see increased residential and industrial development in the next few years. Halifax and the Calder Valley are the subject of urban and rural renaissance projects.

STM FORECASTS

The STM, described in the beginning of Part 2, was used to provide a more detailed picture of where congestion may increase in the future using data on future vehicle speeds. Figure 2.15 shows zones where speeds are forecast to decrease by at least 5% without the LTP2 core strategy. Areas of concern are the centres of Leeds, Bradford, Halifax and Wakefield, areas to the east of Leeds, areas to the north west of Leeds surrounding the outer ring road, Keighley in Airedale and Brighouse.

Figure 2.16 shows zones where speeds decrease with the LTP2 strategy in place. The position in urban centres is better, but significant decreases still occur in more remote development areas. This may not equate to a noticeable increase in congestion as traffic speeds are generally higher in these zones.

FIGURE 2.14 LOCATION OF MAIN DEVELOPMENT AND REGENERATION AREAS COMPARED TO CONGESTED ROAD LENGTHS IN THE MORNING PEAK

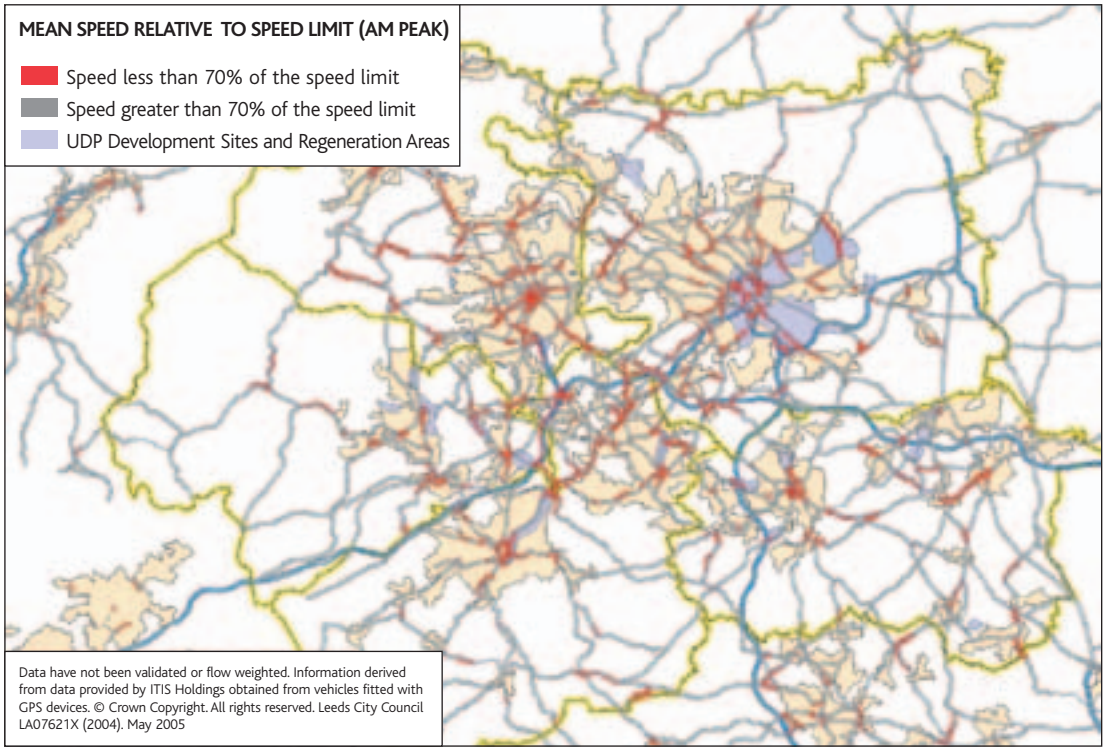
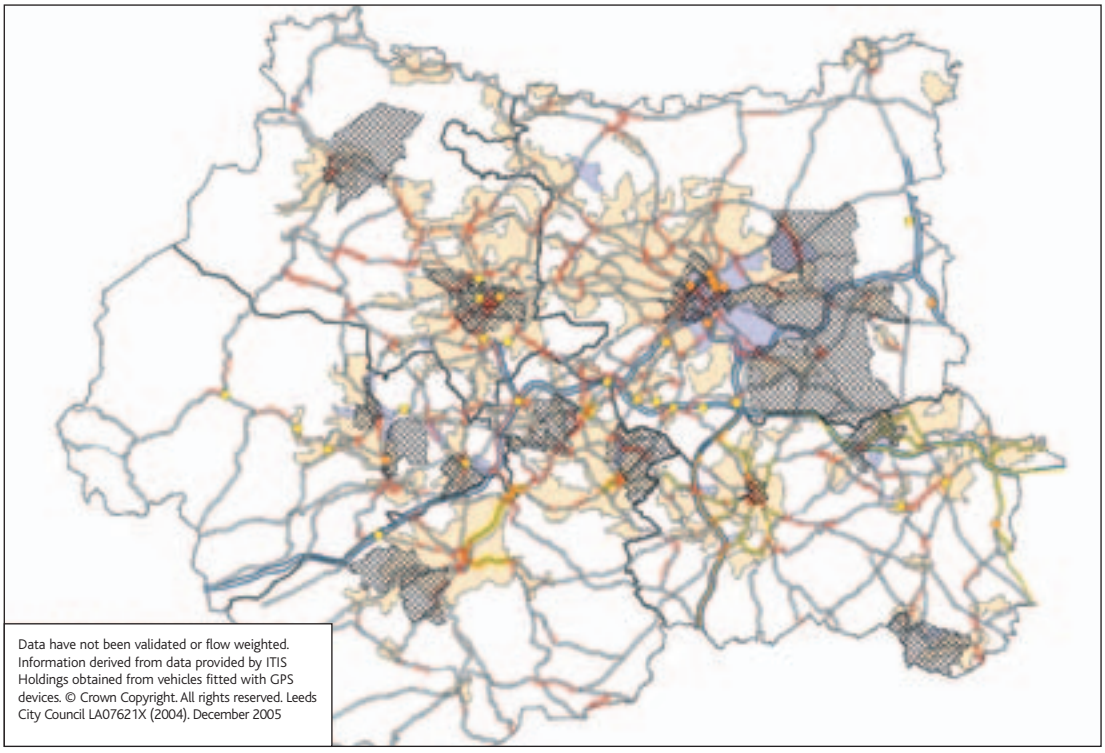


FIGURE 2.15 AREAS WHERE TRAFFIC SPEEDS ARE FORECAST TO DECREASE BY 2011 WITHOUT THE LTP2 STRATEGY

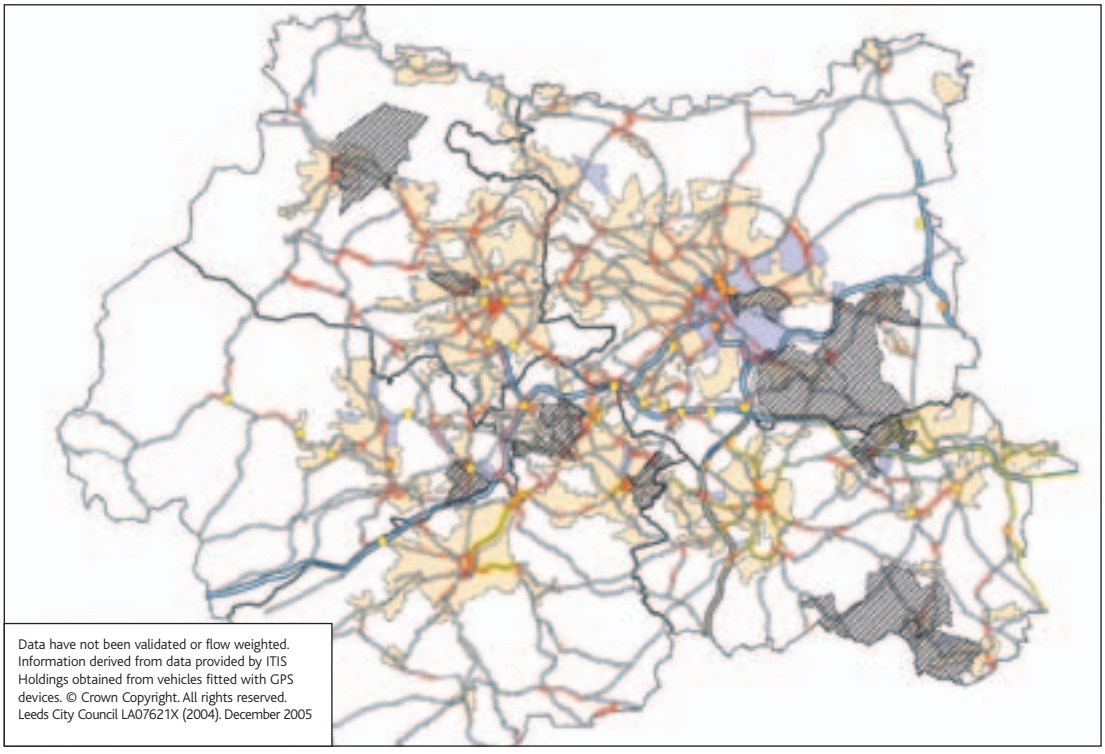


Data have not been validated or flow weighted. Information derived from data provided by ITIS Holdings obtained from vehicles fitted with GPS devices. © Crown Copyright. All rights reserved. Leeds City Council LA07621X (2004). December 2005

MEAN SPEED RELATIVE TO SPEED LIMIT (AM PEAK)

- Speed less than 70% of the speed limit
- Speed greater than 70% of the speed limit
- UDP Development Sites and Regeneration Areas
- AQMA
- Area of Concern
- Do Nothing 2011: Speed reductions greater than 5%

FIGURE 2.16 AREAS WHERE TRAFFIC SPEEDS ARE FORECAST TO DECREASE BY 2011 WITH THE LTP2 STRATEGY



Data have not been validated or flow weighted. Information derived from data provided by ITIS Holdings obtained from vehicles fitted with GPS devices. © Crown Copyright. All rights reserved. Leeds City Council LA07621X (2004). December 2005

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- Speed less than 70% of the speed limit
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- UDP Development Sites and Regeneration Areas
- AQMA
- Area of Concern
- Do Nothing 2011: Speed reductions greater than 5%

WHERE WE WANT TO BE

Our objectives for tackling congestion reflect where we want to be. They are:

- **To reduce delays to the movement of people and goods;** and
- To encourage more journeys by public transport, walking and cycling, particularly in congested parts of the network
- To improve journey time reliability
- To make better use of highway capacity
- To reduce the demand for travel by car as a proportion of overall trips

CONSULTATION

During public consultation for LTP2, the three main priorities that emerged were:

- reducing congestion;
- better bus services; and
- lower public transport fares/better tickets.

When asked what the preferred methods of reducing congestion were, the following three items were the most frequent suggestions:

- more freight to be carried on rail and water;
- HOV Lanes; and
- more Park and Ride sites.

One of the least favoured options for possible improvements to travel in West Yorkshire was "building new roads or bypasses".

The most popular measures to reduce car use were all related to public transport, namely:

- increase reliability of public transport;
- increase the number of destinations served by public transport; and
- improve the frequency and operating hours of public transport

The balance of the LTP2 core strategy and programme reflects these desires, although the desire for more freight to be carried on rail and water is more difficult to influence directly. More information about this is contained in "Delivering Accessibility".

The consultees supported HOV lanes and Park and Ride, but did not demonstrate a high degree of support for financial approaches to demand management.

Consultation indicates that further research and a better understanding of 'hearts and minds' issues and impact on economic performance is needed to inform development of more robust demand management measures.

Research shows that most rail users have access to a car and overcrowding causes passengers to revert to using their private car, causing congestion on the road network.

WHAT WE ARE GOING TO DO IN LTP2

The elements of our strategy for tackling congestion are to:

C1	Encourage modal switch to public transport;
C2	Manage the demand for travel;
C3	Make the best use of existing capacity;
C4	Improve the highway network;
C5	Encourage more cycling and walking;
C6	Promote Smarter Choices in travel; and
C7	Promote sustainable land use planning policies and practices.

These strategy elements are described in more detail below. For detailed case studies showing how these strategies are translated into measures to address local congestion problems refer to Appendix O.

C1 ENCOURAGE MODE SWITCH TO PUBLIC TRANSPORT

Metro's Bus Strategy for West Yorkshire

Metro's Bus Strategy has been developed in tandem with LTP2. It contains measures to encourage mode switch to bus services by making bus services more attractive. The Bus Strategy envisages a more radical approach towards delivering higher quality bus services, with an emphasis on service delivery. The outputs would include:

- improved punctuality and performance;
- simplified ticketing, fares and routes to reduce boarding time delays;
- improved networks;
- greater service stability;
- better customer service; and
- higher fleet investment and quality standards;

The important and continuing role of revenue funding to deliver the LTP2 strategy is described in Part 3 "Strategy Delivery".

THE YORKSHIRE BUS INITIATIVE

The YBI is a partnership between West and South Yorkshire local authorities, the City of York Council and bus operators. YBI aims to deliver a "step change" in bus services through the introduction of QBCs. Measures include bus priority, better facilities and new vehicles. By making bus services more attractive, the YBI contributes towards the achievement of LTP targets. In LTP2, the impact of the YBI will be measured by a local target for QBC patronage.

Major Scheme funding bid(s) are also planned during LTP2 to accelerate the scope and delivery of the YBI. More details on Major Schemes are provided in Part 3 "Strategy Delivery".

IMPROVING BUS SERVICE PERFORMANCE

Through funding for Real Time Passenger Information (RTPI) in LTP1, operators now have the means to manage bus performance better during LTP2. Participation by operators in West Yorkshire Transport Education and Skills Alliance (WYTESA) is designed to improve driver retention, training and motivation with resulting performance gains.

The implementation of Punctuality Improvement Partnerships (PIPS) during LTP2 is expected to lead to some improvement in punctuality during the period of LTP2.

THE RAIL STRATEGY

Metro's rail strategy, RailPlan 6, has been developed in tandem with LTP2 and rail operators. It contains measures to encourage mode switch to rail by making rail services more attractive, including additional peak capacity, providing better access to and at rail stations, improving integration at rail stations and improving the quality of facilities and trains.

THE PUBLIC TRANSPORT TICKETING AND INFORMATION STRATEGIES

Metro's ticketing strategy seeks to improve ticketing within the constraints of a de-regulated environment, which is also subject to Office of Fair Trading (OFT) considerations.

The objectives of the Information Strategy are:

- to make public transport information easy to use, easy to get and easy to understand;
- to promote and increase the use of public transport through the provision of accurate, comprehensive, impartial, easy-to use information appropriate to the customers' needs;
- to ensure that customers are fully aware of the whole West Yorkshire public transport network and range of services and products, as well as providing information about individual services;
- to ensure that lack of information is not a barrier to the use of public transport; and
- to support national information initiatives such as Traveline and Transport Direct.

TRAVEL TO SCHOOL BY BUS

MyBus was developed during the first LTP to encourage children to travel by bus to school. Previous funding from a Major Scheme bid has provided 150 dedicated buses together with highways works to improve school access. Buses are fitted with seatbelts and CCTV, and each has a dedicated driver with customer-service and other training.

Secondary Schools served by MyBus are automatically entered into the SAFEMark scheme that rewards schools for taking public transport seriously.

Results from Phase One show that 70% of primary school pupils using the service previously arrived at school by car. A Major Scheme funding bid is planned to extend MyBus, details are provided in Part 3 "Strategy Delivery - Major Schemes".

Metro also operate a School Plus MetroCard scheme. This gives young people aged 5 to 16 and full-time school students 16 to 18, unlimited bus travel in West Yorkshire at any time on any day of the week.

PARK AND RIDE

West Yorkshire already has around 3000 Park and Ride spaces. Studies across West Yorkshire have found that there are areas where bus-based Park and Ride could be a viable solution to car traffic growth. A Major Scheme Bid(s) is planned during LTP2. More details are provided in Part 3 "Strategy Delivery". Car park extensions at and better access to rail stations will continue to be delivered where circumstances permit.

C2 MANAGE THE DEMAND FOR TRAVEL

Demand management will continue to be a part of the LTP strategy in LTP2 as it was in the first LTP to encourage mode switch to public transport and deter inefficient use of the road network.

CAR PARKING

This strategy element consists of:

- continuing to reduce the number of long stay spaces in urban centres;
- in urban centres preference will be given to short stay (less than 4 hours) over long stay parking;
- continuing to convert long stay spaces to short stay;
- extending the city centre control zones outwards;
- the price of parking within the control of the district authorities, particularly long stay parking, will be raised in real terms on a co-ordinated basis;
- on street parking in key centres will be subject to charging, and the extent of the charged areas will be reviewed as centres develop and expand;
- residents' parking zones will be implemented on the fringes of controlled and charged parking areas to prevent parking being displaced to these areas;
- district authorities will introduce the de-criminalisation of parking offences and take on responsibility for enforcing on-street parking restrictions (already operational in Leeds);
- as part of the development control process maximum guidelines will be applied to the number of parking spaces at new developments, particularly in centres, in line with the RSS;
- working towards overall reductions in parking provision in city and main town centres, converting any space released to more productive uses or environmental enhancements;
- using additional revenue to fund initiatives linked to park and ride and improvements to car park infrastructure (for example security); and
- ensuring appropriate parking standards are included in each district authority's LDF.

OTHER CHARGING MECHANISMS

Analysis of speed and traffic flow data shows that there are some local areas where congestion is a problem. However, the overall level of congestion in the urban centres of West Yorkshire is not currently considered to be sufficiently severe to warrant the introduction of either road user charging or private non-residential parking charges. The levels of congestion will be monitored and the situation will be kept under review.

It is almost inevitable that congestion will increase to a point where more radical measures are needed. West Yorkshire deserves a transport system that meets the needs of local people. Ignoring congestion is not an option if West Yorkshire is to stay competitive and see jobs and housing grow. The Partnership recognises that we need to be ready for this situation and need to investigate and plan what measures would be required in the future.

However, the Partnership wants certain conditions to be in place before any pricing is considered:

- any schemes must improve and not detract from West Yorkshire's economic competitiveness;
- appropriate public transport alternatives must be significantly funded and coming on stream to provide travel choice;
- the factors affecting West Yorkshire's ability to deliver quality bus services must be addressed; and
- there must be agreement about ways of hypothecating the revenue generated for reinvestment in transport in West Yorkshire.

Any solutions must:

- take account of any national road pricing scheme, given the influence of the motorways on West Yorkshire's traffic movements;
- be responsive to specific local conditions both in terms of location and time of day; and
- be consistent with West Yorkshire's economic growth, regeneration and social inclusion strategies.

Over the course of LTP2 research work will be undertaken to develop a better understanding of the circumstances under which bolder demand management measures would improve economic performance.

Detailed consideration will also need to be given as to what other outcomes could be achieved more directly or swiftly with a bolder approach here.

Our statement on making a Transport Innovation Fund (TIF) bid is set out in Part 3 "Strategy Delivery".

REALLOCATION OF ROAD SPACE

The Partnership has a good record of allocating road space according to local priorities and by making best use of existing capacity. The A647 HOV lanes, bus guideways, public transport boxes and conventional bus lanes all make best use of road space by giving benefits to prioritised users. These benefits have altered mode choices and travel behaviour. For example the HOV lanes have lead to an increase in car occupancy from 1.35 to over 1.4, and have improved journey times for bus passengers and car sharers.

The approach that is currently being developed is to look at local circumstances and objectives and identify the most appropriate form of road space allocation on a local basis.

The overall aim would be to maximise vehicle or person throughput and would identify priority group users which could include bus passengers, commercial vehicles, occupied taxis or multiple occupancy cars. The methods of re-allocation of road user space could include bus lanes, HOV lanes, no-car lanes and/or gates.

Urban Traffic Management and Control (UTMC) and queue relocation will also be considered for making the optimum use of existing capacity and accommodating additional growth.

Working in partnership with District Traffic Managers, targets will be developed for different priority groups (e.g. speed and variability of bus times and commercial vehicle times) and appropriate road space allocation measures introduced to deliver these targets.

STRATEGY BEYOND LTP2

As pressures on the road network continue to increase in the long term more extensive and bolder demand management measures will need to be considered. As part of this aim, the Partnership is progressing proposals for a TIF bid.

The adoption of these bolder demand management measures will need very careful consideration as acceptance and compliance by both the public and business sector will be essential to the success of any future measures.

It is possible that towards the end of the fourth LTP (LTP4) (2016/17 to 2020/21) a national or area based charging scheme may be introduced, and the Partnership will need to harness any regional or national strategy to meet the objectives of the LTP

C3 MAKING THE BEST USE OF EXISTING CAPACITY

NETWORK MANAGEMENT

All of the West Yorkshire district authorities have appointed Traffic Managers, and each is currently defining and expanding the delivery of the network management duty as it applies to the individual district. A West Yorkshire Traffic Managers Group has been established to share best practice and consider a consistent approach to the district authorities' implementation of duties under the Traffic Management Act. The West Yorkshire Traffic Managers have established a working relationship within a Yorkshire Traffic Managers Group to ensure cross-boundary co-ordination and consistency at a strategic level across a wide area.

The West Yorkshire district authorities wish to make the most of the existing highway network and to take a proactive approach to minimise the risk of a reduction in capacity arising from road works, events, adverse weather, unplanned incidents and any other activities.

The network management framework will ensure a strong linkage to the asset management processes to develop a joint approach towards service delivery, maintenance and repair that takes account of congestion issues and the network management duty. A more detailed report on the implementation of the Traffic Management Act in West Yorkshire is included in Annex J.

DAY-TO-DAY NETWORK MANAGEMENT

It is recognised that although the vast majority of congestion is as a result of the volume of traffic, probably the most frustrating element to regular road users can be the additional disruption caused by road works and incidents leading to delays. The West Yorkshire district authorities have systems for the recording and co-ordination of utilities operations, event management, emergency planning and a roads winter service. These systems are being developed and expanded to cover all activities on the highway in line with the Network Management Duty Guidance issued by the DfT.

The five district authorities are, along with the Yorkshire Group (the Traffic Managers Liaison Group), in the early stages of developing a joint road hierarchy and cross boundary communication system. The work will extend the current arrangements to ensure a seamless view of works, event and incident co-ordination throughout West Yorkshire and across its boundaries.

Kirklees is a Beacon Council for Street Works and the best practices are being shared across the region to improve the delivery of street works to minimise congestion.

Through the use of UTMC, the West Yorkshire district authorities will more pro-actively manage traffic. Local issues that will be addressed by these tools include the area around Shipley in Airedale, the A62 corridor in Huddersfield and Wakefield centre.

PROVISION OF INFORMATION

Working relationships with the media are being strengthened to provide accurate and timely information when congestion is expected.

Kirklees district already have Variable Message Signs (VMSs) for parking information operating in Huddersfield town centre.

Leeds and Bradford are developing city centre real time VMS road information system to alert road users to delays on major routes into and out of the city and to inform them of the availability of parking. Leeds are proposing to link the details to a web site which will contain additional information on the wider network. The five district authorities are being kept informed of the progress of the projects and are exploring the possibility of the web site becoming a West Yorkshire wide information service.

Liaison with Metro and the bus operators will help minimise the impact of road works on users of public transport.

The aim of the provision of information is to allow road users to be able to make informed choices in journey planning, to take alternative routes if necessary or adjust their journey times.

Leeds is currently participating in the Road Information Framework, a joint HA/DfT project which aims to integrate data sources and make them accessible in supporting operational management and strategic planning, through the development of scenario based modelling, with emphasis on congestion and road safety.

MAKING BEST USE OF EXISTING ROAD SPACE

The reallocation of existing road space is considered in more detail under strategy C2. It should be noted that this includes facilities for pedestrians and cyclists as well as buses and other HOVs.

C4 IMPROVE THE HIGHWAY NETWORK

Appropriate highway improvements and on-going highway maintenance work will form part of our strategy for tackling congestion.

SELECTIVE IMPROVEMENTS

Highway measures to improve the reliability of public transport and make better use of highway capacity such as signal priority for buses and additional bus/HOV lanes will be pursued as part of this strategy. Selective road widening and junction improvements to alleviate serious traffic bottlenecks will continue to be implemented where appropriate. Larger highway improvement schemes will be considered as major scheme bids where appropriate.

HIGHWAY MAINTENANCE

Maintenance regimes such as road surface improvements will also contribute to easing congestion through the provision of smooth running surfaces to ensure a steady traffic flow and improving overall journey time reliability. This will also include the maintenance of off-road cycleways and footpath networks for commuters.

C5 ENCOURAGE MORE WALKING AND CYCLING

This strategy element will ensure that journeys can be made safely and conveniently by cycle and on foot, by:

- dealing effectively with the barriers to walking and cycling;
- promoting the associated benefits which include sustainability, health, journey time reliability and affordability; and
- integrating with public transport.

This will lead to some journeys by car being substituted by walking and cycling, so contributing to the relief of congestion.

Both ROWs and highway improvements offer opportunities to reduce vehicle use to work, school, local facilities and local recreation/tourism sites, etc. Good routes for cyclists and walkers can sometimes provide shorter or quicker journeys than using the car.

Specific elements of the strategy will include:

- completion of the strategic cycling network to link schools and train stations e.g. in Calderdale and Wakefield;
- completion of the radial cycle route network and other identified schemes in Leeds;
- the development of the walking strategy and stakeholder engagement with schools, Primary Care Trusts (PCTs) and community groups;
- cycle lanes with Advanced Stop Lines (ASLs) where appropriate;
- new on and off highway cycle routes;
- signing of quieter alternative routes for cyclists;
- cycle parking facilities;
- encouraging employers to provide shower and changing facilities;
- all weather surfaces and lighting in urban areas for pedestrians;
- direction signing of paths;
- linking city centres by foot to inner residential areas;
- partnership working with other organisations, in particular PCTs to promote the health benefits of walking and cycling; and
- promotion of the use of ROWs as a viable alternative for short journeys, such as to work or for shopping and particularly to complement our Safer Routes to School programmes.

C6 PROMOTE SMARTER CHOICES IN TRAVEL

Work undertaken during the first LTP to raise the level of awareness of the benefits for individuals, businesses and society of making Smarter Choices in local travel decisions will continue. In addition to strategy C1 Encourage Mode Switch to Public Transport, the Partnership will;

- increase the number of work place travel plans through the expansion and development of the West Yorkshire Travel Plan Network;
- implement a Travel for Work project with Yorkshire Forward and Partnership funding;
- continue implementation of district authorities' in-house travel plans;
- increase the number of school travel plans;
- promote travel awareness (including linking campaigns more closely to the provision of local highway infrastructure improvements);
- introduce pilot 'personalised travel planning' schemes at selected major developments;
- encourage dedicated parking spaces at workplaces for car sharers;
- develop car club schemes to promote car-pooling, such as Leeds City Car Club - WhizzGo and the Colne Valley Car Club in Kirklees (Our Car Your Car);
- provide on-line car-sharing schemes for employers and employees similar to the existing 'wakefield.carshare.com'; and
- develop transferable MetroCards for businesses which can be used for business travel.

C7 PROMOTE SUSTAINABLE LAND USE PLANNING POLICIES AND PRACTICES

The district authorities are developing LDFs. LDF policies will seek to control or mitigate the effects of increased traffic from new developments, including;

- control over the location and scale of developments near congestion hot spots;
- requirements for developers to provide or improve cycle and walking facilities;
- parking standards that discourage car use - combined with public transport improvements if necessary;
- requirements for developers to fund network improvements (road and public transport); and
- requirements for developers to fund sustainable transport 'soft' measures in relation to new development to mitigate potentially adverse impacts on the transport network.

Guidance will be provided for developers on topics such as Travel Plans and public transport measures. Metro has worked with the district authorities to produce technical guidance for new development and public transport (Appendix L).

SAFER ROADS

THE CHALLENGE

West Yorkshire is on track to meet the national road safety targets for 2010, as shown in Table 2.3. The challenge is to maintain this improvement in a period when economic growth is forecast to continue and consequently the risk of casualties may increase as the number of trips increase.

Challenges in West Yorkshire include:

- the number of people killed or seriously injured (KSI) who are pedestrians, motorcyclists and children (under 16);
- speeding (in terms of increasing the risk and severity of casualties, community severance, and discouraging walking, cycling and horse riding);
- road safety concerns which discourage people from using more sustainable modes of travel such as walking and cycling and so reduce quality of life;
- issues relating to quality and maintenance of transport infrastructure; and
- locations with high numbers of casualties that require major financial investment.

WHERE WE ARE NOW

The most significant issues in terms of road user groups, locations or areas are highlighted below. These have been identified through a review of the road casualty statistics, and through consultation with the public and various road safety groups active in West Yorkshire and the region.

NATIONAL TARGETS

Table 2.3 shows the excellent progress that has been made in West Yorkshire towards achieving the Government's 2010 targets for reducing road injuries. By the end of 2004 the KSI target was on track to be achieved, the child KSI was almost achieved and the slight target had been achieved.

TABLE 2.3: PROGRESS TOWARDS NATIONAL CASUALTY REDUCTION TARGETS

	TOTAL KSI	CHILD KSI	SLIGHT
1994-98 Average	**1,484**	**272**	**82**
1999	1,300	243	84
2000	1,299	230	84
2001	1,331	227	79
2002	1,319	161	77
2003	1,238	203	76
2004	1,215	148	71
2004 % change over 1994-98 average	-18%	-46%	-16%
2004 % change over 2003	-2%	-27%	-7%
2010 Target	**890**	**136**	**74**

TRENDS IN TOTAL CASUALTIES

Table 2.4 identifies all road casualties in West Yorkshire by road user group.

Road casualties in West Yorkshire for pedestrians and cyclists have declined significantly in recent years compared to the 1994-98 average.

Whilst car occupant casualties have only decreased slightly compared to the 1994-98 average, this needs to be considered in the context that there has been a downward trend since the peak of 1998.

There has been a noticeable increase in motorcycling casualties compared to the 1994-98 average, with a year on year increase up to 2003. The rising trend has been flattening over recent years and it peaked in 2003. Further analysis of motorcycle casualties is given below.

The table also shows that casualties reduced in all categories (apart from 'Others') in 2004 compared to the previous year and the challenge will be to maintain this downward move in future years.

CHILDREN

There has been excellent progress in reducing child road casualties over recent years. Table 2.5 shows that total child casualties in 2004 had reduced by 31% compared to the 1994-98 average. Child casualties in 2004 are approximately 10% of the total 2004 casualties, this compares favourably with the 1994-98 average which is 16% of total casualties.

The reduction in high severity child injuries has been even more successful. Child fatal and serious casualties in 2004 have reduced by 46% compared to the 1994-98 average.

In 2004, more than half of all child casualties and more than three quarters of serious and fatal child casualties are either pedestrians or cyclists; and children account for 39% of all pedestrian and 29% of all cycle casualties.

Strategies for reducing child casualties on the journey to school, such as Safer Routes to Schools, have been very successful over recent years. All child casualties on the journey to school have reduced by 55% and KSI casualties have reduced by 83% compared to the 1994-98 averages. School travel planning has contributed to this reduction and we expect to see further reductions as school travel planning develops.

TABLE 2.4: TOTAL ROAD CASUALTIES BY ROAD USER GROUP

	PEDESTRIANS	CYCLISTS	MOTOR CYCLISTS	CAR OCCUPANTS	OTHERS	TOTAL
1994-98 Average	**2,200**	**665**	**559**	**8,395**	**1,056**	**12,875**
1999	1,933	651	678	9,326	1052	13,640
2000	1,905	589	754	9,435	1042	13,725
2001	1,776	499	800	9,084	979	13,138
2002	1,685	452	822	9,135	873	12,967
2003	1,595	488	830	8914	977	12,804
2004	1,526	440	782	8305	978	12,031
2004 % change over 1994-98 average	-31%	-34%	40%	-1%	-7%	-7%
2004 % change over 2003	-4%	-10%	-6%	-7%	0%	-6%
2004 distribution by road user	13%	4%	6%	69%	8%	100%

TABLE 2.5: CHILD CASUALTIES BY ROAD USER GROUP AND SEVERITY

	CHILD PEDESTRIAN		CHILD CYCLISTS		TOTAL CHILD CASUALTIES	
	ALL	KSI	ALL	KSI	ALL	KSI
1994-98 Average	**988**	**187**	**266**	**40**	**2004**	**272**
1999	906	185	272	27	1939	243
2000	877	175	231	33	1930	230
2001	794	149	186	30	1747	227
2002	698	114	151	15	1609	161
2003	679	136	166	27	1583	203
2004	595	103	129	17	1382	148
2004 % change over 1994-98 average	-40%	-45%	-52%	-58%	-31%	-46%
2004 % change over 2003	-12%	-24%	-22%	-37%	-13%	-27%

MOTORCYCLISTS

The upward trend in motorcycling casualties is consistent with the regional and national trend. This also reflects the rising national trend in motorcycling traffic, which is up approximately 50% from 1994-98 to 2003.

Table 2.6 gives a breakdown of motorcycling casualties by severity and a comparison with the 1994-98 average. In 2004, 6% of all casualties were motorcyclists and 19% of all KSI casualties were motorcyclists; these had increased by 40% and 44% respectively over the 1994-98 average. Also of concern is that in 2004, fatal motorcyclist casualties had doubled compared to the 1994-98 average; 17% of all fatal casualties were motorcyclists.

TABLE 2.6: MOTORCYCLIST CASUALTIES BY SEVERITY

	MOTORCYCLING CASUALTIES			
	FATAL	KSI	SLIGHT	ALL
1994-98 Average	**10**	**158**	**401**	**559**
1999	16	205	473	678
2000	19	207	547	754
2001	19	226	574	800
2002	15	258	564	822
2003	19	235	595	830
2004	20	228	554	782
2004 % change over 1994-98 average	100%	44%	38%	40%
2004 % change over 2003	17%	19%	5%	6%

PEDESTRIANS

Excellent progress has been made in reducing pedestrian casualties compared to the 1994-98 average (Table 2.7). Slight casualties show a year on year reduction, but KSI casualties are more variable. The overall trend is down and on track to meet targets.

Over 25% of KSI road casualties and around 12% of all road casualties in West Yorkshire are pedestrians. The percentage of slight casualties is lower, which reflects the fact that pedestrians are more likely to be KSI if they are involved in a collision. The majority of pedestrian casualties are adults (60%). Studies are currently being undertaken on pedestrian injuries in town and city centres.

TABLE 2.7: PEDESTRIAN CASUALTIES BY SEVERITY

	PEDESTRIAN CASUALTIES			
	FATAL	KSI	SLIGHT	ALL
1994-98 Average	**50**	**525**	**1,675**	**2,200**
1999	42	433	1,500	1,933
2000	47	450	1,455	1,905
2001	51	378	1,398	1,776
2002	46	376	1,309	1,685
2003	25	340	1,256	1,596
2004	37	360	1,166	1,526
2004 % change over 1994-98 average	-26%	-31%	-30%	-31%
2004 % change over 2003	32%	27%	11%	13%

CYCLISTS

Cycling casualties have reduced over recent years compared to the 1994-98 average, with a year on year reduction in slight casualties (see Table 2.8). KSI casualties in 2004 had reduced by a quarter compared to the 1994-98 average but with more year on year variability. The reductions have been mainly amongst the under 19 year age groups. The majority of cyclist casualties are adults (71%).

There is insufficient data available for West Yorkshire from the late 1990s to be able to identify whether the reductions are related to fewer cycle trips or successful interventions.

A local target for greater use of cycling has been set in LTP2 and complementary road safety measures will be needed to encourage more people to cycle. This need is supported by cyclist concerns on safety identified in public consultations.

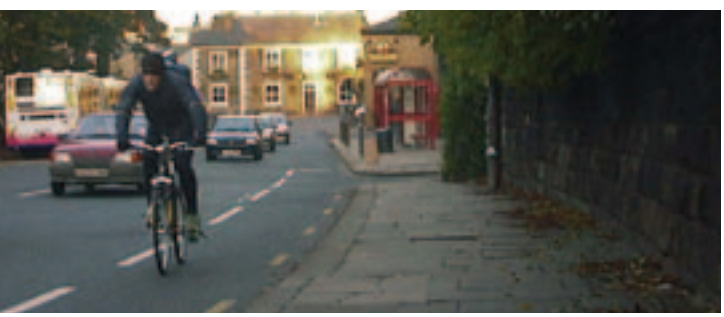


TABLE 2.8: CYCLIST CASUALTIES BY SEVERITY

	CYCLING CASUALTIES			
	FATAL	KSI	SLIGHT	TOTAL
1994-98 Average	**6**	**106**	**558**	**664**
1999	2	74	577	651
2000	4	80	509	589
2001	4	91	408	499
2002	3	62	390	452
2003	6	101	386	487
2004	2	78	362	440
2004 % change over 1994-98 average	-67%	-26%	-35%	-34%
2004 % change over 2003	2%	6%	3%	4%

URBAN AND RURAL AREAS

An analysis of casualties by area is given in Table 2.9. It can be seen that more (85%) casualties occur in built up areas (all roads with speed limit 20, 30 and 40mph), probably due to a greater level of travel in these areas. However the severity of casualties is greater in non-built up areas (roads with speed limit 50mph or more) due to higher traffic speeds on rural roads, but 83% of West Yorkshire's KSI casualties occur on urban roads.

Around three quarters of all casualties in 2004, were in built up areas on roads with a 30 mph speed limit.

Whilst there have been reductions in road injuries on local residential roads, there is a continuing concern about road injuries on major roads and at major junctions and about high casualty numbers in urban centres. In 2004, 243 junctions in West Yorkshire were identified as problem locations because there had been 15 or more collisions causing injury over a five year period.

Particular road safety issues of concern in rural areas relate to excessive vehicle speeds in villages, and the need to protect horses and horse riders, and others using the roads for leisure activities including cycling, walking and motorcycling.

DISADVANTAGED AREAS

National research shows there is strong evidence that people from poorer communities suffer disproportionately as road traffic casualties and the Government's SEU in particular found that children from Social Class V were five times more likely to be killed in road crashes than those from Social Class I. This is due to poor environment, living in areas of high traffic volumes and greater exposure to traffic. Disadvantage is measured by the Indices of Multiple Deprivation as set out in Part 1 of this document.

TABLE 2.9: DISTRIBUTION OF CASUALTIES IN 2004 BY AREA AND ROAD USER

	BUILT UP AREA		NON BUILT UP AREA	
	FATAL	KSI	SLIGHT	ALL
Pedestrians	1,505	347	21	13
Cyclists	425	72	15	6
Motorcyclists	687	188	95	40
Car Users	6,892	354	1,413	140
HGV	250	16	162	12
Bus Users	463	13	35	0
Other Users	57	13	11	1
All	**10,279**	**1,003**	**1,752**	**212**

TABLE 2.10: ANALYSIS OF ROAD CASUALTIES BY DEPRIVATION

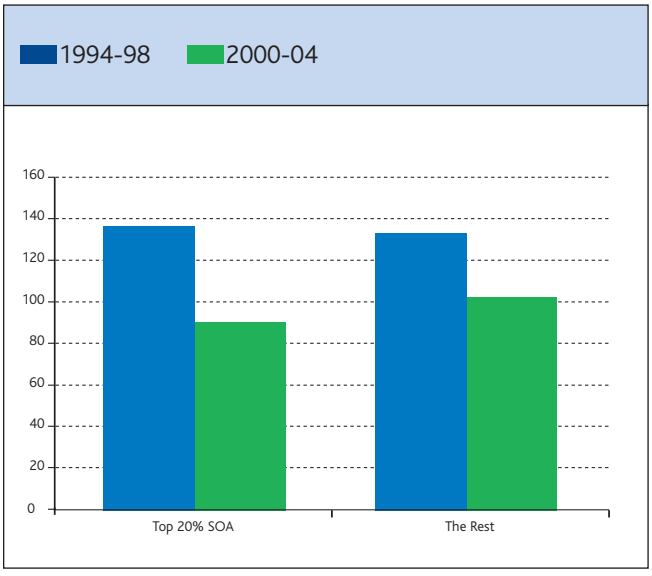
INDEX OF MULTIPLE DEPRIVATION % RANGE	NUMBER OF SUPER OUTPUT AREAS (SOAs)	AVERAGE NO OF CASUALTIES PER SOA (2000-2004)					
		KSI					SLIGHT
		ALL	ALL CHILD	CHILD PEDESTRIAN	PEDESTRIAN	PEDAL CYCLIST	ALL
1-10	270	5.6	1.13	0.9	2.4	0.4	61.3
11-20	186	4.6	0.81	0.5	1.5	0.3	44.2
21-30	177	5.3	0.85	0.6	1.9	0.4	48.1
31-40	156	4.8	0.78	0.5	1.4	0.3	37.8
41-50	126	4.0	0.48	0.3	0.9	0.3	37.0
51-60	141	4.2	0.43	0.3	0.7	0.3	36.3
61-70	125	5.1	0.44	0.2	0.7	0.2	37.9
71-80	92	3.7	0.42	0.2	0.6	0.2	30.4
81-90	80	3.1	0.29	0.2	0.6	0.3	22.3
91-100	28	2.6	0.25	0.1	0.3	0.2	17.4
County Average		**4.7**	**0.70**	**0.5**	**1.4**	**0.3**	**42.5**

Table 2.10 sets out the data related to deprivation and casualties in West Yorkshire. A fifth of the SOAs are in the top 10% of deprived areas, and a third in the top 20%. The highest rates of casualties occur in the top 10% of deprived areas indicating a strong link between casualties and deprivation, and confirming the findings of national research.

Analysis of child KSI casualties shows that the top 20% of deprived SOA's account for half of child KSI casualties. The reduction of child KSI casualties has received the highest priority in West Yorkshire in recent years, which is reflected in the excellent progress made towards achieving the 2010 target (Table 2.3 given earlier). In the last 5 years (2000-2004) there has been an overall reduction of 29% in the number of children KSI compared to the 1994-98 average. The provisional figures for 2005 show a further decrease.

Figure 2.17 shows that Child KSI casualties have fallen in the top 20% deprived SOA's by 34% compared to the reduction in the Rest of the SOA's of 24%.

FIGURE 2.17: COMPARISON OF CHILD KSI IN WEST YORKSHIRE



Many road safety initiatives over the LTP1 period have focused on areas of disadvantage due to the concentration of road injuries in those areas. Pedestrian and child pedestrian injuries in particular have received priority, including the provision of an appropriate environment, teaching road user skills, promoting responsibility and awareness and safe behaviour.

Extensive work has been done to traffic calm residential streets, provide pedestrian facilities and to take advantage of government initiatives such as "Kerbcraft" and school travel plans supported by Safer Routes to School projects.

Neighbourhood Renewal initiatives and further community involvement, including the Neighbourhood Road Safety Initiative (NRSI), and more recently roads policing have also come into play.

The reduction in road injuries to children in areas of disadvantage reflects the attention that has been given to this issue. Involvement with local people is higher than it has ever been and their involvement in whole community approaches to road safety has brought other links, for example, with health service professionals who are able to reach groups in society that road safety professionals may not have access to. Further links have been made to promote safe places and safe routes to play, giving access to healthy exercise and promoting social development.

SPEED MANAGEMENT

General

Excessive and inappropriate speeds are of concern in West Yorkshire in general, but particularly around schools and in residential areas. For non car users, excessive or inappropriate speed is an important safety concern. This is partly the reason for the decline in walking and cycling in the UK.

It is estimated that one third of road deaths every year in the UK are the result of excessive or inappropriate speed. Applying this to the 1994-98 average fatal casualty figure for West Yorkshire shows that 38 people are killed every year through excessive or inappropriate speed.

The West Yorkshire Road Safety Strategy Group, which includes the West Yorkshire Casualty Reduction Partnership (WYCRP), has developed a speed management strategy to address these concerns. The aim of this strategy is to achieve, where practicable:

- greater adherence to the speed limit;
- driving at speeds which are appropriate for the road conditions or road environment;
- 30 mph speeds at community centres and schools on major roads; and
- 20 mph speeds in residential areas.

Enforcement

The WYCRP was established in 2002 and operates speed and red-light violation cameras. The 4-year review of safety camera operations across the country published in December 2005 reported that safety cameras in West Yorkshire had reduced average road speeds at camera sites by 23% (8.6mph) and personal injury collisions at camera sites by 72.8%.

In general enforcement is undertaken by the WYCRP at locations that meet government criteria for the use of fixed and mobile cameras. Other locations are enforced through local policing and initiatives such as community speedwatch.

ROAD SAFETY AT WORK

The majority of road casualties in West Yorkshire are car occupants. National research shows that around a third of road accidents involve motorists in an at-work situation.

Further work needs to be carried out to identify how much of a problem at-work related road safety is in West Yorkshire, and the recent changes to the STATS19 form (police collision report), which now includes journey purpose will help to identify this problem.

The WYCRP and individual district authorities are talking to employers about road safety at-work, safer driving and the effects of speed on local communities. The CIBA Speciality Chemicals company in Bradford has put all its drivers through a defensive driving course and is putting items on speed and local communities in its 'Team News' magazine and 'Talking Community', which is delivered to 3000 households and businesses. Kirklees Council are currently developing driver improvement, speed awareness and safe company driving schemes for application throughout West Yorkshire during LTP2.

DRINK/DRUG DRIVING

A priority in the Government's White Paper *Choosing Health: Making Healthier Choices Easier* is to encourage the responsible use of alcohol. Road casualties associated with drink driving account for some 5% of the people KSI and 3% of total casualties. Drinking prior to introduction of breathalyser and blood tests accounted for a much higher percentage of KSI and total casualties.

Drug driving is a developing issue and we are working to identify the extent of the problem in West Yorkshire.

HIGHWAYS AGENCY

In 2004 in West Yorkshire, around 8% of casualties occurred on trunk roads, for which the HA and their Managing Agents are responsible.

The HA is a member of the West Yorkshire Road Safety Strategy Group but has its own National Road Safety Plan designed to meet the 2010 national road safety targets. The details are laid out in 'Making the Network Safer - HA Strategic Plan for Safety' with a commitment to contributing to Government's targets for reducing road casualties and to provide a safer network for customers. This commitment is passed on to the Managing Agents who maintain and improve the network on the HA's behalf.

HORSE RIDERS

It is estimated that there are 3 million horse riders in Great Britain. This figure is increasing all the time with increased leisure time and more people taking up riding.

The British Horse Society estimates that in the UK as a whole there are at least 3000 horse related collisions per year; and over 100 horses are killed on the roads every year. There is also concern that these numbers may be underestimated as many horse related collisions go unreported.

In West Yorkshire, there were 60 horse related collisions over the five year period 2000 to 2004. The majority of these collisions were in rural areas. Almost a quarter involved a loose horse bolting in the carriageway. There were 21 injured horse riders, the majority of them adults. There were no fatalities, but 4 serious and 17 slight injuries.

The West Yorkshire Road Safety Strategy Group is currently working with the British Horse Society to develop a guide to best practice in West Yorkshire to highlight problem sites for horse riders, to develop audit procedures and to draw up a programme for improvements.

WHERE WE WANT TO BE

'Safer roads' is not only about reducing road injuries, but also about sustaining and revitalising local communities. It is therefore integrated into many initiatives promoting transport and health. Creating a safer environment not only reduces road injuries but can also help to encourage people to travel by more sustainable modes such as walking and cycling.

The objectives for safer roads are:

- **To improve safety for all highway users** and
- To reduce the number and severity of road casualties;
- To tackle problems facing vulnerable road users (including those in deprived areas).

The objectives are consistent with the national objective to reduce casualties, and to address the generally higher level of casualties in disadvantaged communities.

They cover the specific issues for West Yorkshire of vulnerable road user groups and in particular pedestrians, children, and motorcyclists. They also reflect the importance of road safety in national, regional and local policy.

The targets for safer roads are presented in Part 4. They include the national targets for road safety and a local target for pedestrians. The local target for pedestrians was set in 2000 in recognition of the high numbers of pedestrians injured in West Yorkshire, and will be retained during LTP2.

WHAT WE ARE GOING TO DO IN LTP2

The West Yorkshire Road Safety Strategy has been developed from the Government's national road safety strategy in the White Paper *Tomorrow's Roads - safer for everyone* and revised following the national three-year review of progress.

The foundation of our approach to safer roads is the engagement and involvement of local people, analysis of road injuries related to road lengths, road junctions, local areas, common causation factors, road user groups and local communities and injury trends. It is driven by the need to deal with the most serious casualty problems first and to reduce injuries to vulnerable road users, and people in disadvantaged areas and to reduce speeds for the benefit of all road users. Strategy elements fall into two broad categories.

Promoting safer roads for overall community benefit includes 'added value' measures like highway maintenance or new works (for example integrated transport corridors improvements, town centre and village improvement schemes, pedestrian, cycling and riding networks, School Zones, traffic management, Home Zones, traffic calming, Safer Routes to School, road signing).

Local road safety measures and enforcement activities are designed to directly reduce road injuries at specific locations, generally capital works at locations or areas where there have been casualties that can be treated with low cost measures bringing a high rate of return. The schemes include engineering works at existing casualty locations and mass action schemes, supported by Education, Training and Publicity (ETP) initiatives.

Individual elements of the road safety are to:

S1	Provide an appropriate road environment with facilities for each user group;
S2	Provide the relevant skills for driving, riding, walking and cycling;
S3	Promote awareness of road safety issues and of the road user's responsibility for others;
S4	Encourage the correct behaviour of all road users; and
S5	Improve safety through new technologies that can reduce the risk injury.

S1 PROVIDE AN APPROPRIATE ROAD ENVIRONMENT WITH FACILITIES FOR EACH USER GROUP

The road environment and its maintenance is a major factor in road safety, influencing the behaviour of road users, and the level of safety that can be provided. It must be suitable for users and have the appropriate facilities for people to be safe, for example to have adequate crossing facilities for pedestrians and networks for cycling.

The need to improve the environment is also supported by public consultation, which showed that the state of roads, pavements and cycle lanes was a frequently highlighted problem.

This approach supports the strategy in the White Paper *The Future of Transport* for better street design to make roads safer and more pleasant environments for all road users.

Measures:

- local road safety engineering measures for existing problem locations;
- maintenance programmes that include road safety improvements;
- implementation of formal Safety Audits on all highway schemes to maximise the safety benefits;
- bridge and retaining wall measures to prevent or mitigate the effects of impact and improve vehicle and pedestrian safety;
- for pedestrians and cyclists, where demand for walking and cycling is likely to increase, provision of appropriate facilities to enable these activities to be carried out safely (e.g. off road school links to the Calder Valley Cycleway);
- for children, further develop child safety audits to identify key factors in collisions involving children, giving priority to the most deprived areas;
- actions that promote safer roads for overall community benefit (e.g. traffic calming and traffic management);
- road user hierarchy approach to design (e.g. incorporation of pedestrian features within design and planning of regeneration schemes).

S2 PROVIDE THE RELEVANT SKILLS FOR DRIVING, RIDING, WALKING AND CYCLING

This approach supports the strategy in the White Paper *Tomorrow's Roads - safer for everyone* for better education and training for drivers, cyclists and pedestrians to ensure all road users are aware of the risks and know how to use roads safely.

For people to be safe they must have the correct training for the vehicle, motorcycle or cycle they are using. For horse-riders they must have the correct training to be in control of the animal under road conditions. Pedestrian skills are needed to interact safely with other road traffic. People must also make sure that drink or drugs do not impair their skills.

Measures:

- for children, continuation of district authority programmes for child pedestrian training including continuation and modification of the Kerbcraft pedestrian training initiative;
- for cyclists, continuation of cycle training initiatives for children and cyclists in general;
- for horse riders, work in partnership with the British Horse Society and their horse rider skills training;
- for motorcyclists, Police initiatives around Bike Safe in conjunction with North Yorkshire County Council (NYCC), and extension of 'Driving for Life' to include motorcyclists;
- 'Driving for Life' driver improvement courses for younger drivers (enhanced PassPlus), for older drivers (supporting older road users scheme), for offenders (Speed Awareness Course and National Driver Improvement Scheme), led by Kirklees;
- application across West Yorkshire of the 'Driving at Work' initiative, developed by Kirklees. This includes driver improvement, environmental awareness and safe company driving schemes;
- training and awareness campaigns of how to use facilities (e.g. puffin crossings, traffic calming and other engineering projects);
- publicity initiatives;
- enforcement initiatives; and
- LSP Neighbourhood Action Plans.

S3 PROMOTE AWARENESS OF ROAD SAFETY ISSUES AND OF THE RESPONSIBILITY FOR OTHERS

Road users are responsible for their own safety and for all other road users. They should not by their actions or behaviour put others at risk. Responsibility for road safety needs to be considered by all as a shared responsibility between district authorities, the HA, NHS, WYCRP, businesses, road users and all of West Yorkshire's communities.

Measures:

- to promote road safety for children, (and the responsibility for parents and schools), continued use of Safer Routes to School, School Travel Plans and the SAFEMARK schools initiative;
- for motorcyclists, continuation of awareness campaigns for motorcyclists;
- for cyclists, cycle networks and links, including traffic-free networks, and the promotion of awareness to drivers that cyclists need to be safe;
- provision of pedestrian and cycling facilities and networks (to improve safety and mobility, and to link with health initiatives);
- for rural areas and urban villages, provision of gateways with clear indication of speed limits and with appropriate messages from the local communities;
- provision of 20 mph zones in urban areas and in rural villages, where practicable - incorporating local messages increasingly from local children;
- continuation of publicity and enforcement campaigns to raise awareness of the effects of alcohol and to prevent drink driving;
- 'Driving for Life' training initiatives for all road users;
- awareness campaigns and initiatives, including company driving schemes, the use of travel plans, promoting engineering projects and links to local needs and also supporting the 'Think' campaign;
- promotional work linked to road safety initiatives and audits of current and planned activity;
- promote awareness by actively involving the local community;
- use of internet to promote road safety initiatives (e.g. local authority and Police web-sites www.homeszonesnews.co.uk and www.safetycameraswestyorkshire.co.uk);
- use of press and radio to promote road safety information;
- promotion of road safety in urban regeneration and neighbourhood renewal - including the NRSI;
- support various agencies and private companies who operate schemes to promote safe driving practices at work;
- joint promotion with local road safety charities; and
- in car safety training

S4 ENCOURAGE THE CORRECT BEHAVIOUR OF ALL ROAD USERS

Enforcement and non-enforcement measures are used to influence changes in behaviour of road users. Using enforcement supports the strategy in the White Paper *Tomorrow's Roads - safer for everyone* for better, more targeted enforcement for the minority who break the law and put others at risk.

Enforcement within West Yorkshire is a joint undertaking between the police and the WYCRP, in partnership with the district authorities. Enforcement areas include speed, seat belt wearing, mobile phone use, drink/driving, vehicle maintenance, and a monthly theme to deal with other road safety issues.

Non-enforcement initiatives to manage behaviour include traffic calming which is used extensively to modify existing roads. Traffic calming schemes in particular have reduced injuries to children and to pedestrians overall. Other non enforcement initiatives include road safety ETP and driver training schemes; and initiatives such as those as identified under S3.

Measures:

- speeding overall will be tackled through the implementation of the West Yorkshire Speed Management Strategy and the development of an enforcement strategy involving local policing, WYCRP, and the local community through 'Speedwatch' initiatives; and should include referral to speed awareness courses instead of penalty points and a £60 fine;
- speeding in urban areas will be tackled through safety cameras, speed indicating devices, vehicle actuated signs; and other actions that contribute to changing behaviour (as per S1, S2 and S3, e.g. Home Zones, training, gateways);
- red light violation cameras will be deployed to reduce casualties at traffic signal junctions;
- introduction, where appropriate, of 20 mph zones and associated traffic calming measures in urban areas with speed related problems particularly around schools and in locations with high proportions of child injuries;
- speeding in rural areas will be tackled through continued use of gateways and clear indications of speed limit commencement, review of speed limits and police enforcement action;
- local policing and targeted enforcement (e.g. seat belt wearing, vehicle condition, drink and use of drugs),
- promotional activities for all road users; and
- further development of the safer roads hierarchy to ensure roads meet the needs of the communities alongside and in the vicinity of the road, as well as other road users who use the road for longer journeys.

S5 IMPROVE SAFETY THROUGH NEW TECHNOLOGIES THAT CAN REDUCE THE RISK OF INJURY

This is a strategy in the White Paper *Tomorrow's Roads - safer for everyone*.

Measures:

- introduction of 'vehicle activated signs', to reinforce conventional signs, where this has had limited impact and where they will be most effective from a road safety point of view, specifically taking account of factors such as speed related collisions and identifiable hazards (e.g. near schools, before sharp bends etc);
- UTMC systems (e.g. improved phasing and linking of traffic signals);
- Automatic Number Plate Recognition (ANPR) (Police Revenue) to deny criminal use of the road network. There is a clear link between general criminality and the disregard of traffic laws; ANPR will be used to tackle all forms of criminality in our roads, thereby creating a safer environment for all;
- maintenance of UTMC systems;
- Intelligent Speed Adaptation (Government funded pilot scheme);
- Motorway Incident Detection and Signing (HA).

HOW WE ARE GOING TO DELIVER

PARTNERSHIP WORKING

The West Yorkshire strategy for 'safer roads' is managed through a multi-agency task group: the West Yorkshire Road Safety Strategy Group. It meets monthly and involves:

- the five Highway Authorities;
- West Yorkshire Police;
- WYCRP;
- Strategic Health and representatives of PCTs; and
- the HA .

In this way there is general support and agreement on road safety matters and shared approaches to issues such as speed management and publicity that are so important in influencing local people. The WYCRP has won a Prince Michael of Kent Road Safety Award for 'Safer Roads Day', as have West Yorkshire Police for 'Community Speedwatch'.

Whilst recent Government announcements have indicated that future safety cameras will be looked at as part of overall local road safety plans, this has been the case in West Yorkshire since the establishment of the WYCRP in 2002. The proposed changes will have little impact on overall working practices, as there is already complete integration within the road safety strategy group. Adequate financial arrangements, however, must be put in place to ensure that safety camera enforcement can continue.

Other partners include the Yorkshire and the Humber Casualty Reduction Steering Group, the local community, local road safety charities and Government.

General cross boundary issues are dealt with at quarterly meetings, involving district authority road safety officers from across the region.

Specific schemes and initiatives with potential benefits across boundaries are raised with the relevant internal or external highway authority as necessary.

Each district authority has its own Road Safety Action Plan that delivers the overall West Yorkshire Strategy - developed to meet particular circumstances of the authority and to develop further local partnerships. Particularly important are those established through the Neighbourhood Renewal Fund and the Local Area Agreement (LAA) process working directly with neighbourhood managers and with local people.

In partnership with the Institute of Transport Studies at the University of Leeds, a Government funded pilot is being tested in Leeds for speed limiters in vehicles with Intelligent Speed Adaptation.

The HA's Annual Road Safety Strategy Report includes consultation with the district authorities to identify areas of mutual concern that might not necessarily be picked up during the trunk road investigations. This information is then fed in to the individual route reports which provide details of possible improvement options to be investigated further.

RESOURCING

There is a general issue with limited resources to implement initiatives in district authorities (e.g. cycle training), by the Police (e.g. enforcement) and in the local community (e.g. schools).

Additional increased resources are needed to provide skills, raise awareness and responsibility and to encourage appropriate behaviour. Similar skills shortages have been identified and acknowledged by Government in related transport fields.

Delivering safer roads depends upon adequate resources being available.

CHANGES TO FUNDING

Changes to the funding of safety cameras are described in Part 3 "Strategy delivery".

After 1 April 2007 DfT will no longer retain control over camera partnerships and their operations. Local authorities and their partners will need to integrate safety camera operations with other road safety services and initiatives. The WYCRP is an essential element in the reduction of road injuries in West Yorkshire and the 4-year review of safety camera operations has confirmed the contribution that has been made. This contribution must be maintained and the benefits gained from the national safety cameras programme should be extended to road safety overall, particularly in targeted enforcement, public relations and the dealings with local people.

In the interests of continuity and to maintain the current impetus in reducing road death and serious injury, the Partnership would continue in a similar format as it is at present. It will be necessary to revisit the Partnership Agreement because of the change in funding arrangements. This will take place over the summer and autumn of 2006 to allow for budgets to be agreed.

The Partnership Agreement would be made for the period of LTP2 and thereafter in accordance with the continued funding being available. There is a need for confidence in the continuity of funding for all the partner agencies.

If increased allocations are given to West Yorkshire, the new funding arrangements for road safety overall will allow for more effective and more comprehensive programmes of road safety initiatives to be prepared and will give greater opportunity to engage with local people in delivering road safety. The addition of revenue funding is particularly welcome to enable authorities to increase road safety ETP initiatives and develop innovative approaches to road safety that are coming from major initiatives such as NRSI.

AIR QUALITY AND VEHICLE EMISSIONS

THE CHALLENGES

AIR QUALITY

Poor air quality can be one of the negative side-effects of motorised travel. It has proven adverse affects on human health and can also have wider effects on climate change and biodiversity.

Economic growth and rising prosperity in West Yorkshire have resulted in more journeys being made of a greater average length. Associated increases in car use contribute towards road congestion. Once road congestion occurs emission problems are greatly exacerbated, leading to air quality deterioration.

Despite this there is a general trend within West Yorkshire of improved air quality for Nitrogen Dioxide (NO_2) and PM_{10}. During the last decade, emissions from the national vehicle fleet have reduced rapidly as a result of the legislation such as the EURO Standards and the Auto-Oil agreement.

With these measures air quality has generally improved, despite continued growth in the national vehicle fleet and increases in total distance travelled. As there are less older engine types in the vehicle fleet, rates of improvement due to modern technology are now slowing down.

Where congestion increases due to traffic growth, combined with the effect of reduced benefits arising from engine and fuel enhancements, the recent trend of improving air quality will start to slow and may deteriorate.

Challenges to address in relation to air quality in West Yorkshire include:

- the declaration of 10 Air Quality Management Areas (AQMAs) in West Yorkshire and more than 20 other Areas of Concern (AOCs) identified;
- the concerted partnership working required to deliver on initiatives identified in Air Quality Action Plans (AQAPs);
- increases in traffic growth and congestion that are beginning to counteract the effects of a cleaner vehicle fleet;
- resolving conflicting priorities at economic development/regeneration sites where there are existing air quality issues;
- poor air quality making areas unattractive, deterring walking and cycling in the process; and
- more stringent air quality standards for PM_{10} are expected in the future.

CLIMATE CHANGE

Increases in scientific knowledge and recent severe weather events have raised environmental awareness about climate change. Since the industrial revolution there has been a massive increase in the burning of fossil fuels, resulting in global CO_2 concentrations increasing by 25%.

The increase in CO_2 and other "greenhouse gases" is now beginning to have a significant effect on our climate. The United Kingdom Climate Impact Programme (UKCIP) has predicted the likely outcomes. Our climate is becoming more unpredictable, with more extreme events. There are prospects of increased incidence of winter flooding and summer flash floods, summer drought, heat-waves and potential high winds.

In recent history North Eastern England has experienced a greater than 1 in 200 year winter flood in 2002, a heat-wave in 2003, flash floods in summer 2004 and 2005, and 100 mph storms in 2005. It has been estimated that climate change would continue for another 30 to 40 years, even if all greenhouse gas emissions were halted immediately.

International targets have been set to reduce the total CO_2 burden from all sectors. In the UK it is hoped to achieve a 20% decrease on 1990 levels by the year 2020. A more aspiring target has been set to reduce emissions by 60% by 2050. This level of reduction could stabilise climate change but current projections show that these targets are unlikely to be achieved.

The UK Transport Sector (excluding refining emissions) currently produces 24% of the total UK CO_2 burden. Due to the contributions from road and air transport, it is currently the only major sector where CO_2 emissions are still increasing.

ENVIRONMENTAL NOISE

Transport is generally the most dominant source of environmental or background noise. Road traffic provides the most extensive source of environmental noise across West Yorkshire. Under some circumstances aircraft and trains can also create a local noise nuisance.

The 2000 National Noise Attitude Survey involving attitudes to quality of life and the environment identified that:

- 52% of a sample were 'Very/fairly worried' about Noise; and
- 20% considered noise affected quality of life and caused health related problems.

The problem of road traffic noise is more prevalent as the national vehicle fleet continues to grow along with journey lengths. As congestion becomes more extensive in West Yorkshire, drivers plan journeys to avoid peak periods or re-route away from busy main roads. This generates more widespread noise problems with journeys made at more anti-social times and sometimes through sensitive areas.

Traffic noise disturbance is becoming more of an issue in residential areas, whilst Areas of Tranquility in rural areas are being further eroded. Numbers of noise complaints associated with Land Compensation Act, Part 1 Claims for property devaluation are rising, causing costs to rise for the Councils in West Yorkshire.

Modern vehicles, both cars and HGVs, are approximately 10 decibels (dB(A)) quieter than vehicles operating in the early 1970's. Noise reductions have been achieved through improvements in vehicle design. Over the same period tyre noise has increased by 3 dB(A) due to much wider tyres with chunky treads. The changes in traffic noise characteristics mean that tyre noise now dominates for most roads with speeds above 40mph.

Other factors affecting road traffic noise emissions include the number of vehicles, percentage of HGV's and carriageway condition.

Noise emissions from both aircraft and rail are influenced by the following factors:

- demand for travel;
- number of aircraft/ rail movements;
- aircraft type, train and rail type; and
- proximity and screening of sources.

The challenge for LTP2 is to provide a co-ordinated mix of transport measures and initiatives that achieve the desired Plan objective to reduce transport related noise emissions and their adverse effects on Quality of Life.

WHERE WE ARE NOW

AIR QUALITY

All five district authorities have completed Round 1 and have progressed onto Round 2 of the Air Quality Review and Assessment process. The findings are summarised in Table 2.11.

Under the requirements of Round 1, Leeds and Wakefield authorities identified a risk of exceeding the background NO_2 objective by the end of 2005. Across West Yorkshire nine AQMAs were designated due to high emissions of NO_2 from road transport. Another AQMA, unrelated to transport, was also declared in Leeds.

All five district authorities in West Yorkshire have either finished or are close to completing Round 2 of the National Air Quality Strategy (NAQS) review and assessment processes and have completed an updated screening assessment. This screening process has again identified road transport emissions of NOx and PM_{10} as a major concern. As a result, all district authorities have recently undertaken detailed air quality assessments, focusing on identified emission 'hot spots'.

The findings summarised in Table 2.11 highlight potential new AQMAs or AOCs where predicted air quality at sensitive locations is close to exceeding the relevant standard objective.

In addition to the AQMAs declared during Round 1, all district authorities have since identified further AOCs. They are again located within urban areas or adjacent to the strategic road network.

One new AQMA has been declared in Calderdale alongside the A629 south of Halifax. Wakefield is expected to declare a new AQMA covering an area to the north of Wakefield city centre in 2006.

Bradford is expected to declare four new AQMAs along Shipley Airedale Road, Thornton Road and the junctions of Manchester Road/Mayo Avenue and Manningham Lane/Queens Road, during 2006.

Further air quality monitoring data is being collected across West Yorkshire as evidence to establish whether any more AQMA's need to be declared. Figure 2.18 shows the location of the declared AQMAs and identified AOCs in West Yorkshire.

The seven road traffic related AQMAs declared in Leeds are all located near major road junctions around the Inner Ring Road close to the City Centre. One of these is adjacent to the M621.

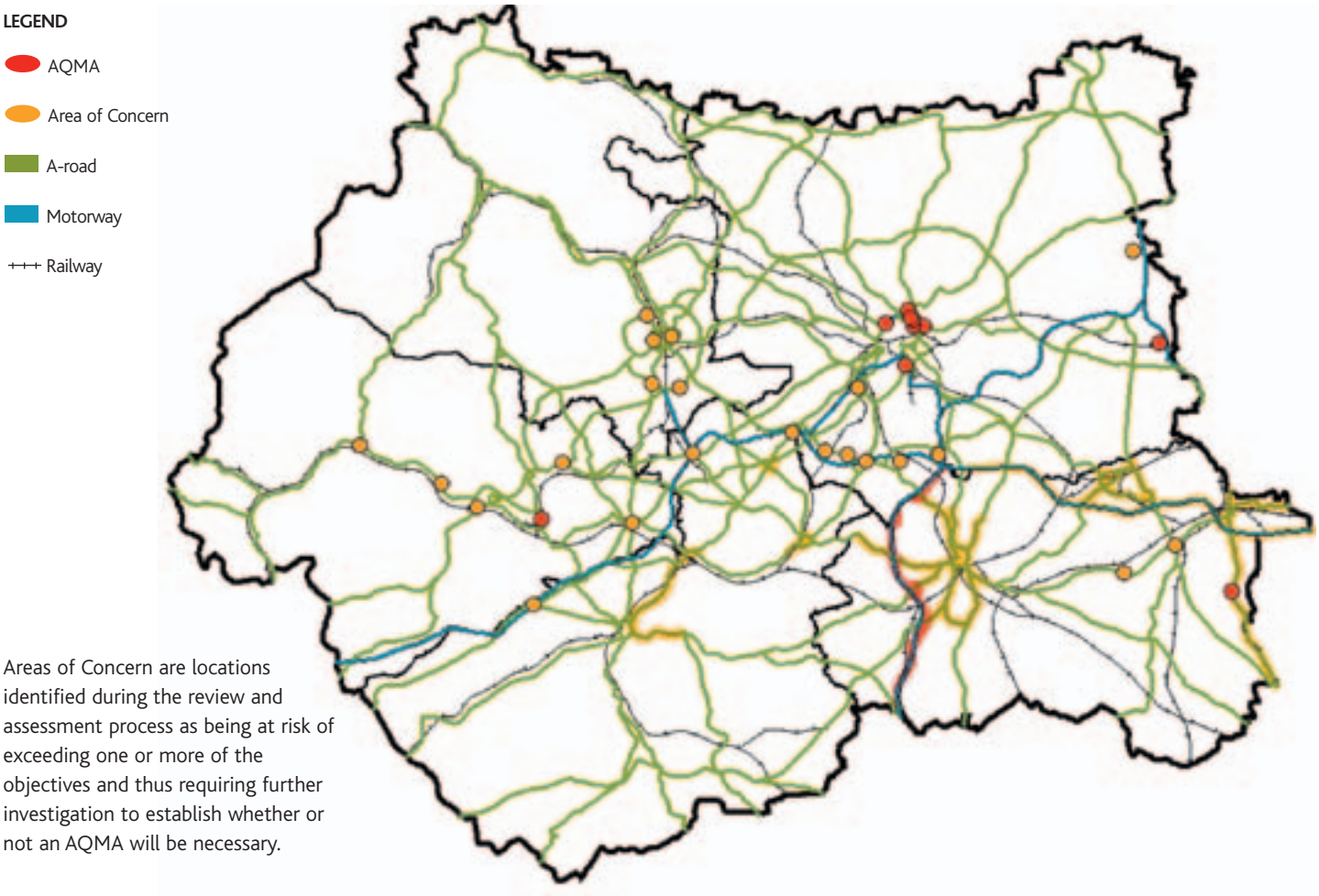
The two AQMAs declared in Wakefield run along the strategic corridors of the M1 and A1.

The HA is responsible for the A1, M1 and M62. The traffic on these roads is the main contributor to the poor air quality in the Wakefield AQMAs and in a number of AOCs elsewhere in West Yorkshire.

TABLE 2.11 SUMMARY OF PROGRESS WITH THE AIR QUALITY REVIEW AND ASSESSMENT PROCESS IN WEST YORKSHIRE

	ROUND 1			ROUND 2	
DISTRICT	STAGE 4	AQMAs IDENTIFIED	ACTION PLANS	UPDATED SCREENING ASSESSMENT	DETAILED ASSESSMENT
Bradford	Not required	None	Not required	NOx (Roads) PM_{10} & Sulphur Dioxide (SO_2) (Steam train)	Ongoing assessment, 5 transport related AOCs identified. It is expected 4 of these areas will be declared as AQMAs during 2006.
Calderdale	Not required	None	Not required	NOx (Roads) PM_{10} (Roads) SO_2 (industry)	Assessment complete, 5 AOCs, transport sourced. An AQMA declaration for A629 at Calder Hebble was made in November 2005.
Kirklees	Not required	None	Not required	NOx (Roads) SO_2 (Industry)	Ongoing. A number of AOCs have been identified in the vicinity of road corridors and busy junctions.
Leeds	3	(7) NO_2 (1) PM_{10}	Completed & Approved	NOx (Roads) PM_{10} (Roads & domestic	Draft Report completed. 7 AOCs identified adjacent to the motorway network.
Wakefield	3	(2) NO_2	Under development	NOx (Roads) PM_{10} (Roads, domestic, industrial) SO_2 (Domestic, industrial)	Ongoing. Potential new AQMAs and AOCs based on local and strategic road corridors.

FIGURE 2.18 AQMAS AND AOCS IN WEST YORKSHIRE



Areas of Concern are locations identified during the review and assessment process as being at risk of exceeding one or more of the objectives and thus requiring further investigation to establish whether or not an AQMA will be necessary.

CLIMATE CHANGE

In LTP1 the partnership recognised that transport was a major source of the primary greenhouse gas CO_2. Since 2000, progress reports have shown that there was a small increase of 2.7% in annual emission rates. Some achievements have been made through policies helping to reduce car dependency and promote public transport and more sustainable modes of transport. However, any improvements in modal shift and "clean up" of the vehicle fleet have been outweighed by increased emissions from traffic growth and peak period congestion.

Air transport contributes to approximately 3.5% of the total emissions of CO_2 from UK transport. Aircraft movements contribute towards increasing levels of transport CO_2 emissions within West Yorkshire. Average daily aircraft movements at LBIA have increased by 16% from 81.3 to 94.6 movements per day, between 2000 and 2004.

ENVIRONMENTAL NOISE

In LTP1 the partnership recognised that tyre noise was the dominant source of road transport noise. A total of 270km, or 24.4% of the trunk/principal road network in West Yorkshire, has been treated with "low noise" asphalt between the years 2000-2004 (source: APRs). A typical "low noise" surface reduces road tyre noise by about 3dB(A), the equivalent of reducing the traffic flow by about 50%.

Wherever possible, road traffic noise should be reduced at source by use of "low noise" surfacing or roadside noise barriers. Alternatively properties can be noise insulated under the Noise Insulation Regulations 1975. Between the years 2000 - 2004, a total of 1,039 dwellings were noise insulated against road traffic noise.

AIRCRAFT NOISE FROM LBIA

Following the extensions of the LBIA main runway and operating hours, a major noise insulation scheme was carried out. In addition, the noise emissions generated from all aircraft movements is closely monitored to check compliance with stringent planning condition restrictions.

WHERE WE WANT TO BE

Our objective for air quality and vehicle emissions is:

- **To limit transport emissions of air pollution, greenhouse gases and noise,** and
- To mitigate and adapt to the effects of climate change

AIR QUALITY

Improving the standard of air quality is a priority from a European scale down to the district authority level. Prior to LTP2 the district authorities have been working together to address local air quality and issues.

The air quality performance and sustainability of the developing LTP2 will be monitored through annual reports on progress of AQAPs and through the iterative process of the SEA. The latter includes the following air quality objective:

- Improve local/regional air quality and mitigate transport related AQMA's.

Plans for improving air quality have been guided by the NAQS and Part IV of the Environment Act 1995. This guidance and legislation requires authorities to take action on air quality and integrate formal action plans for improving air quality into LTPs.

CLIMATE CHANGE

LTP2 provides the most effective mechanism to develop transport policies that help mitigate against CO_2 emissions. The overarching LTP2 objective in this area addresses the issue of reducing the actual cause of the problem

Many of the likely policies aimed at the mitigation and adaptation objective will originate from the Asset Management Plan. Others are to be developed through highway and drainage design.

ENVIRONMENTAL NOISE

It is now appreciated that greater efforts must be made to address the issue of transportation noise and appropriate measures for mitigation.

Without LTP2 intervention, it can be assumed that environmental noise exposure would steadily increase across West Yorkshire creating further noise nuisance thereby reducing the quality of life, together with continued degradation of rural 'Areas of Tranquillity' and quiet areas within urban space.

SEA has recognised the importance of Environmental Noise by inclusion of proposed objectives (SEA Scoping Report), as follows:

- to reduce transport emissions of noise (Part of Better Air Quality Objective); and
- to reduce transport-related impacts on local/regional noise climate.

A proposed local indicator for monitoring environmental noise has been delayed until the development of Noise Mapping is complete. At present only output information is available, for example on lengths of "Low noise" surfacing, which does not clearly indicate the outcome regarding the effects of Environmental Noise.

WHAT WE ARE GOING TO DO IN LTP2

Our strategy contains the following elements:

AQ1	Traffic demand management measures, focusing on commuter journeys;
AQ2	Encouraging more sustainable travel;
AQ3	Actions to reduce vehicle emissions; and
AQ4	Measures to adapt to the effects of climate change.

More detail on the issues related to air quality and transport emissions are contained in Appendix D.

The actions proposed are aimed primarily at mitigation of AQMAs and AOCs, but there are also general air quality, greenhouse gas and noise improvements throughout the county. At all the AQMAs it is very difficult to deal with the road traffic purely by very local site specific measures. What are needed in most cases are measures that are county, regionally or nationally based.

Many of the initiatives proposed are also relevant to other shared priorities. Their actual contribution and cost effectiveness towards improving air quality may therefore be small and difficult to assess.

AQ1 TRAFFIC DEMAND MANAGEMENT MEASURES FOCUSING ON COMMUTER JOURNEYS

Many of the causes of poor air quality and greenhouse gas emission levels are also the causes of congestion. Consequently there is a considerable overlap in the measures proposed. Most of the measures are considered in more detail in the 'Tackling Congestion' section:

- promotion of public transport and other more sustainable modes;
- improved public transport e.g. ticketing systems;
- re-allocation of road space e.g. bus and cycle lanes;
- improved facilities for pedestrians and cyclists;
- network management;
- management of car parking including signing to help reduce circulating traffic looking for parking spaces;
- parking controls - increases in charges, control on length of stay and Residents' Parking Zones;
- implementation of the formal "Traffic Management" function by district authorities to keep traffic moving; and
- research into and development of other charging mechanisms.

Discussions are being held with the HA on measures to reduce congestion on the Motorway network across West Yorkshire. If successful measures can be found then the air quality problems in a number of AQMAs and AOCs should be reduced, however because of the high volumes of traffic on the motorways the national targets may not be met adjacent to some motorways.

AQ2 ENCOURAGING MORE SUSTAINABLE TRAVEL

Some of these methods to reduce car dependency are also covered in the 'Tackling Congestion' and 'Delivering Accessibility' sections, namely:

- Business Travel Plans;
- School Travel Plans;
- applying accessibility and parking standards to new development sites; and
- development of "Sustainable Communities" through application of RSS/ LDFs

Travel awareness campaigns play an important role in raising awareness regarding the impact our travel choices have on air quality and emissions. Initiatives to promote the more sustainable transport modes, for example, the take up of employer Travel Plans, will help to reduce emissions.

In addition, there are a number of measures that are also important for air quality and vehicle emissions:

- promoting use of more sustainable fuel;
- trials of alternative vehicles; and
- application of the Environmental Impact Assessment (EIA) and SEA processes for major schemes, developments and strategies.

AQ3 ACTIONS TO REDUCE VEHICLE EMISSIONS

The methods proposed are a mix of general measures that can treat all emissions and specific measures for noise only. The general measures are:

- effective UTMC systems and other methods to smooth vehicle flow (especially those with a high proportion of HGVs) and relocate traffic queues
- speed control/management (excepting vertical or horizontal physical measures);
- improved highway design;
- traffic management schemes;
- emissions testing;
- encouraging cleaner technologies;
- routine vehicle servicing; and
- promotion of driver training

The specific noise reduction measures are:

- low noise surfacing particularly in sensitive areas;
- roadside noise barriers, screening/bunds and improved highway design
- noise insulation of buildings;
- encourage the use of quieter electric trains;
- promote policies to improve track infrastructure; and
- encourage the use of modern, quieter aircraft.

AQ4 MEASURES TO ADAPT TO THE EFFECTS OF CLIMATE CHANGE

These measures are dealt with in more detail in the 'Effective Asset Management' section. They include measures to deal with higher rainfall and greater variation and unpredictability in air temperatures.

AIR QUALITY MANAGEMENT AREAS

All but one of the AQMAs that have been declared in West Yorkshire relate to transport emissions. They also relate to fairly small geographical areas where the effects of the air pollution are most severe.

Specific action plans, predominantly transport based, need to be developed to mitigate designated AQMAs. In the majority of cases these measures cannot be targeted directly towards AQMAs, and there is therefore a need to generally reduce transport emissions throughout the county.

At all these locations it is very difficult to deal with the road traffic purely by local, site specific, measures. What are needed in most cases are measures that are county, regionally or even nationally based. It should be noted that a number of the AQMAs relate directly to emissions from traffic on motorways or key trunk routes. Traffic and emission reductions on those roads cannot be tackled by local authority measures.

Measures on individual corridors to reduce traffic related pollution (e.g. reduce traffic levels or reduce congestion) are likely to cause other problems locally or on adjacent routes without appropriate levels of mode switch being promoted or facilitated through infrastructure/service provision. If this does not occur, problems could just be transferred elsewhere.

Leeds is the only district in West Yorkshire that currently has an AQAP (details are given in Appendix D). All the transport related AQMAs in Leeds are sited around the Inner Ring Road. Whilst the AQAP policies are aimed around a general District wide reduction in pollutants, two major schemes are under development that would mitigate some local emissions in these AQMAs. They are Stage 7 of the Leeds Inner Ring Road and the East Leeds Link Road.

The recent decision by the Secretary of State to cancel funding for Leeds Supertram means that the Leeds AQAP will have to be reviewed as it relied heavily on the Supertram to reduce traffic and hence pollution levels in the city centre AQMAs.

Wakefield's two declared motorway related AQMAs each have action plans that are still under development.

The Calderdale AQMA was only declared in November 2005 and work on the Action Plan has only just started.

The other district authorities are currently undertaking detailed assessment of AOCs in their areas. Any action plans required as a result of these assessments, will be presented in LTP2 Progress Reports.

The West Yorkshire Transport Emissions Group (WYTEG) has been established to co-ordinate and integrate the respective district authority AQAPs into LTP2. Future air quality work will therefore be co-ordinated through this group.

WYTEG has been co-ordinating activities across district authorities regarding NO_2, PM_{10}, the "greenhouse gas" CO_2 and noise emissions from transport sources. Some of this work is also taken forward to a regional working group known as the Yorkshire and the Humber Pollution Advisory Council (YAHPAC). The membership includes 30 district authorities and other bodies such as the Environment Agency and the HA.

AREAS OF CONCERN

The numerous AOCs are little different in character to most of the declared AQMAs. All the measures proposed for improving air quality will reduce the likelihood of AOCs becoming AQMAs.

One of the main actions in the Leeds AQAP is to reduce overall traffic levels thereby decreasing the level of background emissions that contribute in part to both the AQMAs and AOCs identified.

MOTORWAYS AND TRUNK ROADS AFFECTING AQMAS AND AOCS

Motorways and strategic routes in West Yorkshire are substantial sources of road transport emissions.

One of the Leeds AQMAs features high background emissions mainly attributable to its proximity to the M621. Most AOCs in Leeds are close to strategic routes that are outside of district authority control.

At Wakefield the air quality of 800 properties is significantly affected by their proximity to the M1. They make up an AQMA alongside this route through the district. A further AQMA on the eastern side of the district consists of a small number of properties at West Park that are near to the A1.

The HA, being responsible for these strategic routes, has published its proposals for reducing congestion and thereby improving air quality close to the routes. The proposals are part of a study undertaken on the best use of the South and West Yorkshire Motorway network (SWYMBUS) and the Highways Agency Route Management Strategies (HARMS).

The HA and YAHPAC have established a broad ranging dialogue that will ensure that environmental issues are taken into account in the early stages of their decision making process. This will continue through WYTEG during the course of the strategy.

JUSTIFICATION FOR THE MEASURES TO IMPROVE AIR QUALITY

The Partnership has recently completed a list of the forward plan measures. This is required before the measures can be matched to the AQMAs and AOCs (existing and potential) and then justified.

One area of consideration still required is whether the impacts of the forward programme on air quality can be quantified. The Leeds AQAP, contains a cost-effectiveness analysis, shown in Appendix D. The next stage will be the review of this process and its application to the finalised LTP2 programme. There may be the potential to use the STM to assist this work, especially for work related to the SEA.

A detailed analysis of the transport network has been carried out to geographically cross-reference AQMAs and AOCs with other factors likely to impact on demand for transport. The factors include significant changes in land-use and areas where the network is congested. Data sources include, land-use plans, the STM and up to date vehicle monitoring using GPS devices.

All of these factors have been charted on a network map for West Yorkshire. The analysis compares conditions with and without the strategy, between the start and the end of the LTP2 period (the 'do-nothing' result as compared with implementing the LTP2).

The finished map has several useful applications within LTP2 (e.g. it is also being used to identify congestion). For Air Quality, it is to be used as a basis for identifying which areas of the county are more at risk than others in terms of future deterioration of their air quality.

Figures 2.19 and 2.20 show the congestion map with the additional layers including the AQMAs and AOCs. A list of higher risk areas will be drawn up based on an initial scoping analysis of this map. The locations of some of the higher risk areas include:

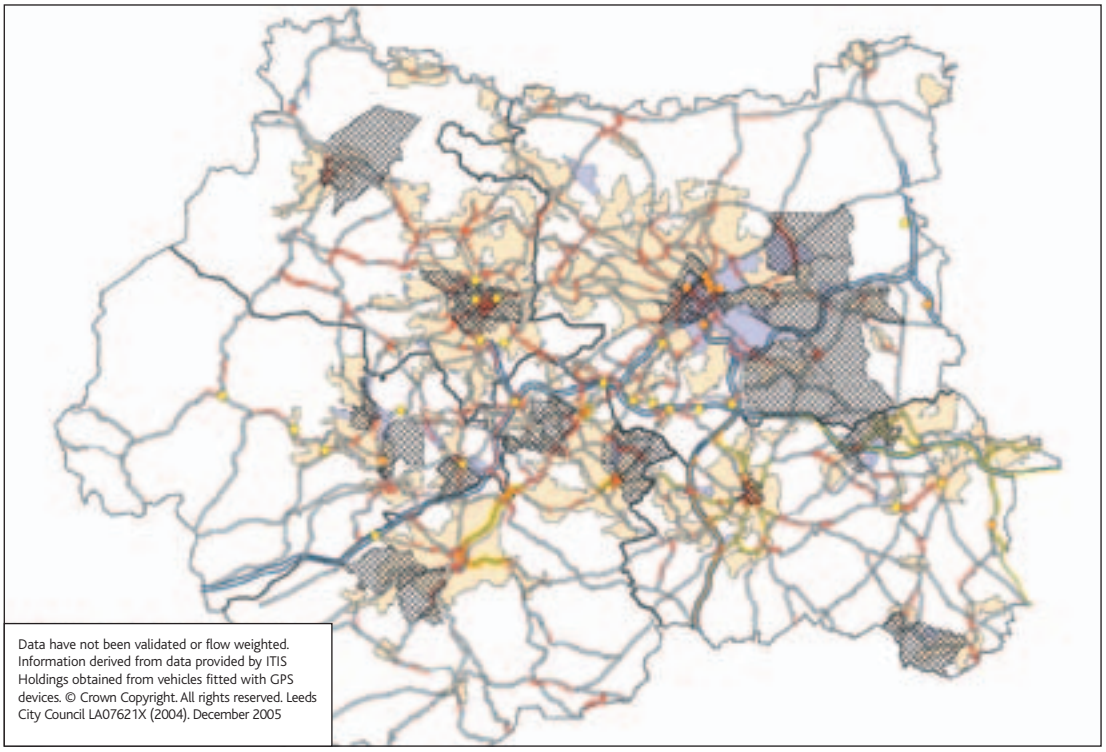
- Leeds Road (A62) - Kirklees;
- Leeds Inner Ring Road;
- East of Halifax Town Centre - Calderdale;
- West Castleford - Wakefield; and
- Parts of Bradford Outer Ring Road.

These and any other areas identified will be subject to a more detailed assessment with a view to producing a list of priority areas within the broader LTP2 capital programme. Areas of prioritisation will be brought forward after an evaluation of the options available for improvement in each particular case.

OTHER SOURCES OF AIR POLLUTION

There are many other sources of emissions contributing to background levels of pollutants in West Yorkshire. However, with the exception of one AQMA in Leeds, none of the AQMAs or AOCs identified result from significant local contributions from non-transport sources.

FIGURE 2.19: AREAS WHERE TRAFFIC SPEEDS ARE FORECAST TO DECREASE BY 2011 WITHOUT THE LTP2 STRATEGY

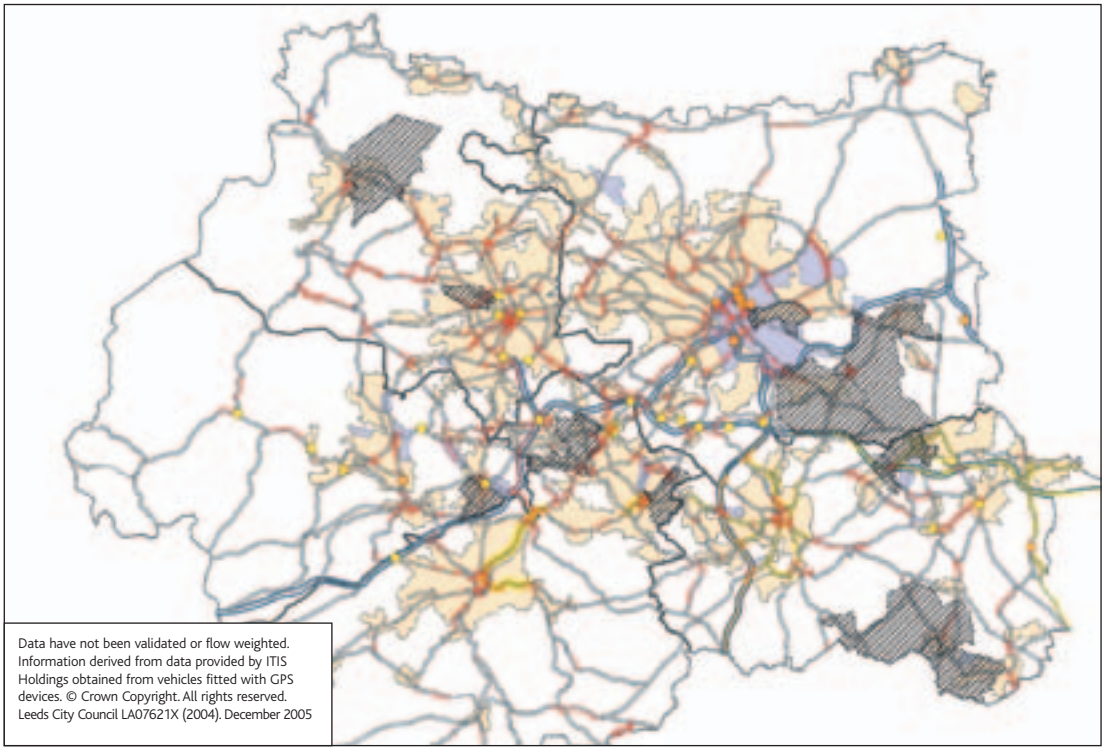


Data have not been validated or flow weighted. Information derived from data provided by ITIS Holdings obtained from vehicles fitted with GPS devices. © Crown Copyright. All rights reserved. Leeds City Council LA07621X (2004). December 2005

MEAN SPEED RELATIVE TO SPEED LIMIT (AM PEAK)

- Speed less than 70% of the speed limit
- Speed greater than 70% of the speed limit
- UDP Development Sites and Regeneration Areas
- AQMA
- Area of Concern
- Do Nothing 2011: Speed reductions greater than 5%

FIGURE 2.20: AREAS WHERE TRAFFIC SPEEDS ARE FORECAST TO DECREASE BY 2011 WITH THE LTP2 STRATEGY



Data have not been validated or flow weighted. Information derived from data provided by ITIS Holdings obtained from vehicles fitted with GPS devices. © Crown Copyright. All rights reserved. Leeds City Council LA07621X (2004). December 2005

MEAN SPEED RELATIVE TO SPEED LIMIT (AM PEAK)

- Speed less than 70% of the speed limit
- Speed greater than 70% of the speed limit
- UDP Development Sites and Regeneration Areas
- AQMA
- Area of Concern
- LTP Strategy 2011: Speed reductions greater than 5%

CLIMATE CHANGE

REDUCTION OR MITIGATION OF TRANSPORT GREENHOUSE GAS EMISSIONS

There has been success in modal shift, the promotion of public transport and the encouragement of more sustainable modes. Despite this the compensating effects of economic growth and greater demand levels within the region are steadily eroding the benefits.

Other initiatives are helping to reduce 'lifecycle' CO_2 emissions and tailpipe emissions, they include:

- improved UTMC implementations, smoothing vehicle flows;
- use and promotion of renewable energy fuels within district authority fleets e.g. Bio-diesel, Biogas, "Green energy" Electric/ hybrids;
- use of modern diesel technology such as common rail engines, with lower CO_2 emissions than petrol, Compressed Natural Gas (CNG) and Liquefied Petroleum Gas (LPG) engines; and
- efficient vehicle fleet management (servicing and driver training).

ADAPTING TO CLIMATE CHANGE

A trial is underway in Leeds of the UKCIP adaptation model for the transport sector. This model has scoped the likely climate change effects for North Eastern England, dependent on emission scenarios and projected dates. A four-stage risk assessment process will identify the most cost-effective measures that mainly involve existing procedures within Asset Management. For example, more frequent gully cleansing could reduce transport related impacts caused by flash flooding, as could the use of innovative drainage systems. Other adaptations will be required to adjust to:

- summer drought and related subsidence;
- thermal stress on structures and melting of road surfaces; and
- wind stress effects on street furniture and high sided vehicles.

Adaptation measures tend to be pro-active in nature and are more cost effective measured over the medium to longer term. It would therefore be appropriate to measure the value for money of this strategy over a longer term than the five year Plan period.

ENCOURAGEMENT OF SUSTAINABLE TRAVEL AND RAISING AWARENESS

Travel awareness campaigns play an important role in raising awareness regarding the impact our travel choices have on CO_2 emissions. Initiatives to promote the more sustainable transport modes, for example, the take up of employer Travel Plans will help to reduce emissions.

The West Yorkshire Travel Plan Officers Group is developing a consistent methodology for estimation of CO_2 emission savings to help determine the effectiveness of the district authorities' and other Travel Plans.

ENVIRONMENTAL NOISE

The following measures will be considered in appropriate locations to help improve quality of life for people in West Yorkshire:

- road surfacing policies in noise sensitive areas;
- improved highway design, or use of roadside noise barriers;
- smoothing of urban flows, especially those with a high proportion of HGVs (for example, through the use of UTMC);
- speed management measures (excepting vertical or horizontal physical measures);
- policies to reduce car dependency;
- encouraging the use of quieter electric trains;
- promoting policies to improve track infrastructure; and
- encouraging the use of modern, quieter aircraft.

EFFECTIVE ASSET MANAGEMENT

Asset Management is more than managing the condition of the asset through effective maintenance. It also includes managing the use of the asset to meet the transport needs of the community. It covers managing the use and maintenance of the road surface and all the facilities and services within the boundary of the highway plus public transport facilities and public car parks.

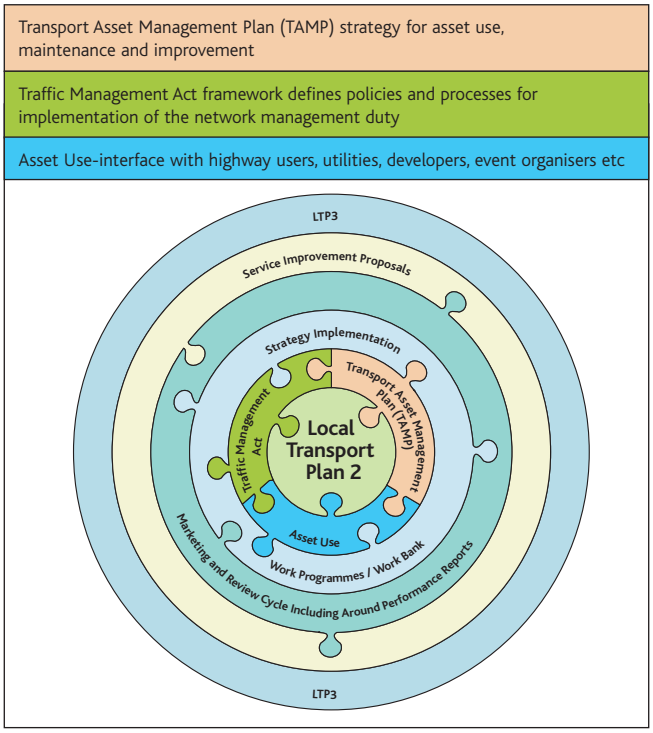
Effective asset management is vitally important to delivering all of the Shared Priorities and LTP2 Objectives.

In its simplest terms the highway is an asset which enables journeys to be made. It is a transport asset and there is no intention of producing a Highways Asset Management Plan separate from a Transportation Asset Management Plan (TAMP). Rather the TAMP will encompass highway asset management along with other transport assets such as bus stations, car parks, etc.

Appendix I, Table I.1 shows the actions, common to all districts, which are a part of our TAMP development plan ('gap analysis') with a target objective for the end of the LTP2 period ('planned for 2011'). This effectively shows how we will use the TAMP process to improve our approach to the determination of priorities for how the asset is used (e.g. traffic management), maintained and improved.

There is a very close relationship between the TAMPs and LTP2 with each complementing and informing the other and sitting together with other relevant documents and strategies as illustrated in figure 2.21.

FIGURE 2.21 RELATIONSHIP BETWEEN ASSET MANAGEMENT, TRAFFIC MANAGEMENT ACT AND LOCAL TRANSPORT PLANS



THE CHALLENGE

The physical appearance and condition of streets and public transport infrastructure has a significant impact on people's quality of life. It can impact on people's perceptions, attitudes and behaviour.

The challenges for the Partnership to address in LTP2 are:

- a high proportion of streets still need significant works to bring them to a satisfactory standard;
- bridges need strengthening to carry 40 tonne lorries;
- a backlog of maintenance to structures as most funding in recent years has been spent on strengthening bridges and walls;
- kerbs and footways are persistently damaged by vehicles overriding and parking;
- utility excavations have a major impact on ride quality and asset life, around 64,000 holes are dug in West Yorkshire each year;
- excessive rainfall is straining a highway drainage system that was not designed for the current levels of development and is increasing the risk of flooding and subsidence;
- flash flooding of watercourses is damaging highway structures;
- cyclists and motorcyclists are particularly susceptible to poor quality and badly cleansed road surfaces;
- poor quality of footways, litter, dog fouling, puddles and ponding discourages walking;
- ageing street lighting infrastructure is reducing lighting performance and increasing the risk of column failure;
- signal controllers, traffic signs and road markings that are at the end of their life with risk of local congestion and accidents;
- vandalism, particularly to walls, bus shelters, bus timetable cases, road and ROW signs and lighting columns strains resources and spoils the appearance of the area;
- maintenance of public transport assets has to be funded from the integrated transport block allocation rather than maintenance funding, reducing funds available for improvements;
- the high potential liability related to claims for slipping and tripping accidents and damage to vehicles; and
- the need to make best use of all the existing assets in a cost effective and planned way.

As resources are finite there needs to be a balance struck between the three competing demands:

1	safety - reactive maintenance to remove hazards e.g. filling pot holes;
2	addressing the maintenance backlog - tackling the worst problems first; and
3	preventative maintenance - timely planned maintenance to prevent deterioration.

CONSULTATION

The state of the roads, pavements and cycle lanes was the second highest ranked problem identified in public consultation for LTP2, being identified by 38% of respondents (the highest was congestion at 59%). It was also a key issue raised by people in most of the local consultation exercises.

WHERE WE ARE NOW

Condition data for roads indicates that the highway network is no longer deteriorating and the principal roads show an improvement. However, a high percentage of streets still need major works to bring them up to a satisfactory condition. Bridge data shows a slight decrease in the condition of highway structures over the last 12 months

Monitoring of the condition of our roads and bridges has shown that:

- 35% of the total length of Principal roads required treatment in 2004/05 (That is roads triggering investigatory levels - Best Value Performance Indicator (BVPI) 223);
- 13% of the total length of Non-principal roads required treatment in 2004/05. (That is roads triggering investigatory levels - (BVPI 224a);
- 20% of the total length of Unclassified roads required treatment in 2004/05 (That is roads triggering investigatory levels - BVPI 224b);
- 19% of the total length of the most important (Category 1& 2) footways required treatment in 2004/05 - (BVPI 187);
- the number of structures requiring preventative or essential maintenance increased from 59% at March 2004 to 62% at March 2005;
- 210 bridges at March 2005 needed strengthening to carry 40 tonne lorries; and
- 2.3% of district authority owned structures at March 2005 had weight and/or width restrictions because of assessments of insufficient strength to carry heavier vehicles.

The monitoring regime for roads has been changed a number of times in recent years partially as a result of introducing new technologies. This means that the current measure of condition is not compatible with that used at the start of LTP1.

Although assets are inspected and assessed on a regular basis and remedial action taken where necessary, for some of our assets there is no formal measurement of condition. As part of the Asset Management Plan process (see below) more rigorous measurement processes will be introduced together with better planned programmes of repair and renewal.

If we do not continue to maintain our assets or allocate sufficient resources to maintaining them there will be a general deterioration in condition. This will lead to poor driving, cycling and walking conditions, an increase in road casualties and crime, and a general deterioration of the appearance of the area. In some instances e.g. highway structures or lighting columns, the deterioration could lead to potentially catastrophic failure leading to serious injury or death.

WHERE WE WANT TO BE

OBJECTIVES

Our objectives for Asset Management reflect where we want to be. They are:

- **To improve the condition of the transport infrastructure;** and
- To manage the infrastructure more effectively
- To meet the needs of current and future transport users
- To mitigate and adapt to the effects of climate change

Over the period of LTP2 the Partnership will be developing TAMPs that will:

- assess the demands for the use of the elements of the infrastructure;
- enable the best use to be made of the existing and any new infrastructure;
- provide a process for the most cost effective maintenance regime; and
- within available funding, ensure that assets are maintained in a condition that is 'fit for purpose'.

LTP2 will inform the development of TAMPs, especially as it relates to consultation outcomes and user aspirations. The consideration already given to the plans has influenced the content of LTP2, drawing together all aspects of asset management to give a holistic and co-ordinated approach to strategy development.

THE ASSET MANAGEMENT PROCESS

ASSET MANAGEMENT PLANS

In June 2004 the Framework for Highways Asset Management was published by the County Surveyor Society (CSS). This encouraged highway authorities to develop a strategic approach to highways asset management.

However the five districts had already implemented the recommendations of the code of practice CSS's "Delivering Best Value in Highway Maintenance" and produced policy statements, asset management plans and maintenance plans in various formats.

The five highway authorities are using the codes of practice for highways, structures and street lighting to review current procedures, document good practice and develop action plans in combination with the CSS Framework for Asset Management to build upon earlier work.

Metro has for a number of years been using an asset management process more suited to public transport operations.

Figure 2.22 shows current practice and its relationship with the LTP/TAMP.

TAMPs will address both the condition of the highway network and the public transport infrastructure assets and will have strong linkage with maintenance and integrated transport programmes funded through the LTP2. They will cover demand aspirations and will challenge whether the right asset is being provided to enable the public to use a transport network that has adequate capacity, is safe, available to use and matches aspirations.

Officers from the authorities are actively engaged in relevant Regional and National Working Groups and share knowledge, best practice and ideas locally. Also there are well established relationships in divisions within local authority, neighbouring authorities and other stakeholders. All this work has helped to inform the LTP and authorities will build upon this work to develop TAMPs.

Developing TAMPs will produce:

- a longer term view of planning and programming;
- modelling to create the best whole life options for the asset;
- greater use of asset performance indicators to inform decisions; and
- explicit consideration of customer expectation and documentation of levels of service.

Figure 2.23 identifies the relationships between the various elements of the asset management process.

TRANSPORT DEMANDS

One of the challenges is assessing the transportation demands for assets. Authorities need to ensure that they can achieve best utilisation of the assets but there are usually competing demands e.g. through traffic on a road in a shopping centre is in conflict with pedestrians and affects the general amenity of the area. One method being investigated is a variation of a road hierarchy based on overall demand.

TAMPs cover all of the transportation assets, including many services which are not funded through LTP2. To ensure that the two plans are developed in harmony the 'key stages' of effective asset management have been used to analyse the issues and to inform the LTP2 action plans.

PROGRESS

The development of LTP2 and the TAMPs are running in parallel but to different schedules. Although the process of producing LTP2 will help inform the Asset Management Plans, the scope of the public consultation will be different and the results may impact on later LTP2 proposals. These will be re-visited as required to better reflect the views of the public and the outcomes from the asset management process.

All the Partners operate a priority system to manage their works and implement repairs. Each are developing and implementing asset management plans based on their own district authority practice. During the life of LTP2 the authorities will develop a uniformity of approach across all of their disciplines.

The district authorities are at different stages in developing their asset information and plans. There are many similarities in the systems in place though none are identical.

Appendix I includes reports on the progress being made by each authority in developing their Asset Management processes.

FIGURE 2.22: RELATIONSHIP OF CURRENT PRACTICE TO THE LTP AND TAMP

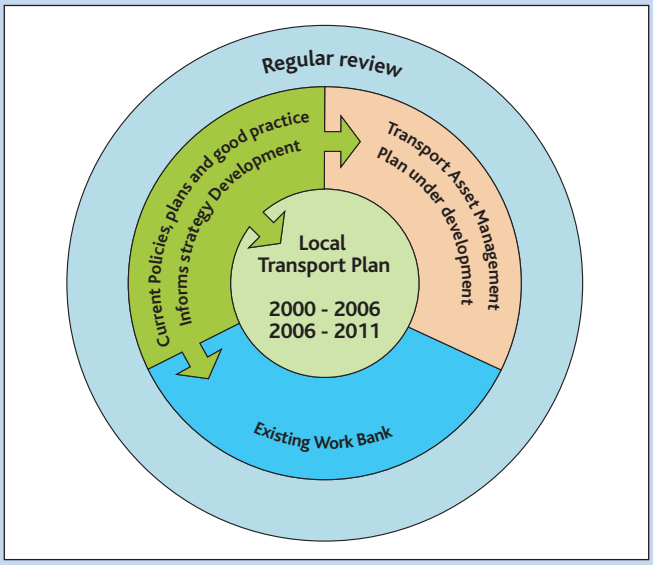
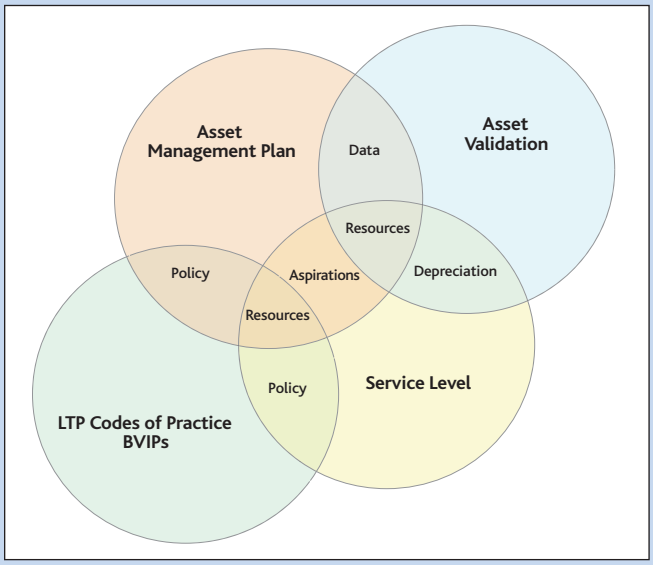


FIGURE 2.23: THE KEY ASSET MANAGEMENT PROCESS RELATIONSHIPS



WHAT WE ARE GOING TO DO IN LTP2

Our strategy is continually developing and has been influenced by the results of the gap analysis undertaken as part of the asset management process. This analysis can be seen in Appendix I.

The asset management strategy has 9 key elements for infrastructure maintenance.

These strategy elements are:

M1	Maintenance of roads and footways;
M2	Strengthening and maintenance of bridges, walls and other highway structures;
M3	Maintenance and operation of UTMC and CCTV systems (on street and public transport);
M4	Maintenance of lighting, signs and road markings;
M5	Maintenance of bus stations, shelters and stops;
M6	Maintenance of car and lorry parks;
M7	Maintenance of Rights of Way;
M8	Winter maintenance; and
M9	Reducing accident claims and better use of resources and materials.

GENERAL APPROACH

All the Partners implement policies for asset management. These are designed to generate best value from available funding, maintain the condition of the assets and provide assets which meet the needs of the users.

The asset management planning process is being used to analyse work that is ongoing, created by ongoing inspection and 'what if' scenario planning. This process enables the development of strategies to address and manage the backlog of repairs and develop lifecycle planning for maintenance and use of all the assets.

Maintenance strategies balance the need for preventative maintenance, significant works and routine / reactive works.

The production of the *Framework for Highways Asset Management* and the new duties and responsibilities under the Traffic Management Act 2004 has encouraged an improvement in the rate of response to users' demands and to develop a more holistic approach to asset management.

All authorities have defined their network hierarchy in accordance with the relevant code of practice and the condition of the roads and footways is measured against national criteria. This ensures that priorities are determined in a consistent manner across authorities and works are then progressed in accordance with available budgets. Where a scheme is proposed adjacent to a boundary (both within and outside of West Yorkshire) full liaison and co-ordination takes place and where appropriate a joint cross boundary scheme is developed.

As TAMPs are developed, forward planning becomes longer term and offers the opportunity to better co-ordinate maintenance proposals with asset use and improvement. There are extensive examples where this has already happened with schemes being delayed or bought forward to enable works to be combined and thus minimise disruption to highway users.

The timing of works is also planned to avoid congestion, especially on key routes where off peak, night time, school holiday working etc. are all used as applicable to the circumstances.

The integrated transport proposals identified in earlier sections of Part 2 e.g. traffic management and UTMC are all intended to make best use of the existing highway network.

LTP Maintenance capital allocations generally fund larger works with other funding, particularly revenue, supporting the overall approach. Increasing prices, health and safety requirements and lack of industry capacity are generating an increase in costs above inflation. The cost of some maintenance operations are also relatively high, for example the complexity of maintaining speed reduction features such as road humps and chicanes and the high quality paving used in conservation and pedestrianised areas.

Authorities are concerned that indicative budgets from the LTP and Formula Spending Share will not address the backlog of maintenance work and achieve user aspirations for improved roads and footways. Hence budgets have been augmented locally by whatever means available to each authority. District authorities are taking innovative approaches to funding, for example through prudential borrowing and Local Public Service Agreement (LPSA) packages and capital receipts. Commuted sums from developers are also used.

Targets reflect this level of commitment and are based on detailed calculations of the works cost per km on different road types and discounted by average rates of network deterioration.

M1 MAINTENANCE OF ROADS AND FOOTWAYS

A high proportion of streets still need major works to bring them to a satisfactory standard.

Kerbs and footways are persistently damaged on narrow streets that were not initially designed for today's higher levels of car ownership and consequently suffer from over-riding and parking. Many local roads were not built to cope with the damaging effect of bus services and delivery vehicles.

Cyclists and motorcyclists are particularly susceptible to poor and badly cleansed road surfaces (particularly the nearside 2 metres). Poor maintenance of footways, litter, dog fouling, puddles, etc. can discourage walking.

Any excavation in the existing highway generates a weakness, even when reinstated to the proper specification. The volume of utility works is massive. Around 64,000 holes are dug in West Yorkshire each year. These result in a poor ride quality, water ingress, an increase in the number of trips and depressions, and are detrimental to the street scene.

The weather can have a major effect. Rainfall is straining a highway drainage system that was not designed for the current levels of development and is increasing the risk of flooding and subsidence. The rainfall is attacking weaknesses in the highway surface. If combined with cold winters, there could be a serious impact on road condition.

The highway maintenance strategy is focused on improving the overall street scene to create better neighbourhoods and more confident communities.

The most cost effective approach to maintenance is to intervene with timely, low cost works just as a street is beginning to deteriorate. However, it is also necessary to address the backlog of streets which need significant work. While these streets remain in a critical condition it is essential that all defects which are a source of danger are identified and repaired quickly; which requires a significant commitment of resources.

As the backlog is addressed, the need for reactive work will reduce and this will release funds for preventative maintenance resulting in better carriageway and footway condition.

Many of the larger scale projects are funded from the LTP maintenance capital allocation and include:

- reconstruction and resurfacing of carriageways;
- carriageway surface dressing and similar treatments;
- reconstruction and resurfacing of footways and kerbing; and
- survey programmes.

However there is even larger revenue expenditure on:

- additional carriageway and footway reconstruction and resurfacing;
- reactive carriageway and footway patching and potholing safety repairs;
- localised patching and replacement of carriageways footways and kerbing;
- programmes of preventative maintenance schemes;
- gully emptying;
- improvements in drainage capacity;
- street cleansing, graffiti and needle removal etc;
- soft landscaping, including weed killing;
- safety fencing and guard rail;
- inspection programmes; and
- management of New Roads and Street Works Act (NRSWA) and Highways Act functions.

M2 STRENGTHENING AND MAINTENANCE OF BRIDGES, WALLS AND OTHER HIGHWAY STRUCTURES

The highway structure stock across West Yorkshire is varied in construction, type, age and purpose. Each variant requires a different regime of inspection, maintenance and repair works.

The Pennine areas consist of steep sided valleys with main roads generally only along one side. Most bridges are across the rivers and canals to industry/ housing on the other side of the valley. Bridges on these side roads also need to carry modern 40 tonne lorries, not just those on the main roads, otherwise access to industries is restricted.

In the Pennine areas there are also considerable lengths of retaining walls. Many are of dry stone construction and coming to the end of their useful life. Sudden failures are fairly common. These walls are as necessary as bridges for supporting the highway.

In the more lowland areas there are multi-span bridges across wide rivers and fewer small bridges. These bridges are significantly more expensive to maintain and strengthen than the smaller structures.

A significant number of highway bridges are not owned by the district authorities (e.g. many owned by Network Rail and British Waterways Board). The cost of strengthening these bridges to meet modern standards often falls partly on LTP funds.

Flooding, particularly flash flooding can cause significant damage to highway structures. The cost of repairing or replacing these structures reduces the ability to strengthen structures elsewhere. The frequency and severity of these floods is increasing.

In recent years most of the available capital funding for structures has been allocated to strengthening bridges to carry 40 tonne lorries. As a consequence there is now a backlog of work required to maintain bridges, walls and other structures.

Good inventory information is available for bridges and culverts but is poor for retaining walls.

LTP Maintenance Capital is used for:

- strengthening of substandard district authority owned structures;
- contributions to strengthening of privately owned substandard structures;
- major maintenance of highway structures; and
- principal inspections and assessments of highway structures.

The district authorities' revenue budgets fund:

- reactive and routine maintenance programmes; and
- inspections.

In addition there is some funding from private bridge owners, mainly for strengthening.

M3 MAINTENANCE AND OPERATION OF UTMC AND CCTV SYSTEMS (ON STREET AND PUBLIC TRANSPORT)

Traffic signal failure can result in accidents and injury to pedestrians and vehicle occupants and can also lead to considerable congestion. An effective maintenance regime is essential

Over the last ten years a considerable number of signal installations have been replaced and upgraded to provide for the needs of vulnerable road users. This process needs to continue to ensure improvements in condition.

Advances in technology are starting to allow an interface with other data-lead Real Time Information systems e.g. bus location (RTPI). This will provide a hub of information for decision making about traffic management.

Obtaining feedback about traffic issues from the public is carried out, but further collection and analysis will assist with setting management strategies and plans.

Good inventory information is currently available about the state of the traffic signals and UTMC systems.

CCTV systems have proved useful for reducing crime levels and reducing fear of crime. Systems are provided both on-street and in bus and train stations

The systems are not just used for crime prevention, on-highway cameras are also used to monitor traffic levels and traffic signal operation. The UTMC operations regularly use the CCTV system to monitor traffic and make adjustments to signal timings to reflect changing traffic conditions.

Operation of the control rooms is required for most of the day and evening. Camera and control room equipment needs regular maintenance if the effectiveness of the systems is to be achieved.

The LTP Integrated Transport capital allocations fund:

- upgrading of signal installations;
- upgrading of control systems; and
- replacement cameras.

The Partnership's revenue budgets fund:

- routine maintenance, e.g. cleaning and aligning signal heads and cameras;
- control room operations;
- data transmission;
- lamp replacement;
- repairs to failed controllers; and
- electricity.

M4 MAINTENANCE OF LIGHTING, SIGNS AND ROAD MARKINGS

Good quality lighting is essential for road safety and contributes to lower levels of crime. Pedestrians, cyclists and motorcyclists are particularly susceptible to injury in areas of inadequate lighting.

Ageing lighting columns are a key priority for renewal or refurbishment. The risk injury arising from column failure is a serious concern.

The inventory data is generally good for street lights and illuminated traffic signs, particularly under Private Finance Initiative (PFI) street lighting contract arrangements. It varies in quality for the non-lit signs, with a lack of easily accessible information in all but one district authority. Further improvements will enable a more comprehensive service provision.

Sign repair response times are prioritised but only informal processes are in place for life-cycle planning and replacements. These are areas identified for improvement and will be developed alongside indicators to measure the performance of sign maintenance within the life of LTP2.

The street lighting PFIs in Wakefield and Leeds will generate major improvements. Elsewhere, ageing columns remains a key priority. The risk of column failure is being managed from existing budgets, but the opportunities to make improvements which will significantly contribute to road safety, perceptions of personal and property security are still not available.

Apart from Wakefield and Leeds, some replacement lighting columns and illuminated signs are provided from the LTP Maintenance allocation, usually as part of other schemes.

New and replacement signs and lining are provided as part of accessibility, congestion and safety schemes from the Integrated Transport allocations (holistic approach). Upgrades to signing along strategic routes have been carried out within West Yorkshire.

The district authorities' revenue budgets fund:

- routine maintenance e.g. lamp replacement, electrical and structural testing;
- fault repair;
- work to extend use of life expired columns;
- replacement of dangerous 'end of life' columns and signs;
- repair of vandalism and accident damage;
- replacement of road markings and studs;
- cutting back vegetation ;
- improvements to energy efficiency; and
- electricity.

M5 MAINTENANCE OF BUS STATIONS, SHELTERS AND STOPS

Bus stations, shelters and stops represent the customers' gateway to public transport and as such need to offer an attractive and convenient facility for users if public transport use is to be encouraged.

Metro has adopted a programme of asset replacement to bring modern standards to bus stops and shelters, concentrating initially on the core high frequency network. New shelters incorporate seating, lighting and passenger information.

Metro has transformed its bus stations in recent years, adopting where possible drive-in reverse-out operation. This significantly enhances the passenger experience and virtually eliminates vehicle/pedestrian conflict. A planned programme of maintenance, good security and a rigorous cleaning regime provides a clean, secure and friendly environment to encourage use of public transport.

The LTP2 Integrated Transport capital allocation will be used to fund:

- bus station refurbishment; and
- replacement shelter programme.

Metro's revenue budget funds:

- routine maintenance;
- programmed maintenance e.g. cleaning, painting;
- damage repairs;
- cleaning;
- security;
- electricity;
- water;
- sewerage; and
- waste disposal

M6 MAINTENANCE OF CAR AND LORRY PARKS

The destination of many car trips are the district authority owned car parks. Effective maintenance of the car parks is required both for safety and to provide an attractive introduction to the towns and cities.

The maintenance of cash machines and the collection of cash are essential for running the car parks (most car park operations are self financing) and also for traffic demand management.

There are some lorry parks across the county but there is pressure to identify sites for and provide further facilities.

The car park operations are mainly self financing. The ticket and fine income funds:

- reactive repairs to structures and surfacing;
- programmed maintenance e.g. cleaning, lamp replacement, lining;
- ticket machines repair and replacement;
- cash collection and processing of excess charges; and
- electricity.

M7 RIGHTS OF WAY (ROW) / BRIDLEWAYS AND OTHER PATHS

Many of the more urban ROWs can form useful links for walking between communities and to local services such as schools and shops. In the past most ROWs have been treated as leisure routes and do not have all-weather surfacing, appropriate direction signing or lighting.

There are insufficient networks of bridleways. This forces horse riders to use often busy roads with consequent risk of injury to rider, horse and other road users.

Cycle tracks, shared use paths (including structures) and bridleways are rarely subject to the same maintenance and cleansing regimes as the public highway.

The LTP2 Integrated Transport capital allocation will be used to fund enhancements, mainly to urban paths as part of accessibility improvements.

The district authorities' revenue budget will be used to fund:

- footpath/bridleway/byway surface repairs;
- bridge repairs;
- stile/gate/access barrier repairs; and
- vegetation management.

Most repairs and improvements are left to local authorities with appropriate calls on budgets and other resources. Some stiles and gates are partly maintained by the landowners but are subject to a 25% grant from the local highway authority.

Each Authority will be preparing a Rights of Way Improvement Plan (ROWIP). Progress is reported in Appendix H.

M8 WINTER MAINTENANCE

This is a service rather than an asset that needs to be managed. However, it is essential to keep the well used roads and pavements clear of ice and snow to maintain safe driving, cycling and walking conditions and to allow businesses, schools, hospitals and other services to operate.

Resources have to be prioritised as not all the highway network can be treated. Priority is given to bus routes, main roads and routes in the vicinity of hospitals to enable emergency traffic and essential traffic to keep moving.

Prevention in terms of gritting before ice forms is the key to successful operation. Throughout the winter period use is made of local weather forecasts and ice monitoring stations to ensure that treatment is given only when and where it is needed.

All winter maintenance is funded from the district authorities' revenue budgets, including:

- precautionary gritting;
- snow clearance; and
- grit bins.

M9 ACCIDENT CLAIMS AND BETTER USE OF RESOURCES AND MATERIALS

Around 4,700 claims are submitted each year for slipping and tripping accidents and damage to vehicle tyres in West Yorkshire. The potential liability is high and carries a risk of impacting on maintenance budgets.

To counter the risk of claims West Yorkshire district authorities have a claims benchmarking group to identify good practice. Data analysis is becoming increasingly sophisticated in the area of claims, informing the ability to present a defence against payment.

Good inspection regimes and prompt repair of defects combined with auditable records is part of this strategy. There is a commitment to improving accident data and using this to carry out appropriate and timely maintenance to prevent accidents from occurring. This applies not just to slipping and tripping but also to snow and flooding related accidents and risks relating to poor utility reinstatements.

The percentage of claims settled at nil cost is increasing with the 'savings' used to improve the quality of the network.

This strategy requires a resource intensive approach to identify dangerous defects. It is essential that the backlog of major work is addressed quickly to reduce the risk of accidents occurring and to minimise the funding requirements for reactive repairs.

Better use of resources and materials is part of the overall asset management process. New materials and equipment frequently are being tried, and where successful used in most future work. Joint purchasing contracts are being used where appropriate. For example a joint contract for surface dressing has recently been used by three of the district authorities.

Greater use of recycled materials is being carried out by all the district authorities. This includes both the reuse of materials excavated as part of maintenance and road improvement schemes and also the use of other materials such as glass in road surfacing.

There are few physical works associated with these measures, most of the cost being staff time funded from the Partners' revenue budgets, for example:

- effective inspection regime;
- rapid response to reports of dangerous trips and potholes;
- effective management of data to support claims / defence;
- rigorous defence of all claims where no liability exists;
- payment of genuine claims; and
- salt barns or domes for more effective use of salt.

Other measures are changes in practice often with little additional cost, for example:

- greater use of recycled materials;
- greater use of thinner surfacings (including quiet road surfacing);
- use of joint purchasing contracts; and
- e-tendering.

CLIMATE CHANGE

One of the effects of climate change is the change and severity and patterns of the weather. Higher average temperatures, more severe winds, floods and droughts are expected. These will lead to greater damage to the transport infrastructure and disruption to users. The floods are made worse by increasing impermeable areas from new developments.

Alterations to infrastructure and current practices will be introduced to mitigate and adapt to the changing climate:

- improvements to the capacity of drainage and watercourse systems and drain cleaning to cope with higher rainfall;
- more resilient signal controllers to cater for increased temperatures;
- more substantial lighting columns and different tree species to resist stronger winds;
- deflective barriers or shelter belts to reduce wind impact on vehicles;
- alterations to horticulture maintenance to cater for longer growing seasons; and
- wet spots gritted on cold dry nights.

This will be a gradual process over a number of years as climate changes take effect. There will be increasing cost implications for most of these actions that will need to be budgeted for.

HOW WE ARE GOING TO DELIVER

Maintenance and management of assets are undertaken by a mixture of in-house and term contractors and scheme specific contracts.

There is now more joint working between authorities both on sharing good practice and in arranging joint contracts. Officers across West Yorkshire are active members of a considerable number of sub-regional, regional and national working groups covering all aspects of asset management, highways and public transport operations.

There is co-ordination of work on cross boundary roads to avoid delays to traffic. Where appropriate, work is done by one authority on other authorities roads. This happens regularly in winter maintenance operations with appropriate turn round points being agreed.

Another example is Gain Lane in Bradford The infilling of Woodhall Quarry, Calverley requires the improvement of Woodall Lane in Leeds and Gain Lane in Bradford. It is intended that Leeds will do all the highway works including the section in Bradford.

Closer working with the Utilities has been developed over the years (Kirklees Metropolitan Council is recognised as a Centre of Excellence for this). This is leading to better co-ordination of works and better quality reinstatement of excavations.

Improved liaison e.g. with Police and bus operators on timing and methods of operation of works ensures that disruption associated with road-works is kept to a minimum. This is likely to improve as the Traffic Management Act is implemented.

Maintenance work is often not undertaken in isolation of other works. It is now common in all the district authorities to combine maintenance and integrated transport schemes to give a holistic approach (see Part 3 Introduction for an example).

QUALITY OF LIFE

The core strategy is rooted in the analysis of transport issues, Community Strategies, and the public and other consultation, which identified a strong desire of transport to enhance the quality of life through, for example, reduced congestion, safer roads and better public transport.

The extensive consultation during the preparation of this Plan, together with the ongoing consultation and liaison arrangements, allow disaggregation of quality of life issues and the understanding of how transport affects different communities and different sections of the population. One example of this is the consultation with children about their experiences of transport and their priorities for future improvements.

The core strategy, and the elements relating to the shared priorities, have been discussed extensively with the LSPs. This strong engagement with LSPs will continue throughout the period of LTP2 and will ensure strong linkages between the LTP, Community Strategies and quality of life concerns.

TABLE 2.12 SUMMARY OF THE MOST SIGNIFICANT STRATEGY CONTRIBUTIONS TO QUALITY OF LIFE

QUALITY OF LIFE	MOST SIGNIFICANT STRATEGY CONTRIBUTION
Sustainable and Prosperous Communities	The core strategy is designed to improve economic performance and to support regeneration activities. The key role of transport within the RES and the integration of transport with regeneration plans, including MasterPlanning exercises, will also help to address gaps in the prosperity of different communities within West Yorkshire. Transport, particularly road safety initiatives, are an important part of Neighbourhood Renewal activities. Promotion of sustainable transport modes will lead to an increase in local journeys and thereby support local facilities.
Quality of Public Space	The quality of public space (including streetscape) is, and will continue to be, an important design consideration in all transport projects. The approach to effective asset management, which includes effective maintenance as well as asset replacement, will improve the appearance of transport infrastructure (roads, structure, bus shelters, street lights, bus stations) and thereby contribute to improvements to the quality of public space. . The strategy aims to manage traffic, and the impact of traffic, and the approach to the allocation of roadspace, for example pedestrianisation, will also contribute to improvements to the quality of public space.
Landscape and Biodiversity	Routine maintenance regimes within the Asset Management strategy reflect the desire for bio-diversity. Grass cutting frequencies complement the nature and amenity value of highway verges. Weed spraying specifications do not allow the use of residual herbicides and sustainable drainage is used where feasible. Winter maintenance also seeks to minimise adverse environmental impacts. Some of the district authorities have introduced salt domes which both prevent water course pollution and enables more effective spreading of salt by reducing the effects of crusting and deterioration. Biodiversity is also an important consideration in scheme appraisal and design. One example is the protection of a rare butterfly habitat at Shipley station despite considerable pressure for additional car parking.
Community Safety, Personal Safety and Crime	The strategy includes improvements to quality of street lighting, which has benefits for safety as well as crime reduction. Measures to address personal safety concerns, and reduce the incidence of crime and anti-social behaviour are central to the public transport aspects of the strategy. CCTV plays an important role in this The approach to effective asset management will also contribute to community and personal safety and reduced crime by, for example, addressing graffiti and vandalism. The involvement of the transport authorities within Crime and Disorder Partnerships will be central to ongoing activity and strategy implementation.

Healthy Communities	The Safer Roads strategy will continue the good progress being made in casualty reduction, with particular attention being paid to deprived communities experiencing above average casualty rates Access to health facilities is a key consideration of the Accessibility Strategy. The promotion of walking and cycling as modes of transport will have health benefits through promoting exercise and helping to address above average rates of obesity and heart disease. The identification of locations with poor air quality and the adoption of AQAPs will have benefits for pubic health, particularly in reducing respiratory related health problems.
Noise	The approach to highway maintenance, set out in the Effective Asset Management strategy, takes full account of the noise impacts, as well as the need to minimise disruption of traffic, including bus services. Highway maintenance will continue to increase the application of low noise road surfacing, which results in a significant reduction in traffic noise problems. The Congestion Strategy and management of freight traffic will mitigate noise impacts.
Climate Change and Greenhouse Gases	The Congestion Strategy is aimed at restraining the growth in road traffic. Smarter Choices initiatives include activities to reduce greenhouse gas emissions from road transport Adoption of energy efficiency practices in street and bus shelter lighting will also reduce greenhouse gas emissions.
Skills and Educational Achievement	Improvement to skills and educational achievement is central to the RES and the West Yorkshire Sub Regional Investment Plan. The strategy recognises the importance of access to education and learning opportunities, and will address this through the detailed Action Planning process forming part of the Accessibility Strategy. The strategy also aims to continue home-to-school transport initiatives that have benefits for improved attendance rates.
Community Cohesion	Community cohesion is a key priority for many of the LSPs in West Yorkshire. The strategy will support Community Cohesion in a variety of ways, including support for regeneration activities, providing access to employment and education and training opportunities and addressing issues of crime and personal and community safety. In addition, transport is key to accessibility and mobility and to projects, such as one in Bradford, aimed at encouraging children to learn more about the history of their area. Transport is also key to enabling people to enjoy the diversity and heritage of West Yorkshire, including the World Heritage Site as Saltaire, and environs, including two National Parks.

CROSS BOUNDARY ISSUES

Cross boundary issues have been identified in LTP2 consultation and through discussions with neighbouring authorities. Some of these are addressed by the projects identified in the LTP2 programme, however, there is a limit to what can be achieved within the constraints of the funding available for LTP2. The longer term vision for transport in West Yorkshire was discussed in Part 1 "The Wider Context".

Tables 2.13 shows the actions planned to deal with the identified cross boundary issues

Cross boundary issues that may be identified during the course of LTP2 will be dealt with as and when required. This will happen through partnership working with the authorities involved. Examples of cross-boundary working to date include:

- Metro's cross-boundary ticketing arrangements which provide significantly better discounted fares for concessionary passengers than most other local authorities.
- Study work with South Yorkshire Passenger Transport Executive (SYPTE) and Greater Manchester Passenger Transport Executive (GMPTE) and other neighbouring authorities on enhanced cross boundary ticketing schemes.
- Sheffield to Leeds semi-fast rail services.
- Wakefield district, Metro, SYPTE and Barnsley district working together to discuss LDFs and cross-boundary issues.
- Metro and SYPTE working together on YBI and RTPI/yournextbus.
- Kirklees district, Peak District National Park and Derbyshire County Council working together on the South Pennine Integrated Transport Strategy.
- LCC, Sustrans, Yorkshire Forward and NYCC developing a cycle route from Wetherby to Thorpe Arch.

TABLE 2.13: CROSS BOUNDARY ISSUES

TRANSPORT ISSUE	ACTION	PARTNERS
MetroCard does not fit the journey to work area	Metro and GMPTE have commissioned a study into City Region/Zone 6 Metrocards	Train Operating Companies (TOCs), SYPTE, NYCC, GMPTE
Fares anomalies between Caldervale and Huddersfield line for Leeds/Manchester journeys	As above, but excluding SYPTE and NYCC	Northern Rail, First Transpennine, GMPTE
Some tendered bus services end at the West Yorkshire boundary to South Yorkshire	Partnership working with operators and local authorities involved	SYPTE, GMPTE, NYCC, Bus operators, Yorkshire Dales National Park Authority
Neighbouring authorities with different RTPI systems or no systems	Metro/SYPTE offer a platform for other authorities and operators, including data bureau services, and are in discussion with parties involved	Neighbouring authorities (e.g. GMPTE) and Yorkshire Traveline Partnership
Differences in fare structures; season ticket types and extent of zones running only as far as the boundaries. Some services operate commercially in West Yorkshire but need support in rural areas of North Yorkshire	Implementation of the West Yorkshire Bus Strategy	Bus operators, neighbouring authorities
Concessionary fares apply differently in different authorities though some cross boundary arrangements exist	Metro is commissioning a study on behalf of the Yorkshire and Humber Assembly to investigate reciprocal arrangements With effect from 1st April Metro will offer free travel on most bus services crossing the West Yorkshire boundary A review of existing reciprocal arrangements once allocation of additional national funding is known	Yorkshire and Humber Assembly, SYPTE and GMPTE
HGVs from North Yorkshire quarries hauling to Leeds/Bradford destinations using minor roads. Otley and environs are particularly affected	An HGV Forum has been established. A formal consultation process with the Forum will consider options for future HGV management.	Yorkshire and Humber Assembly, NYCC, Residents Groups, Haulage Industry, Police
Demand for a cross boundary cycling route between North Yorkshire and the Leeds district. Increase in motorcycle leisure trips. Crashes involving these vehicles have increased	Proposed connecting Wetherby - Thorp Arch cycle route (part of Route 66). Phase 2 of Wetherby - Thorp Arch Trading Estate route in development. North Yorkshire link to be constructed later. Various strategies, training and awareness campaigns are being utilised and trialled including police initiatives around Bike Safe	Sustrans, NYCC, Possibly Yorkshire Forward Police, NYCC
Demand for cross boundary cycling route between Wakefield and Barnsley districts	Route from Angler's Country Park to Old Moor Wetland Centre in Barnsley proposed as part of the Coalfield Rural Transport Partnership Initiative. Elements of this scheme are being delivered through improvements to Havercroft Heritage Trail	Sustrans, Barnsley Metropolitan Borough Council
Inappropriate traffic and speeds through the Peak Park	As part of the *South Pennines Integrated Transport Strategy* a request has been made for traffic calming/reduction measures on A6024 and A635. Measures will be considered during the period of LTP2	Derbyshire County Council Peak District National Park

SUMMARY

DELIVERING ACCESSIBILITY

A1	Improve physical accessibility by making bus stops more accessible, improving the continuity and signage of cycle and walk routes
A2	Maintain and improve road, pavement and Rights of Way conditions for pedestrians, cyclists, vehicle and freight users
A3	Minimise road weight and width restrictions
A4	Maintain and develop public transport networks through our bus and rail strategies
A5	Maintain and enhance concessionary fare schemes and address cost barriers for job-seekers
A6	Raise awareness of public transport and improve information
A7	Embed accessibility in other strategies, e.g. LDFs

SAFER ROADS

S1	Provide an appropriate road environment with facilities for each user group
S2	Provide the relevant skills for driving, riding, walking and cycling
S3	Promote awareness of road safety issues and the road user's responsibility to others
S4	Encourage the correct behaviour of all road users
S5	Improve safety through new technologies that can reduce the risk of injury

TACKLING CONGESTION

C1	Encourage modal switch to public transport
C2	Manage the demand for travel
C3	Make the best use of the existing capacity
C4	Improve the highway network
C5	Encourage more cycling and walking
C6	Promote smarter travel choices
C7	Promote sustainable land use planning policies and practices

BETTER AIR QUALITY

AQ1	Traffic demand management measures, focusing on commuter journeys
AQ2	Encouraging more sustainable travel
AQ3	Actions to reduce vehicle emissions
AQ4	Measures to adapt to the effects of climate change

EFFECTIVE ASSET MANAGEMENT

M1	Maintenance of roads and footways
M2	Strengthening and maintenance of bridges, walls and other highway structures
M3	Maintenance and operation of urban traffic control and CCTV systems (on street and public transport)
M4	Maintenance of lighting, signs and road markings
M5	Maintenance of bus stations, shelters and stops
M6	Maintenance of car and lorry parks
M7	Maintenance of Rights Of Way
M8	Winter maintenance
M9	Reducing accident claims and better use of resources and materials

INTRODUCTION

Part 3 explains how the LTP2 expenditure programme was developed. It shows the five year LTP2 capital programme (funded by the Integrated Transport and Maintenance block allocation) and the first year of the revenue funded programme.

Geographical areas have been used to present the capital programme, shown in Figure 3.2. These link back to the wider context, policy drivers and local transport implications identified in Part 1 "The Wider Context" (Table 1.6). In this way, the programme measures can be compared to issues identified in that area. Alignment with the relevant strategy element(s) is also shown.

Although much of the LTP2 programme is capital based, the important role of revenue funding to deliver LTP2 outcomes, particularly for public transport, is also described.

Part 3 describes proposals for Major Schemes costing over £5 million which are outside the scope of the Integrated Transport and Maintenance block allocations and additional measures that could be funded if LTP2 bonus funding is available. Other sources of funding are also described.

The contribution that programme measures make towards achieving outcomes and targets and our Performance Management Framework are described in Part 4 "Performance Management".

SUPPORTING THE CORE STRATEGY

The process of selecting our core strategy was described in Part 2 "Strategies", together with individual strategy elements.

Table 3.1 shows how Integrated Transport expenditure from our LTP2 capital funded programme supports the balance of our core strategy. Public transport expenditure of 47% (the largest single expenditure element) exceeds the LTP norm of 30% quoted by DfT. Rail measures are included within the DfT public transport categories shown.

There is a slightly lower percentage of expenditure on safety schemes in LTP2 as progress towards targets in the first LTP was good.

TABLE 3.1: COMPARISON OF LTP1 AND LTP2 CAPITAL PROGRAMME EXPENDITURE

TYPE OF MEASURE	LTP 1	LTP 2
Bus Priority HOV	3.6%	10.6%
Public Transport Interchanges	14.6%	12.0%
Park and Ride	0.3%	4.0%
Bus Infrastructure (excluding interchanges)	21.8%	20.4%
Cycling Schemes	4.1%	4.8%
Walking Schemes	6.3%	4.8%
Local Safety Schemes	16.2%	12.8%
Road Crossings	3.5%	3.8%
Traffic Management and Traffic Calming	18.6%	17.2%
Local Road Schemes	3.0%	1.6%
Miscellaneous	7.7%	7.9%

Measures in the programme typically deliver a number of strategy elements and contribute towards a number of objectives. These relationships are shown in a simplified way in Figure 3.1. Some of the strategies and measures have been combined to ease clarity of presentation.

FIGURE 3.1 OBJECTIVES – STRATEGIES – MEASURES LINKAGE

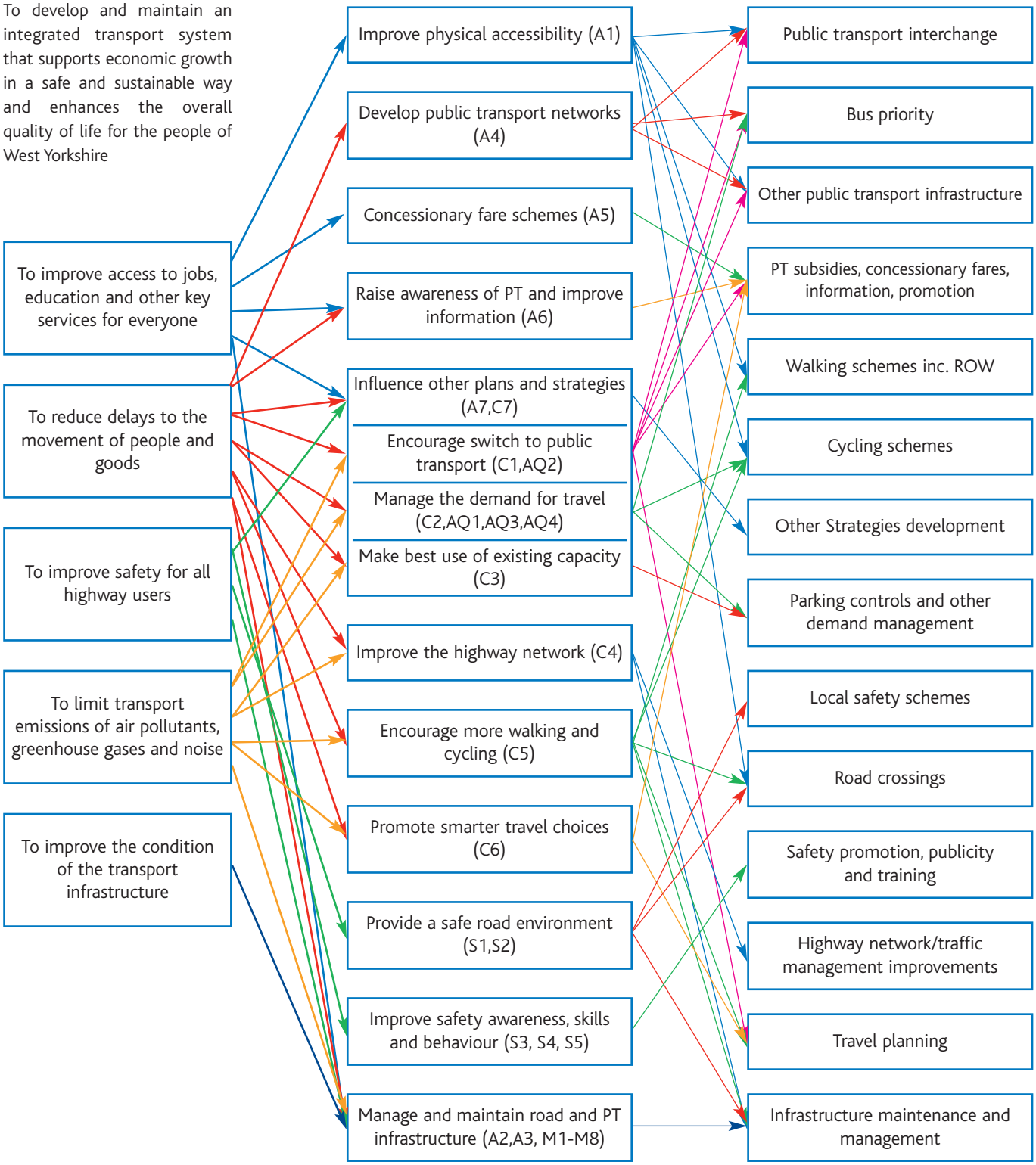


Figure 3.1 shows that a combination of measures are needed to deliver LTP2 strategy elements and support the achievement of our objectives.

SELECTING THE PROGRAMME MEASURES USING A TOOLKIT APPROACH

Packages of measures costing more than £200,000 are shown in the "Five Year Capital Programme". These are corridor based or area-wide packages of measures, which form a substantial part of the LTP2 expenditure programme.

The prioritisation of these corridors and areas for treatment is informed by;

- the issues identified in Part 1 "The Wider Context" and Part 2 "Strategies";
- fit with other opportunities, for example regeneration and developer funded contributions;
- local priorities identified through consultation; and
- the opportunity to deliver a combination of improvements, for example bus priorities, planned maintenance, safety, walking and cycling improvements.

Corridors and areas have been selected for treatment as a package where an integrated approach clearly delivers the greatest benefits. A corridor or area package is put together from a toolkit of measures, each selected after a rigorous process of selection and anchored in a thorough understanding of the issues.

The process of developing an appropriate programme is presented in detail for four example corridors/areas in Appendix O.

The detailed processes behind the development of programmes that follow Plan strategies and will contribute to the delivery of Plan objectives is illustrated .

This rigorous approach ensures that local capital schemes, area-wide schemes, revenue expenditure and supporting supportive policies are aligned toward the delivery of LTP objectives, in a way that can be monitored and will make an appropriate contribution to LTP targets.

The systematic approach in these illustrative corridors, and that adopted for other areas/corridors, included the following steps:

- Identification of baseline conditions
- Identification of of current issues
- Identification of future issues
- Assessment of 'Do Minimum' conditions
- Assessment of potential measures
- Setting out of proposed measures and how they specifically address LTP objectives and link to current/future issues
- Specific appraisal of the impact on congestion, accessibility, safety and air quality
- Measures to reinforce the strategy
- Quantification of their contribution to the targets

The case studies also set out the following parallel considerations, showing the synergy of the programme with local objectives, activities, policies and other committed (or previously delivered) schemes:

- Community Vision;
- Links with the council's corporate planning framework and other sectors;
- Value for money considerations;
- Securing added value from LTP1 schemes;
- Land use developments especially those related to housing and employment;
- Regeneration, community and service provision strategies (particularly those relating to health sector reconfiguration); and
- The development of town centre and District centre accessibility and regeneration strategies.

A selection of measures will be subject to "before and after" monitoring. A thorough understanding of the impact of different measures separately and in combination helps the Partnership apply lessons learned to future corridor and area packages. Throughout the LTP1 the impact of larger packages was comprehensively reported in Annual Progress Reports.

The Partnership has also reviewed best practice and experience from other authorities. This, together with lessons learned from the first LTP and and achieving value for money are described in Part 4 "Performance Management".

The process of selection and analysis that has been followed in developing the programme, and illustrated in the case studies has revealed that the issues are often complex and that fully resolving some of them will require actions and resources beyond those available through LTP2.

The case study examples are included in Appendix O.
The examples shown are:

A629 Huddersfield to Halifax corridor

A62 Leeds Road, Huddersfield

Wakefield City and Northern approaches

Castleford town centre and surrounding catchment

DELIVERING STRATEGY ELEMENTS THROUGH THE PROGRAMME MEASURES

DELIVERING ACCESSIBILITY

Many of the public transport, cycling and walking elements of the strategy will contribute to delivering accessibility. Some of the highway maintenance funding will also improve accessibility, particularly footway and ROW maintenance.

The issue identification process described in Part 2 and Appendix C has been, and will continue to be used, to identify areas of study to develop accessibility improvements.

A five year Action Plan for accessibility is still being developed. A one-year Action Plan is shown in Appendix C. It is difficult to assess what the cost of implementing the full strategy will be over the whole period of LTP2. Some flexibility in programming in future years is likely to be needed.

TACKLING CONGESTION

ITIS vehicle speed data has been used with local knowledge to identify congestion problems (shown in Part 2 "Strategies"). Further data is awaited to enable us to identify and monitor the rates of change in congestion in problem areas.

Almost all of the traffic management and many of the public transport capital and revenue programmes help to tackle congestion. To a lesser extent cycling and walking schemes also contribute to tackling congestion.

SAFER ROADS

Local schemes, corridor improvements and safer routes to school all support Safer Roads. Capital or revenue funded promotional campaigns are also run in support of the capital schemes.

The capital programme allocated to safer roads is based on assessment by each district council of the work needed to achieve national and local targets. Accident statistics are used to identify which sites should be investigated first based on KSI casualties over a 3 or 5 year period. Both specific lengths of road and wider areas are investigated. 'First year rate of return' is used to identify which measures should be implemented.

When other measures are being proposed on particular transport corridors it is usual for the district councils to ensure that safety measures are included as part of the scheme. In addition, safety audits are carried out on many other highway schemes and safety measures introduced accordingly.

In April 2004 the Government awarded Bradford Council £1.16 million NRSI funding, to be spent over two years to reduce road injuries to children in disadvantaged areas. The experience gained from this pilot study will play an important role in the development of schemes during the LTP2 period.

AIR QUALITY AND TRANSPORT EMISSIONS

The benefits for air quality improvement and greenhouse gas reduction mainly come from schemes aimed at tackling congestion and modal choice. The scale of change of transport emissions will rely almost entirely on the level of congestion and of motor vehicle usage.

Much of the noise reduction will come from changes in practice in road maintenance as low noise surfacing becomes more common, and is achieved at little extra cost.

MAINTENANCE

The maintenance programmes result from the findings of regular inspection and assessment regimes based on nationally agreed procedures that cover all the assets. These range from night-time inspections of street lighting to assessments of the condition and strength of large structures. These inspection regimes and assessments of condition allow prioritised programmes to be developed in a consistent and rigorous manner. Some of these assessments also lead directly to performance indicators.

The councils have developed strategies for life cycle planning which create balance between different maintenance solutions.

Until the highway network condition is improved, defects will continue to arise which could potentially be a source of danger. It is essential that an appropriate budget is identified to carry out reactive repairs quickly. This needs to be done at minimum practical cost on a do-minimum strategy.

To minimise whole life cost, there is an appropriate time to intervene and maintain a street with medium cost "preventative maintenance" treatments such as surface dressing, slurry or other thin surfacing. The district authorities are generally looking to maximise the volume of this type of work as it generates good customer satisfaction. Also, low material use means that processes tend to be environmentally friendly.

Once an asset is too badly deteriorated a more radical intervention will be required at a comparatively high cost. Historic under-funding of maintenance has resulted in many assets being in this condition. Condition data is used to address these on a worst first basis.

LTP2 capital funding will generally be used to carry out the larger maintenance schemes, with local revenue and capital funds providing the balance. The larger works are aimed at reducing the backlog and the preventative maintenance works, ensuring that deterioration in the network is arrested. This is designed to create the best achievable outcome with the available resources. As the network and other assets conditions improve more funding will be transferred from reactive to preventative maintenance.

The maintenance inspections allow programmes to be developed to treat the worst first. However, the balance of funding allocated to maintenance of roads and structures has to be based on pragmatic assessment of the relative scale of the problems.

The evolving Asset Management Plans will ensure that the results of the inspections be used in a more rigorous way to ensure that assets are maintained (and used) in the most effective way. However the Plans are in the early stages of development and it is difficult to predict the scale of the benefits they will bring.

HIERARCHY OF CONSIDERATION

A modified hierarchy of consideration will be used for the design of highway measures in LTP2. We are obliged by law to make provision for people with disabilities and maintain access for emergency services, so whilst these are not explicitly included in the hierarchy, provision is an over-arching requirement.

The adopted order to be used throughout the LTP2 period is:

1	pedestrians, cyclists and horse riders
2	public transport and taxi passengers
3	powered two wheelers
4	deliveries to local areas
5	shoppers travelling by car
6	other freight movements
7	other high occupancy vehicles
8	car borne commuters and other private car users

The hierarchy is used to ensure that the needs and safety of each group or road users are sequentially considered when a scheme is being prepared, that each group of users is given proper consideration and that measures will not make existing conditions worse for the more vulnerable transport users.

This approach does not mean that users at the top of the list will always receive the most beneficial treatment at any given location. It is recognised that it is often not possible to provide for all users' demands and that compromises have to be made.

The weight afforded to the various categories of users will recognise:

- the nature of the location involved;
- the relative levels of competing demands for facilities;
- the ability of the transport network to accommodate the range of facilities involved; and
- the funding resources available for the measures under consideration.

FIVE YEAR CAPITAL PROGRAMME

FUNDING

The DfT provides local authorities with their main source of capital funding for investment in local transport. They have provided each LTP area with 'planning guideline' budgets for integrated transport and for maintenance for each year of the LTP2 period.

The planning guidelines do not cover funding for Major Schemes (costing more than £5m), exceptional schemes and emergency maintenance funding. Additional funds are provided for Primary Route Network (PRN) structures strengthening and maintenance.

The 2006/07 funding allocations for integrated transport and for maintenance are confirmed. For 2007/08 all local authorities will receive at least 75% of the 2006/07 allocations.

The development of LTP2 has considered the planning guidelines provided by the DfT as shown in Tables 3.2 and 3.3 (excluding PRN structures).

The Integrated Transport block was allocated to the Partnership as a whole. The Partnership agreed to apportion the allocations between the authorities as shown in Table 3.2.

TABLE 3.2: INTEGRATED TRANSPORT BLOCK APPORTIONMENT OF PLANNING GUIDELINES

LOCAL AUTHORITY	APPORTIONMENT OF PLANNING GUIDELINE (£ MILLION)					TOTAL
	2006/07	2007/08	2008/09	2009/10	2010/11	
Bradford	4.438	4.143	4.381	4.692	5.026	**22.680**
Calderdale	2.396	2.064	2.068	2.217	2.377	**11.122**
Kirklees	3.837	3.454	3.585	3.840	4.112	**18.828**
Leeds	5.871	5.802	6.506	7.084	7.701	**32.964**
Wakefield	3.279	3.485	3.943	4.230	4.536	**19.473**
Metro	8.670	8.198	8.778	9.456	10.179	**45.281**
West Yorkshire	**28.491**	**27.146**	**29.261**	**31.519**	**33.931**	**150.348**

TABLE 3.3: MAINTENANCE BLOCK PLANNING GUIDELINES

DISTRICT AUTHORITY	PLANNING GUIDELINE (£ MILLION)					TOTAL
	2006/07	2007/08	2008/09	2009/10	2010/11	
Bradford	5.187	5.290	5.555	5.832	6.124	**27.988**
Calderdale	3.882	3.959	4.157	4.365	4.584	**20.947**
Kirklees	5.868	5.985	6.284	6.599	6.929	**31.665**
Leeds	8.636	8.809	9.249	9.711	10.197	**46.602**
Wakefield	3.399	3.467	3.641	3.823	4.014	**18.344**
West Yorkshire	**26.972**	**27.510**	**28.886**	**30.330**	**31.848**	**145.546**

ROAD SAFETY FUNDING

In December 2005 the Secretary of State announced that safety camera activities are to be integrated into the wider road safety delivery process. The ring fenced 'netting off' funding arrangements for cameras will end on 31 March 2007. After this date funding will be provided through the LTP process and will include both capital and revenue funding. There is a move towards a formula based funding allocation on the basis of need, which may lead to an increased allocation for those local authorities with the greatest need.

At the time of writing the revised allocations had not been announced by DfT, so it has not been possible to identify how they would be spent.

The capital programme information has been presented in different ways.

CAPITAL PROGRAMME INFORMATION

Strategy elements are shown in Table 3.4. Links between capital funded measures and strategy elements are shown in Table 3.5.

A summary programme is compared to the DfT's "shared priorities" in Table 3.6. In addition, one table has been produced for each Partner; these tables are shown in Appendix B.

These tables will be used as a basis for programme monitoring, to be reported through the APRs. This will form part of the assessment of progress on LTP2 carried out by the DfT.

A summary of individual measures costing over £200,000 is presented in Tables 3.7 to 3.26 by geographical area (illustrated in Figure 3.2). These areas link back to the wider context, policy drivers and local transport implications identified in Part 1 "The Wider Context" (Table 1.5). In this way, the programme measures can be linked to the issues and policy drivers. Alignment with the relevant strategy elements is also shown.

Table 3.27 summarises types of measures costing less than £200,000 to be implemented district- or county-wide. More detailed tables showing the breakdown for each year by each authority are given in Appendix B.

PRIMARY ROUTE NETWORK (PRN) STRUCTURES

Strengthening and major refurbishment of structures on the PRN are eligible for separate funding from DfT. A draft programme for these structures is given in Appendix B.

SCHEMES ON DE-TRUNKED ROADS

Capital maintenance schemes on recently de-trunked roads are eligible for separate funding from the DfT. A draft programme of schemes for these roads is given in Appendix B.

TABLE 3.4: STRATEGY ELEMENTS – FULL OR PART CAPITAL FUNDED

DELIVERING ACCESSIBILITY	
A1	Improving physical accessibility by making bus stops more accessible, improving the continuity and signing of cycle and walk routes
A2	Maintain and improve road, pavement and Rights Of Way conditions for pedestrians, cyclists, vehicle and freight users
A3	Reduce weight and width restrictions on bridges and adjacent to retaining walls
A4	Maintain and develop public transport networks through our bus and rail strategies
A5	Raise awareness of public transport and improve information

SAFER ROADS	
S1	Provide an appropriate road environment with facilities for each user group
S4	Encourage the correct behaviour of all road users

BETTER AIR QUALITY	
AQ1	Alternatives to the car and traffic demand management measures
AQ2	Encouraging more sustainable travel
AQ3	Actions to reduce vehicle emissions
AQ4	Measures to adapt to the effects of climate change

TACKLING CONGESTION	
C1	Encourage modal switch to public transport
C2	Manage the demand for travel
C3	Make the best use of the existing capacity
C4	Improve the highway network
C5	Encourage more cycling and walking

EFFECTIVE ASSET MANAGEMENT	
M1	Maintenance of roads and footways
M2	Strengthening and maintenance of bridges, walls and other highway structures
M7	Maintenance of Rights Of Way

FIGURE 3.5: LINKS BETWEEN CAPITAL FUNDED MEASURES AND STRATEGY ELEMENTS

TYPES OF MEASURE	STRATEGY ELEMENTS	
BUS PRIORITY (EXCLUDING SIGNALS)	**A4**	Maintain and develop public transport networks through our bus and rail strategies
	C1	Encourage modal switch to public transport
	C3	Make best use of existing capacity
	C4	Improve the highway network
	AQ1	Alternatives to the car and traffic demand management measures
PUBLIC TRANSPORT INTERCHANGE	**A4**	Maintain and develop public transport networks through our bus and rail strategies
	A6	Raise awareness of public transport and improve information
	C1	Encourage modal switch to public transport
	AQ1	Alternatives to the car and traffic demand management measures
PARK AND RIDE	**C1**	Encourage modal switch to public transport
	C2	Manage the demand for travel
	C3	Make best use of existing capacity
	AQ1	Alternatives to the car and traffic demand management measures
BUS INFRASTRUCTURE (EXCLUDING INTERCHANGES)	**A1**	Improving physical accessibility by making bus stops more accessible, improving the continuity and signing of cycle and walk routes
	A4	Maintain and develop public transport networks through our bus and rail strategies
	C1	Encourage modal switch to public transport
	AQ1	Alternatives to the car and traffic demand management measures
CYCLING SCHEMES	**A1**	Improving physical accessibility by making bus stops more accessible, improving the continuity and signing of cycle and walk routes;
	A2	Maintain and improve road, pavement and Rights Of Way conditions for pedestrians, cyclists, vehicle and freight users
	C5	Encourage more cycling and walking
	S1	Provide an appropriate road environment with facilities for each user group
	AQ1	Alternatives to the car and traffic demand management measures
WALKING SCHEMES	**A1**	Improving physical accessibility by making bus stops more accessible, improving the continuity and signing of cycle and walk routes;
	A2	Maintain and improve road, pavement and Rights Of Way conditions for pedestrians, cyclists, vehicle and freight users
	C5	Encourage more cycling and walking
	S1	Provide an appropriate road environment with facilities for each user group
	AQ1	Alternatives to the car and traffic demand management measures

TYPES OF MEASURE	STRATEGY ELEMENTS	
TRAVEL PLANS	C1	Encourage modal switch to public transport
	C6	Promote smarter travel choices
	AQ2	Encouraging more sustainable travel
LOCAL SAFETY SCHEMES	S1	Provide an appropriate road environment with facilities for each user group
	S4	Encourage the correct behaviour of all road users
ROAD CROSSINGS	A1	Improving physical accessibility by making bus stops more accessible, improving the continuity and signing of cycle and walk routes
	C5	Encourage more cycling and walking
	S1	Provide an appropriate road environment with facilities for each user group
TRAFFIC MANAGEMENT AND TRAFFIC CALMING	A1	Improving physical accessibility by making bus stops more accessible, improving the continuity and signing of cycle and walk routes
	C3	Make best use of existing capacity
	C4	Improve the highway network
	S1	Provide an appropriate road environment with facilities for each user group
	AQ1	Alternatives to the car and traffic demand management measures
	AQ3	Actions to reduce vehicle emissions
LOCAL ROAD SCHEMES	C4	Improve the highway network
	S1	Provide an appropriate road environment with facilities for each user group
PRINCIPAL, NON-PRINCIPAL AND UNCLASSIFIED ROADS MAINTENANCE	A2	Maintain and improve road, pavement and Rights Of Way conditions for pedestrians, cyclists, vehicle and freight users
	C4	Improve the highway network
	S1	Provide an appropriate road environment with facilities for each user group
	AQ4	Measures to adapt to the effects of climate change
	M1	Maintenance of roads and footways
BRIDGE AND WALL STRENGTHENING AND MAINTENANCE	A2	Maintain and improve road, pavement and Rights Of Way conditions for pedestrians, cyclists, vehicle and freight users
	A3	Minimise road weight and width restrictions
	S1	Provide an appropriate road environment with facilities for each user group
	M2	Strengthening and maintenance of bridges, walls and other highway structures

TABLE 3.6: SUMMARY PROGRAMME FOR WEST YORKSHIRE – LTP CAPITAL EXPENDITURE

TYPE OF MEASURE	PLANNED EXPENDITURE (£ 000S)						CONTRIBUTION TO SHARED PRIORITIES					
	2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	DELIVERING ACCESSIBILTY	TACKLING CONGESTION	SAFER ROADS	BETTER AIR QUALITY	EFFECTIVE ASSET MANAGEMENT	ENHANCING THE QUALITY OF LIFE
Bus Priority/HOV	4,308	3,592	3,101	4,118	4,779	**19,898**	✓	✓		✓		✓
Public Transport Interchanges	2,472	4,575	4,287	3,375	3,925	**18,634**	✓	✓		✓		✓
Park and ride	0	620	0	750	750	**2,120**	✓	✓		✓		✓
Bus infrastructure (exc. interchanges)	7,453	5,152	5,551	4,662	4,754	**27,572**	✓	✓		✓	✓	✓
Cycling Schemes	1,115	1,390	1,587	1,825	1,598	**7,515**	✓	✓	✓	✓		✓
Walking Schemes (inc. ROWs)	1,081	1,227	1,625	2,295	2,571	**8,799**	✓	✓	✓	✓		✓
Travel Plans	115	117	138	139	144	**653**	✓	✓	✓	✓		✓
Local Safety Schemes	2,806	2,297	3,357	2,839	2,664	**13,963**	✓		✓			✓
Safe Routes to School	1,050	1,050	1,040	1,065	1,140	**5,345**	✓	✓	✓	✓		✓
Road crossings	596	598	1,085	1,111	1,206	**4,596**	✓		✓			✓
Traffic Management and Traffic Calming	3,896	3,170	3,187	3,337	3,578	**17,168**	✓	✓	✓	✓	✓	✓
Local Road Schemes	200	840	943	1,590	1,990	**5,563**	✓	✓	✓	✓	✓	✓
Miscellaneous	3,399	2,518	3,360	4,413	4,832	**18,522**	✓	✓	✓	✓	✓	✓
Integrated Transport Total	**28,491**	**27,146**	**29,261**	**31,519**	**33,931**	**150,348**						
Roads and footways	17,921	18,244	18,842	19,438	20,427	**94,872**	✓	✓	✓	✓	✓	✓
Bridge and wall strengthening and maintenance	8,417	8,629	9,401	10,237	10,774	**47,458**	✓		✓		✓	✓
Miscellaneous	634	637	643	655	647	**3,216**	✓	✓	✓	✓	✓	✓
Maintenance Total	**26,972**	**27,510**	**28,886**	**30,330**	**31,848**	**145,546**						
Grand Total	**55,463**	**54,656**	**58,147**	**61,849**	**65,779**	**295,894**						

FIGURE 3.2: AREAS USED IN THE GEOGRAPHIC PRESENTATION OF PROGRAMMES MEASURES COSTING MORE THAN £200,000

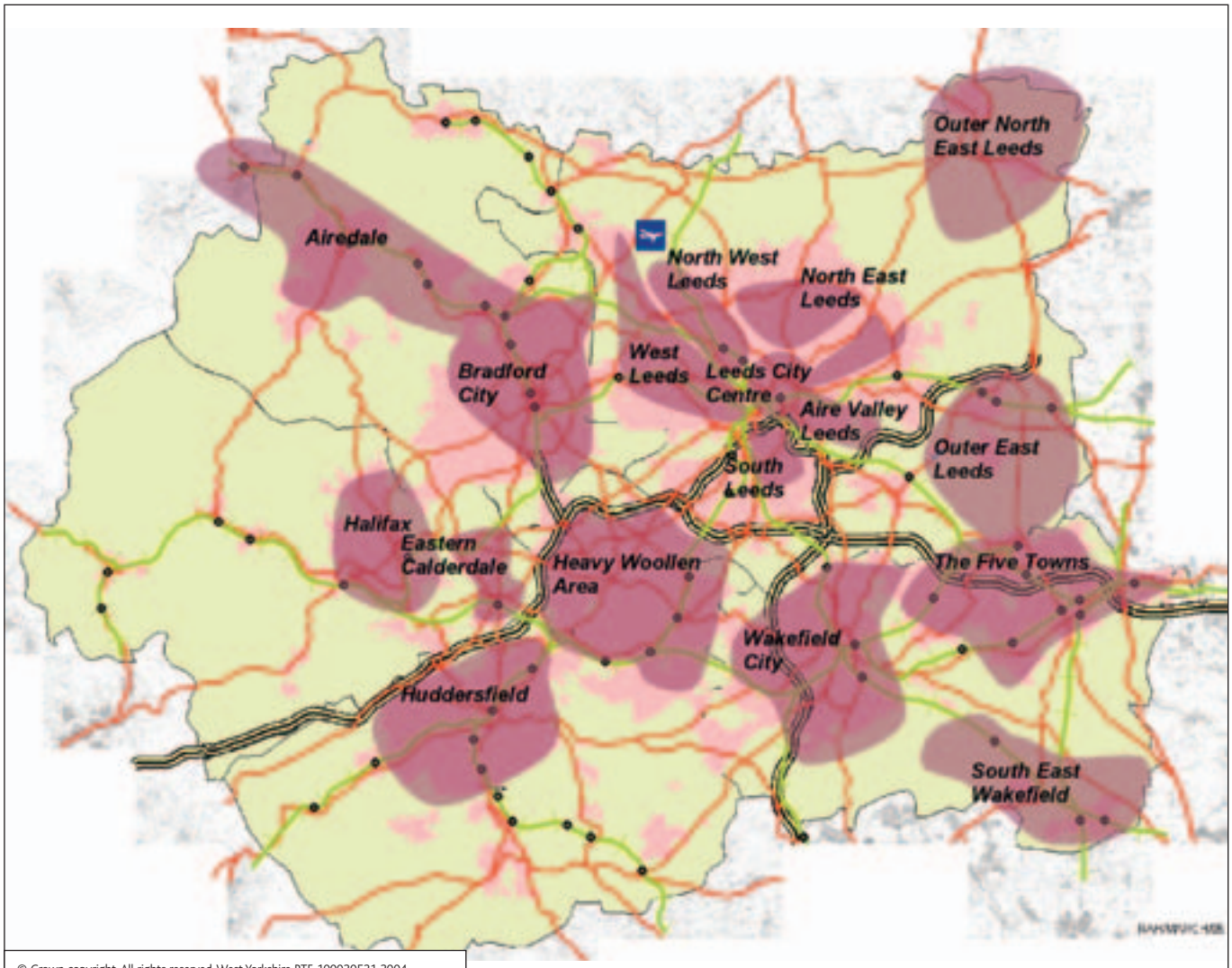


TABLE 3.7: BRADFORD URBAN AREA MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Bradford city centre traffic management and control. Traffic & environmental improvements to complement Broadway Retail development	A1, C3, C4, S1	400	150	103	50		**703**	
A650 Tong St bus priority Bus priority measures to complement recently completed major scheme in South Bradford	A1, C1, C3, AQ1				49	300	**349**	
National Cycle Network (NCN) Spen Valley - Bradford Complete missing links between Spen Valley greenway and Leeds- Liverpool canal cycle route	A1, C5, AQ1	150	50				**200**	
NCN Bradford - Shipley Complete missing links between Spen Valley Greenway and Leeds- Liverpool canal cycle route	A1, C5, AQ1			50	250		**300**	
A6177 Queens Rd/Bolton Rd Junction Signalisation Includes bus, pedestrian and cycling facilities	A1, C1, C3, C4, AQ1	175	25				**200**	
A647 Leeds Rd/A6177 Killinghall Rd Junction Improvement Addresses congestion and give buses priority	C1, C3, C4, AQ1				250	450	**700**	
A6177 Southfield Lane/Little Horton Lane junction improvement Includes bus, pedestrian and cycling facilities	A1, C1, C4, C5, AQ1		450	750			**1,200**	
C111 Baldwin Lane Bridge Strengthening	A2, A3, S1, M2	100	100	100	5		**305**	**325**
Bradford Beck Phase 2 Culvert strengthening	A2, A3, S1, M2	40	225	225	10		**500**	**500**
Bradford Beck Phase 3 Culvert strengthening	A2, A3, S1, M2		15	150	55	5	**225**	**225**
Bradford Beck Phase 4 Culvert maintenance/ strengthening	A2, A3, S1, M2		15	150	150	150	**465**	**465**

TABLE 3.8: AIREDALE MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
A658 Harrogate Rd/New Line junction improvement Junction Improvement, includes pedestrian and cycling facilities, improves access to LBIA	A1, C1, C3, C4, C5, AQ1				640	**640**	**1,280**	
Shipley area bus priority measures Priority for buses at congested junctions	C1, C3, AQ1	100	75	100	75		**350**	
Keighley area bus priority measures Priority for buses at congested junctions	C1, C3, AQ1	75	75	50	50	50	**300**	
Bingley Town Centre Pedestrian and other improvements	A1, A4, C3, C5	100					**100**	
Airedale Hospital - Steeton/Silsden Bus, cycle and pedestrian routes to link Airedale hospital and large employment sites with Steeton/Silsden rail station	A1, C1, C5, AQ1					250	**250**	
Keighley town centre traffic management Traffic management, public transport and pedestrian facilities	A1, A4, C1, C3, C5, AQ1	50	50	50	50	50	**250**	
Shipley area traffic management Traffic and environmental management, pedestrian and cycling facilities	A1, A4, C1, C3, C5, AQ1	100	75	50	50	25	**300**	
Great Northern Trail Cycle Route Cycle and pedestrian route	A1, C5, AQ1	135	150	150	150	150	**735**	
A6037 Crossley Evans Retaining Wall strengthening	A2, A3, S1, M2	500	50				**550**	**600**
B6429 Ireland Bridge Bridge Maintenance	A2, A3, S1, M2	40	250	10			**300**	**300**
Fell Lane / Holme House Lane Bridge Strengthening	A2, A3, S1, M2	200	300	10			**510**	**550**
Canal Road Parapets Bridge Strengthening	A2, A3, S1, M2	20	125	125	5		**275**	**275**

The measures required to deal with the regeneration and congestion issues for the Shipley area (identified in Part 1) are included in Major Scheme proposals that are intended to be submitted in the later years of LTP2.

RURAL AREAS OF BRADFORD

There are no Capital Schemes over £200k for these areas. The issues are addressed through revenue funding or smaller capital schemes.

TABLE 3.9: HALIFAX MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Halifax Town Centre Westgate - traffic management and pedestrian facilities	A1, A2, C1, C3, C5, S1, AQ1	225					**225**	**250**
Halifax Town Centre Complementary measures to the 'zones & loops' traffic management system including enhanced pedestrian routes linking public transport and major attractors	A1, A2, A4, C1, C5, S1, AQ1	125	250				**375**	**375**
Halifax Town Centre Church Street widening – reduce severe traffic congestion, improved pedestrian facilities at junctions including refuges	A1, A2, C3, C4, C5, S1, AQ1			50	750	1,000	**1,800**	**1,800**
A644 Brighouse & Denholme Gate Road, Shelf Stone Chair Roundabout to Boundary - Reconstruction of carriageway & footways	A2, C4, S1, M1	270					**270**	**270**
A629 Ovenden Road, Halifax Ovenden Way to Foundry Street North - Reconstruction of carriageway	A2, C4, S1, M1			200			**200**	**200**
A629 Keighley Road, Halifax Beechwood Road to Heathmoor Park Road - Reconstruction of carriageway	A2, C4, S1, M1			290			**290**	**290**
A672 Oldham Road, Boothwood Entrance to M62 Depot to Lancs Boundary - Reconstruction of carriageway	A2, C4, S1, M1				200		**200**	**200**
A58 Aachen Way, Halifax Queens Road to Orange Street Roundabout - Reconstruction of carriageway	A2, C4, S1, M1				440		**440**	**440**
A629 Keighley Road, Ovenden Foundry Street North to Beechwood Road - Reconstruction of carriageway	A2, C4, S1, M1				230		**230**	**230**
North Bridge Halifax Bridge Maintenance	A2, A3, S1, M2					220	**220**	**220**
Water Lane Halifax Bridge Strengthening	A2, A3, S1, M2		295				**295**	**295**

TABLE 3.10: EASTERN CALDERDALE SCHEMES MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
A6025 Park Road, Elland Ashgrove House Apartments to House No 147 - Reconstruction of carriageway	A2, C4, S1, M1		260				**260**	**260**
A6025 Elland Road, Brighouse Grove Cottages to Ashgrove House Apartments - Reconstruction of carriageway	A2, C4, S1, M1					290	**290**	**290**
A641 Huddersfield Road Brighouse Bridge Strengthening	A2, A3, S1, M2			355			**355**	**355**
B6112 Stainland Road Elland Bridge Strengthening	A2, A3, S1, M2	600					**600**	**600**
Gooder Lane (Brighouse) Bridge Strengthening	A2, A3, S1, M2	350					**350**	**350**

TABLE 3.11: RURAL AREAS OF CALDERDALE MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Hebden Bridge District Centre New signals, measures to assist buses access the centre, bus boarding facilities, traffic management, control and regulate parking, signal re-timing to reduce queuing, introduction of 20 mph Zone to help cyclists and pedestrians, and facilities at junctions and refuges to assist pedestrians	A1, A2, A4, C1, C3, C5, S1, S4, AQ1	275					**275**	**275**
Todmorden District Centre Measures to assist bus access, bus boarding facilities, control and regulate parking, traffic calming to help cyclists and pedestrians, facilities at junctions and refuges to assist pedestrians	A1, A2, A4, C1, C3, C5, S1, AQ1	50	250	100			**400**	**400**
Calder Valley Cycle Route Sowerby Bridge to Cooper Bridge (NCN Route 66) – 'flagship' cycling and walking route – safe, convenient access to district centres and public transport	A1, A2, C5, AQ1	75	165	150	100		**490**	**490**
A6033 Rochdale Road Walsden A681 Bacup Road to Rochdale Road Industrial Estate - Reconstruction of carriageway and footways	A2, C4, S1, M1	290					**290**	**290**
A646 Halifax Road, Hebden Bridge Church Lane to Underbank Avenue - Reconstruction of carriageway	A2, C4, S1, M1	290					**290**	**290**
A646 Halifax Road, Eastwood Burnt Acres Lane to Duke Street - Reconstruction of carriageway	A2, C4, S1, M1		200				200	**200**
B6138 Cragg Road Mytholmroyd Bridge Strengthening	A2, A3, S1, M2				210		210	**210**
A58 Sowerby Street Sowerby Bridge Bridge Strengthening	A2, A3, S1, M2				325		325	**325**

TABLE 3.12: HUDDERSFIELD MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Route 503 Huddersfield to Halifax QBC (A629) Bus priority at signals, bus lanes outbound, bus boarding facilities, signal retiming, pedestrian facilities at junctions, pedestrian refuges, ASLs and lanes for cyclists (Started in 2005/06)	A1, A2, A4, C1, C3, C5, AQ1	169					**370**	**370**
A629 New North Road Huddersfield Reconstruction of carriageways and footways – Principal Road (Started in 2005/06)	A2, C4, S1, M1	294	6				**350**	**350**
St George's Square Huddersfield Reorganisation of central square to provide bus interchanges facilities with Huddersfield rail station (Started in 2005/06)	A1, A2, A4, C1, C5, S1, AQ1	250	265				**1,150**	**1,150**
Route 350 Huddersfield to Marsden QBC Comprehensive corridor scheme - bus priority elements and boarding facilities (Started in 2005/06)	A1, A2, A4, C1, C3, AQ1, S1	220	440				**893**	**893**
A643 Lindley Moor Road Salendine Nook. Reconstruction of carriageways and footways	A2, C4, S1, M1		115	100	275	300	**790**	**790**
B6108 Meltham Road Lockwood Reconstruction of carriageways and footways	A2, C4, S1, M1	195	5				**200**	**200**
Dalton Green Lane Dalton Reconstruction of carriageways and footways	A2, C4, S1, M1	270					**270**	**270**
Kingsbridge* Bridge Strengthening (Started in 2005/06)	A2, A3, S1, M2	460	245	455			**1,160**	**1,300**
Dalton Bank Road Bridge Strengthening	A2, A3, S1, M2				250	100	**350**	**350**
A62 Leeds Road Canal Bridge, Huddersfield Bridge Strengthening	A2, A3, S1, M2			25	175		**200**	**200**
A616 Chapel Hill Bridge, Huddersfield Bridge major maintenance	A2, A3, S1, M2					250	**250**	**250**

The measures required to deal with the implications of economic regeneration along A62 Leeds Road (mentioned in Part 1) are included in a Major Scheme proposal that is intended to be submitted during the LTP2 period.

Many of the congested junction issues will be addressed (some studies ongoing) via the traffic management and UTMC allocations, possibly with developer contributions. Public transport improvements should also help ease some of the congestion issues.

TABLE 3.13: 'HEAVY WOOLLEN AREA' MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Route 281 Thornhill to Fieldhead QBC Comprehensive corridor scheme - bus priority elements and boarding facilities.	A1, A4, C1 C3, S1, AQ1	20	40		50	240	**964**	**964**
Route 201/202/203 Huddersfield to Leeds QBC Comprehensive corridor scheme - bus priority and boarding facilities	A1, A4, C1 C3, S1, AQ1	30	70	621	379	153	**1,414**	**1,414**
Heckmondwike Town Centre Area wide traffic management and public transport facilities	A1, A2, A4, C1, C3, C5, S1, AQ1	25	85	350	400	350	**1,155**	**2,000**
A643 Kirkgate Birstall Reconstruction of carriageways and footways	A2, C4, S1, M1	10	199	416			**635**	**635**
A643 Westgate Cleckheaton Reconstruction of carriageways and footways	A2, C4, S1, M1				200	200	**800**	**800**
Calder Valley Greenway Combined cycling/pedestrian/equestrian facilities (Started in 2005/06)	A1, A2, C5, AQ1	100	100	65	20		**535**	**935**
Calder Valley Greenway Extension Combined cycling/pedestrian/equestrian facilities	A1, A2, C5, AQ1			10	40	50	**170**	**250**
Dewsbury to Batley UDP Route Combined cycling/pedestrian/equestrian facilities	A1, A2, C5, AQ1			10	40	20	**250**	**400**
Soothill Bridge – Batley* Bridge strengthening scheme (Started in 2005/06)	A2, A3, S1, M2	80	235	85			**400**	**750**
Station Road Bridge, Thornhill* Bridge strengthening scheme	A2, A3, S1, M2				350	50	**400**	**400**
Headfield Bridge Thornhill* Bridge strengthening scheme	A2, A3, S1, M2	100	150				**250**	**250**
Savile Bridge, Dewsbury* Bridge strengthening scheme	A2, A3, S1, M2			354	459	187	**1,000**	**1,000**
Ravensthorpe Bridge* Bridge strengthening scheme	A2, A3, S1, M2					200	**200**	**200**
Slaithwaite Road Bridge, Thornhill Bridge strengthening scheme	A2, A3, S1, M2					250	**250**	**250**

*If a major scheme bid is successful replacement structures will include: Union Bridge Marsden, Thornhill Bridge, Shepley River Bridge, Leeds Road Railway Bridge, Kitchen Bridge Subway, Halifax Road Bridge, Whiteacre Street, Dodlee Bridge, Britannia Mills Bridge, Large Culvert strengthening – 9 Schemes. Many of the congested junction issues will be addressed (where solutions are identified – some studies ongoing) via the traffic management and UTMC allocations, possibly with developer contributions. Public transport improvements should also help ease some of the congestion issues.

TABLE 3.14: RURAL SOUTH KIRKLEES MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Fenay Greenway Combined cycling/pedestrian/equestrian facilities	A1, A2, C5, AQ1	60	40	80	90	120	**700**	**1,100**
Colne Valley Greenway Combined cycling/pedestrian/equestrian facilities linking Cone Valley settlements to Huddersfield Town Centre (Started in 2005/06)	A1, A2, C5, AQ1	50	30	15			**250**	**350**
Ottiswell Bridge Marsden Bridge Strengthening Scheme	A2, A3, S1, M2					400	**400**	**400**

An ongoing study is expected to identify proposals to improve accessibility in the Colne Valley and address the issues arising from traffic going to or from the M62. Many of the other rural issues are related to inadequate public transport and hence require revenue funding.

TABLE 3.15: LEEDS CROSS SECTOR BUS INFRASTRUCTURE MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Route 4 Pudsey to Seacroft 59 Stops. Raising kerbs at all bus stops along the route to ensure compatibility with low floor buses	A1, A2, C1, AQ1	550					**550**	
Route 49 Seacroft to Bramley 59 Stops. Raising kerbs at all bus stops along the route to ensure compatibility with low floor buses	A1, A2, C1, AQ1		293				**293**	
Route 50 Seacroft to Horsforth 69 Stops. Raising kerbs at all bus stops along the route to ensure compatibility with low floor buses	A1, A2, C1, AQ1	350					**350**	
Route 74/75 Ireland Wood to Middleton 102 Stops. Raising kerbs at all bus stops along the route to ensure compatibility with low floor buses	A1, A2, C1, AQ1	50	400				**450**	
Route 16 Seacroft to Farsley 80 Stops. Raising kerbs at all bus stops along the route to ensure compatibility with low floor buses	A1, A2, C1, AQ1			320			**320**	

TABLE 3.16: LEEDS CITY CENTRE MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Dynamic Signing 20 dynamic car park signs and 12 VMSs	C3, AQ1	350	250	90			**690**	
Sheepscar Pedestrian Routes Package of measures for pedestrian routes in vicinity of Sheepscar Gyratory	A1, A2, C5, S1, AQ1				500		**500**	
Water Lane Bridge Cantilever Strengthening	A2, A3, S1, M2				500		**500**	**500**
Gipton Beck Bridge Cantilever Strengthening	A2, A3, S1, M2				250		**250**	**250**
Leeds Bridge Strengthening	A2, A3, S1, M2				1,000	1,000	**2,000**	**2,000**

Leeds Inner Ring Road Stage 7 is a fully approved scheme. Other issues in this area are being addressed through an on-going study of the A6120 Leeds Outer Ring Road, and a Park and Ride study which has been commissioned by Metro.

TABLE 3.17: EAST LEEDS MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Halton, Harehills and Seacroft 20 mph (6 phases) 20mph Zones - 20mph Traffic Regulation Order, signing, and physical calming measures	S1, S4	300		400			**700**	
Harehills Traffic Calming Integrated scheme to address issues beyond 20mph Zones	S1, S4		100	400			**500**	
A64 York Road Reconstruction of carriageways and footways	A2, C4, S1, M1				470	460	**930**	**930**

TABLE 3.18: AIRE VALLEY LEEDS SCHEMES MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Balm Road Railway Bridge Strengthening	A2, A3, S1, M2					300	**300**	**300**
East Park Parade Strengthening	A2, A3, S1, M2					220	**220**	**220**

The main transport issues in the area are being dealt with through a proposed major scheme and developer funding (study ongoing)

TABLE 3.19: NORTH EAST LEEDS MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Roundhay Road HOV Lane Inbound extension of bus lane and conversion to accommodate HOVs	A4, C1, C2, C3, C4, AQ1	365					**365**	
Chapeltown Road Bus Lane Inbound lane extension	A4, C1, C3, C4, AQ1	80	850				**930**	
A61 QBC King Lane Outbound bus lane on King Lane between Stonegate Road and A6120 Outer Ring Road	A4, C1, C3, C4, AQ1				400	400	**800**	
Meanwood Road Bus priority measures (feasibility study underway)	A4, C1, C3, C4, AQ1			200	1000		**1,200**	
A61 Harrogate Road Reconstruction of carriageways and footways	A2, C4, S1, M1		490	520	350	300	**1,660**	**1,660**
C332 Main Street Shadwell Reconstruction of Carriageways and footways	A2, C4, S1, M1			400			**400**	**400**
Linton Bridge Refurbishment	A2, A3, S1, M2	270					**270**	**270**
Thorpe Arch Bridge refurbishment	A2, A3, S1, M2		350				**350**	**350**

The other issues identified in this area are being dealt with through an on-going study of the A6120 Leeds Outer Ring Road and a study of the Harrogate Line commissioned by Metro.

TABLE 3.20: NORTH WEST LEEDS MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Burley Road Bus Priority Outbound bus lane from Cross Westfield Road to Willow Road, UTMC improvements at the junction of Burley Road / Cardigan Road and pedestrian crossings	A4, C1, C3, C4, C5, AQ1	1,900	800				**2,700**	
Abbey Road Bus Priority Bus Priority scheme associated with A65 major scheme	A4, C1, C3, C4, AQ1	60	400	800			**1,260**	
A658 Main Street - Pool Bank - Victoria Avenue - Apperley Lane Reconstruction of Carriageways and footways	A2, C4, S1, M1			630	600	350	**1,580**	**1,580**
A659 Arthington Lane Reconstruction of Carriageway	A2, C4, S1, M1	280					**280**	**280**
Oxford Road Bridge Strengthening	A2, A3, S1, M2	300					**300**	**300**
Otley Bridge Refurbishment	A2, A3, S1, M2					800	**800**	**800**

Metro are currently undertaking a study of the Harrogate Line which will examine issues relevant to this area.

TABLE 3.21: WEST LEEDS MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
A647 QBC Bus priority measures along the A647 corridor, covering Armley Road, Stanningley Road and Bradford Road but excluding Stanningley by-pass	A4, C1, C3, C4, AQ1					800	**800**	
Pudsey Bus Station Contribution to New Bus Station	A1, A4, A6, C1, AQ1	50	400				**450**	
Armley Pedestrian Scheme Package of measures for pedestrian routes in vicinity of Armley Gyratory	A1, A2, C5, S1, AQ1			500			**500**	
A65 Kirkstall Road, Commercial Road, Abbey Road, New Road, New Road Side, Leeds Road Reconstruction of carriageways and footways - coordinated with Bus corridor work on Abbey Road	A2, C4, S1, M1	500	650	500	400	650	**2,700**	**2,700**
B6154, Tong Road Reconstruction of Carriageways and footways	A2, C4, S1, M1	250	300				**550**	**550**
Parkin Lane Bridge Strengthening	A2, A3, S1, M2			250			**250**	**250**
Canal Road Railway Bridge Strengthening	A2, A3, S1, M2					220	**220**	**220**
Viaduct Road Arches Refurbishment	A2, A3, S1, M2			1,000			**1,000**	**1,00**

Other issues in this area are being dealt with through an on-going study of the A6120 Leeds Outer Ring Road and through a study commissioned by Metro of the Harrogate Line.

TABLE 3.22: SOUTH LEEDS MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
A653 Dewsbury Road Bus Priority Measures to improve conditions for buses ■ Northbound bus lane on Ring Road Beeston Park on the approach to the Tommy Wass junction. ■ Change of priorities at the A653 / M621 slip road to allow buses access to the nearside bus lane. ■ 4 UTMC cameras ■ Redesign of 2 bus lay-bys north of Wide Lane ■ Bus stop accessibility improvements	A1, A4, C1, C3, C4, AQ1	100	500	1000	500		**2,100**	
Middleton 20mph - 3 Phases (NE, NW, S) 20mph Zones in accordance with the LPSA - 20mph Traffic Regulation Order, signing, and where necessary physical calming measures	S1, S4				420		**420**	
Bell Isle 20 mph – 2 Phases 20mph Zones in accordance with the LPSA - 20mph Traffic Regulation Order, signing, and where necessary physical calming measures	S1, S4		215	200			**415**	
A653 Dewsbury Road Reconstruction of carriageways - phased in with junction improvements in Dewsbury Road Bus initiative	A2, C4, S1, M1	530	520	350			**1,400**	**1,400**
A650 Wakefield Road, Bruntcliffe Road, Britannia Road, Tingley Common Reconstruction of Carriageways and footways	A2, C4, S1, M1		500	500	370		**1,370**	**1,370**
A643 Elland Road, Victoria Road, Bruntcliffe Lane Reconstruction of Carriageways and footways	A2, C4, S1, M1	410	480	360			**1,250**	**1,250**

TABLE 3.23: WAKEFIELD CITY MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGY ELEMENTS	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Doncaster Road, Wakefield QBC/showcase route schemes	A1, A2, A4 C1, C3, AQ1	500	500				**1,000**	
Horbury Road, Wakefield Busways/bus lanes	A4, C1 C3, AQ1	100	100				**200**	
Denby Dale Road, Wakefield HOV Lanes	A4, C1, C2, C3, AQ1					500	**500**	
Kirkgate Bus Gate, Wakefield Rising bollards giving bus priority	A1, C1, AQ1				600		**600**	
Ings Road/Westgate, Wakefield Junction improvement assisting bus movements	A4, C1, AQ1		187	313			**500**	
Ings Road/Denby Dale Road, Wakefield Local Safety Scheme	S1, S4			750			**750**	
A638 Doncaster Road, Wakefield Low Bridge Warning equipment	A2, A3, S1, M2	100	125				**225**	
A61 Chantry Roundabout, Wakefield Local Road Scheme	S1, S4				200	400	**600**	
Wakefield Sub-Urban Area Local Safety Scheme, area wide	S1, S4				200		**200**	
Wood Street, Wakefield Pedestrianisation	A1, A2, C5, AQ1				400	750	**1,150**	
North Wakefield Gyratory Junction improvement assisting bus priority, cyclists and pedestrians	A1, A2, A4, C1, AQ1			450	730	820	**2,000**	

The improvements proposed on the Doncaster Road will mitigate poor air quality in this corridor identified as an air quality AOC. The proposed pedestrianisation at Wood Street, Wakefield addresses access issues for pedestrians identified through 'Urban Renaissance' work.

TABLE 3.24: THE 'FIVE TOWNS' MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGIES	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Jubilee Way, Pontefract Local Safety Scheme	S1, S4	400					**400**	
Airedale Estate, Castleford Local Safety Scheme, area wide	S1, S4	200					**200**	
Castleford Interchange Integrated Transport Scheme Covering design and development costs of the major scheme to secure major scheme funding approval for implementation (Metro Scheme). Scheme includes a new combined bus/rail interchange, pedestrianisation of a further part of Carlton St., and improved pedestrian links from the new interchange to the town centre will encourage greater use of public transport	A1, A4, C1, C5, AQ1	450	710				**1,160**	**1,160**

The provisionally approved Castleford Interchange improvements will help to improve public transport access to and from the South East of the District

TABLE 3.25: SOUTH EAST WAKEFIELD MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGIES	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
South East Wakefield Local Safety Scheme, area wide	S1, S4		200				**200**	

The provisionally approved A1 Hemsworth Link Road will help to improve access to and from the A1 strategic route for South East Wakefield

TABLE 3.26: METRO'S WEST YORKSHIRE WIDE MEASURES AND MEASURES COSTING MORE THAN £200,000

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGIES	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Roadside Information Including the provision of timetable cases at every bus stop	A6		200	400	250		**850**	**850**
Passenger Waiting Areas – YBI Routes Continuation of bus shelter installation and replacement programme targeted at core routes on the bus networks where there is the highest potential for patronage growth	A1, A4, C1, AQ1	857	865	1,580	1,615	1,664	**6,581**	**6,581**
Passenger Waiting Areas – Outside Core Network Bus shelter installation and replacement programme at locations off the core routes as a means of addressing social inclusion issues	A1, A4, C1, AQ1	460	466	850	869	896	**3,541**	**3,541**
'Smart' shelter refurbishments The assessment and refurbishment of Smart shelters in order to extend life and comply with DDA requirements	A1, A4, C1, AQ1	250					**250**	**250**
New Bus Stations (e.g. Brighouse, Pudsey) Construction of a modern bus stations to replace existing facilities	A1, A4, C1, AQ1	850	3,150				**4,000**	**4,000**
Bus Station Enhancements (e.g. Halifax Travel Centre, Dewsbury) Enhancements to existing bus stations including accessibility improvements	A1, A4, C1, AQ1		50	600	372		**1,022**	**1,022**
RTPI system development Completion of the scheme to install RTPI displays on key bus routes within West Yorkshire and continued development to improve accessibility to the information and links with other public transport and traffic information systems, ticketing systems, UTMC systems and CCTV systems	A1, A6, C1, AQ1	2,950	1,072			350	**4,372**	**4,372**
Rail Station Shelters and waiting areas Enhancement of Passenger waiting facilities on Rail platforms at stations across West Yorkshire	A1, A6, C1, AQ1				500	500	**1,000**	**1,000**
Platform Extensions Programme of platform extensions to allow additional carriages to be added to rail services to increase passenger capacity	A4, C1, AQ1	860			570	570	**2,000**	**2,000**

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TABLE 3.26: METRO'S WEST YORKSHIRE WIDE MEASURES AND MEASURES COSTING MORE THAN £200,000 (continued)

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGIES	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Rail Station Accessibility Improvements Includes provision of Park and Ride, cycle and pedestrian access, DDA accessibility improvements and Bus / Rail interchange facilities	A1, A4, C1, AQ1				375	375	**750**	**1,000**
New Rail Station (e.g. Low Moor) Provision of a new rail station including park and ride facilities	A1, A4, C1, AQ1			3,346			**3,346**	**3,346**
Enhancement and replacement of passenger information displays Replacement and enhancement of electronic passenger information displays at various bus stations across West Yorkshire and provision of electronic infopoints at key locations	A6, C1				1,000	1,000	**2,000**	**2,000**
Information at Rail Stations Provision of electronic passenger information displays at various rail stations across West Yorkshire	A6, C1					500	**500**	**500**
Enhancement and replacement of CCTV cameras Upgrade and replacement of cameras to be carried out with the development of digital CCTV storage system	A1, A4			300	850	850	**2,000**	**2,000**
Park and Ride at Rail Stations Additional Park and Ride site and expansion and enhancement of existing facilities across West Yorkshire	C1, C2, AQ1		600		750	750	**2,100**	**2,100**
AccessBus Vehicles Renewal of 33 AccessBus vehicles during the LTP2 period	A1, C1	916		402	500	704	**2,522**	**2,522**
Information and Communication Technology (ICT) core infrastructure upgrades Updating of Metro's ICT systems to support existing requirements- includes desktop and printer replacement programme, provision of new data collection equipment and development of call centre services	A6	305	325	340	515	690	**2,175**	**2,175**
Capital Salaries Funding of staff cost of employees developing and delivering capital programme schemes		350	350	350	350	350	**1,750**	**1,750**

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TABLE 3.26: METRO'S WEST YORKSHIRE WIDE MEASURES AND MEASURES COSTING MORE THAN £200,000 (continued)

MEASURES: TITLE AND DESCRIPTION	RELEVANT STRATEGIES	EXPENDITURE (£ 000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	NET TOTAL	GROSS TOTAL
Capital Project development Funding the development of capital schemes within LTP 2 and the development of the 3rd LTP		150	50	50	100	100	**450**	**450**
Rapid Transport Development Development of Rapid Transport schemes including studies and staffing costs	A4, C1	260	300	560	840	840	**2,800**	**2,800**
New Vehicles and Bus Station Cleaning Machines		12	60			40	**112**	**112**

TABLE 3.27: CAPITAL FUNDED MEASURES / GROUPS OF MEASURES COSTING LESS THAN £200,000 (2006/07 TO 2010/11)

TYPE OF MEASURE	5 YEAR EXPENDITURE (£ 000s)					
	BRADFORD	CALDERDALE	KIRKLEES	LEEDS	WAKEFIELD	METRO
INTEGRATED TRANSPORT						
Bus priority (excluding signals)	1,300	854	886	2,095	250	
Public Transport Interchange			660	869	90	**16,140**
Park and Ride					20	**2,100**
Bus infrastructure (excluding interchanges)		636	1,636	1,909	1,710	**15,244**
Cycling Schemes		930	279	2,006	1,485	
Walking Schemes	1,413	592	1,189	807	1,647	
Travel Plans		149			345	
Local Safety Schemes	4,500	2,500	6,413	2,915	1,575	
Road Crossings	750	295	540	2,567	375	
Traffic Management and Traffic Calming	4,400	1,082	738	1,820	2,101	
Local Road Schemes				1,683	100	
Miscellaneous	3,100	685	1,390		1,250	11,797
Integrated Transport Total	**15,463**	**7,723**	**13,731**	**16,671**	**10,948**	**45,281**
MAINTENANCE						
Principal Roads	2,098	2,050	2,249		3,392	
Non Principal Roads	1,673	1,660	7,550	200	5,924	
Unclassified Roads	10,573	2,280	8,924	18,212	5,652	
Bridge and wall strengthening and Maintenance	9,255	4,685	4,497	9,610	2,606	
Miscellaneous	499	4,957	1,000		770	
Maintenance Total	**24,858**	**15,632**	**24,220**	**28,022**	**18,344**	
OVERALL TOTAL	**40,321**	**23,355**	**37,951**	**44,693**	**29,292**	**45,281**

REVENUE PROGRAMME

To deliver many LTP2 strategy elements requires revenue expenditure from the Partnership's revenue income and other sources. This funding is critical for the achievement of many of the LTP2 targets.

Tables 3.28 and 3.29 show:

- the strategy elements that are at least part funded through the revenue budgets (Table 3.28); and
- the revenue expenditure for 2005/06 which supports the LTP2 strategy (Table 3.29).

Revenue expenditure for the first year of LTP2 is given for illustrative purposes. Revenue budgets do vary from year to year, although to aid forward planning, longer planning horizons are often used which assume similar levels of funding, e.g. Metro has a 3 year strategy.

SUPPORTING THE LTP2 STRATEGY

PUBLIC TRANSPORT

Table 3:29 shows that revenue expenditure on public transport is the biggest area of revenue expenditure. This expenditure is mainly funded by the Rail Support Grant from the DfT and the transport levy on the five district authorities. Part 4 "Performance Management" shows how we achieve value for money from this expenditure. Later in Part 3 our efforts to secure other sources of revenue funding are discussed.

RAIL SERVICES

The LTP2 programme will include capital funding for improvements to rail facilities. Together with funding for rail services, this will support our local target for peak period rail patronage growth which has been set to reflect the importance of rail services to the LTP2 strategy, particularly for inter-urban and longer distance trips.

Rail patronage has grown in recent years. Rail services carry 15,000 trips into Leeds city centre during the AM peak period. Because around 65% of rail users could use a car for their rail journey but choose to use rail, rail also contributes towards the achievement of mandatory traffic growth and mode share targets.

BUS SERVICES

Revenue expenditure on buses also supports the LTP programme. New tendered (non-commercial) bus services and regular reviews of existing tendered bus services are now being reviewed using accessibility tools developed for LTP2 to determine the most optimal network and best value for money. This will continue in LTP2.

As many tendered services supplement historic commercial networks operating at other times, the scope for substantial re-specification to better meet accessibility, LTP and value for money objectives is limited, given the need to maintain legible, consistent service patterns. A potential solution is the more radical approach to bus service delivery being pursued by the Partnership (described in the bus strategy).

CONCESSIONARY FARES

Metro provides a comprehensive concessionary travel scheme, using its discretionary powers to ensure that all people covered by the relevant legislation receive concessionary travel. This includes senior citizens, disabled people and young people. Metro also uses the discretionary powers to provide concessionary travel on cross boundary bus services and on the local rail network.

With effect from 1 April 2006, in line with the statutory requirement, Metro will provide free travel on local bus services within West Yorkshire for people over 60 years of age and disabled people.

In addition, Metro recognises the importance of cross boundary travel to people living close to the West Yorkshire boundary. The current arrangements provide significant travel opportunities and address social inclusion issues for people living at the outer reaches of the county. Metro will therefore enhance the statutory minimum requirement and provide free travel on cross boundary bus services to and from Greater Manchester, South Yorkshire, Lancashire and for the first time North Yorkshire.

Metro will also continue to provide a 35p off-peak flat fare for senior citizens and disabled people on local train services and half fare travel for young people on buses and trains at all times.

OTHER FUNDING FOR PUBLIC TRANSPORT

Metro has successfully obtained other funding to deliver additional measures not funded by LTP2. These are described in "Use of Other Funding".

TRAFFIC MANAGEMENT AND UTMC

Traffic management and UTMC activities are critical to managing congestion and improving safety. For example, UTMC systems have been provided by capital funding but it is the day to day management of the system, alterations to signal timings and development of contingency plans that really make a difference in controlling congestion and making best use of the highway network.

Information systems provided as part of UTMC operations, such as variable message car park signing, also contribute to best routing of traffic and assist to reduce congestion.

ROAD SAFETY

Changes to the funding of safety cameras were described earlier, affecting both capital and revenue funding.

At the time of writing the revised allocations had not been announced by the DfT, so it has not been possible to identify how they would be spent in supporting the LTP2 programme.

The LTP2 capital programme is complemented by revenue funded initiatives in education, publicity and training. Where appropriate, education and publicity schemes are developed and implemented to support specific capital projects.

The funding for school crossing patrols not only improves road safety but also ensures accessibility of the schools for pedestrians and helps to reduce reliance on the car for the school journey.

Pressure on revenue funding means that these initiatives do not reach the widest audience.

TRAVEL PLANS

The funding for travel plans and for promotional activities such as 'TravelWise' assists in reducing the demand for car travel. It should be noted that businesses and schools are spending far more than our revenue funds on travel plans.

PARKING

Parking management and control are key tools in tackling congestion. Parking charges and control over the length of stay are key tools in managing the demand to travel. Control of on street parking helps to ensure free flow of traffic. The income from parking charges is also used to fund other highway operations.

Revenue costs for the parking control elements of the strategy will be met from parking charges.

ROWS

The maintenance and improvement of ROWs supports all of the shared priorities (see Appendix H for more details).

MAINTENANCE

Almost double the amount of revenue is spent on maintaining the highways, structures and other infrastructure than is spent from the capital allocations. This revenue expenditure is essential for maintaining the physical highway network and keeping it safe for all road users.

Revenue funding is a key element of the TAMPs.

TABLE 3.28: REVENUE FUNDED OR POLICY INITIATIVES

DELIVERING ACCESSIBILITY

A1	Improve physical accessibility by making bus stops more accessible, improving the continuity and signage of cycle and walk routes
A2	Maintain and improve road, pavement and ROW conditions for pedestrians, cyclists, vehicle and freight users
A4	Maintain and develop public transport networks through our bus and rail strategies
A5	Maintain and enhance concessionary fare schemes
A6	Raise awareness of public transport and improve information
A7	Embed accessibility in other strategies

TACKLING CONGESTION

C1	Encourage modal switch to public transport
C2	Manage the demand for travel
C3	Manage the existing highway network
C5	Encourage more cycling and walking
C6	Promote Smarter Travel Choices
C7	Promote sustainable land use policies and practises

SAFER ROADS

S1	Provide an appropriate road environment with facilities for each user group
S2	Provide the relevant skills for driving, riding, walking and cycling
S3	Promote awareness of road safety issues and of the responsibility for others
S4	Encourage the correct behaviour of all road users
S5	Improve safety through new technologies that can reduce the risk of injury

BETTER AIR QUALITY

AQ1	Traffic demand management measures, focusing on commuter journeys
AQ2	Encouraging more sustainable travel
AQ3	Actions to reduce vehicle emissions
AQ4	Measures to adapt to the effects of climate change

EFFECTIVE ASSET MANAGEMENT

M1	Maintenance of roads and footways
M2	Strengthening and maintenance of bridges, walls and other highway structures
M3	Maintenance and operation of UTMC and CCTV systems (on street and public transport)
M4	Maintenance of lighting, signs and road markings
M5	Maintenance of bus stations, shelters and stops
M6	Maintenance of car and lorry parks
M7	Maintenance of ROW
M8	Winter maintenance
M9	Reducing accident claims and better use of resources and materials

TABLE 3.29: REVENUE PROGRAMMES FOR 2005/06

STRATEGY AREA	RELEVANT STRATEGIES	EXPENDITURE (£ 000s)						
		BRADFORD	CALDERDALE	KIRKLEES	LEEDS	WAKEFIELD	METRO	TOTAL
Local rail services	A4, C1, AQ1						57,982	57,982
Subsidised bus services	A1, A4, AQ1						21,294	21,294
Concessionary travel	A5, AQ1						20,740	20,740
Prepaid tickets	A4, C1, AQ1						18,000	18,000
Direct passenger support	A1, A4, A6						10,542	10,542
Traffic management	A1, C3, S1, AQ1, AQ3	53	379	1,013	1,822	482		3,749
UTMC	A1, C3, S1	355	63	452	922	163		1,955
Road safety	S1, S2, S3, S4, S5	207	253	222	526	377		1,585
School crossing patrols	S1, S4		240	512	485	333		1,570
Travel plans	C6, AQ2			55		189		244
Parking management	C2, M6	-223	-1,036	-2,141	-3,807	-878		-8,085
CCTV management	S1, M3		164	568		648		1,380
Other integrated transport	A1, A4			294	142			436
Private street works	A2, M1	107						107
ROWs	A1, A2, C5, AQ2, M7	107	329	466	194	410		1,506
Highway structures	M2	108	430	28	422	69		1,057
Surface dressing and thin surfacing	A2, C4, S1, M1		315		1,037	357		1,709
Resurfacing	A2, C4, S1, M1			652	1,749	1,035		3,436
General maintenance	A2, C4, S1, AQ4, M1	2,718	2,145	3,422	6,225	3,817	2,136	18.327
Winter maintenance	A2, S1, M8	954	885	1,734	1,320	637		5,530

STRATEGY AREA	RELEVANT STRATEGIES	EXPENDITURE (£ 000s)						
		BRADFORD	CALDERDALE	KIRKLEES	LEEDS	WAKEFIELD	METRO	TOTAL
Horticultural maintenance	AQ4, M1	701	152	554	885	629		**5,530**
Gully cleansing	AQ4, M1	453	271	610	713	373		**2,921**
Signs, guardrails and road markings	M1	158	263	376	457	89		**1,343**
Lighting energy	A1, S1, M4	1,237	698	950	2,329	912		**6,126**
Street lighting maintenance	A1, S1, M4	1,521	632	1,406	2,704	2,444		**8,707**
Public liability insurance	M9	2,229	1,310	2,281	3,229	852		**9,901**
TOTAL		**10,685**	**7,493**	**13,454**	**21,354**	**12,938**	**128,558**	**194,482**

UTILISING 'BONUS' FUNDING

This section sets out measures that could be implemented with 'bonus' capital funding, in addition to the existing five year action plan.

During the course of LTP2 the DfT plans to allocate 'bonus' funding to high performing authorities, that is, transport authorities with LTP2s ranked above average. The Government has indicated that this bonus could be up to 25% extra. This would be awarded based on performance in implementing LTP2, as reported in the APRs.

The proposed measures have the potential to make a significant contribution to LTP2 objectives, targets and outcomes. An inclusive list of the projects is provided in Table 3.30. This list is subject to review and further refinement.

At this stage in the Plan process, an estimate has been made of the effect that these measures may have on our LTP2 targets in Table 3.31.

FIGURE 3.30: LIST OF PROPOSALS TO UTILISE ANY 'BONUS' FUNDING AWARDED

PACKAGE	MEASURES	ESTIMATED COST (£m)
TRANSPORT FOR YOUNG PEOPLE	MyBus Phase 4	4.0
DELIVERING BETTER INFORMATION TO CUSTOMERS	Expansion of RTPI (including on-bus information displays)	3.0
	Internet congestion information	1.5
SUSTAINABLE TRAVEL PACKAGE	Cycling network enhancements e.g. Hebble Trail	1.0
	Greenways e.g. Colton to Wetherby; Otley to Pool; Meltham	2.0
	Kirkstall Valley Park, Leeds	1.0
	Travel planning, car clubs etc.	3.0
SAFETY AND SECURITY ENHANCEMENTS	Rail CCTV central control centre	1.0
TACKLING CONGESTION	Bus/Rail Park and Ride site(s)	2.8
	A647 Leeds Rd/A6177 Killinghall Road junction, Bradford	1.2
	A6177 Sticker Lane/A650/Cutler Heights Lane junct. Bradford	0.6
	A6035 Bradford Rd/Dalton Lane junction, Keighley	0.6
	Church Street widening, Halifax	2.0
	A660 Maple Grange to Otley widening, Leeds	1.0
DELIVERING YORKSHIRE BUS	Baildon, Shipley and Greengates HOV Lanes	2.6
	Wakefield-Dewsbury-Cleckheaton-Bradford QBC	1.6
	Huddersfield-Dewsbury-Leeds QBC	1.2
	A629 Wakefield Road Bus Priority	0.8
	Newton Bar Park & Ride/Bus Priority/Gyratory	3.8
	Better enforcement	0.5
	TOTAL	35.2

FIGURE 3.31: THE EFFECT OF 'BONUS' FUNDING ON LTP2 TARGETS (ESTIMATED)

INDICATOR	MINIMUM STANDARD	MINIMUM STANDARD – STRETCHING	COMMENTARY
KSI	Either a 40% reduction from 1994-98 to 2010, or a 20% reduction from 2004 to 2010	A 40% reduction from 1994-98 to 2010 and a 30% reduction from 2004 to 2010	Should be achieved
CHILD KSI	Either a 50% reduction from 1994-98 to 2010 or a 25% reduction 2004 to 2010	A 50% reduction from 1994-98 to 2010 and a 35% reduction 2004 to 2010	Should be achieved
SLIGHT CASUALTY REDUCTION	No increase over recent levels	A 10% reduction compared to recent levels	Should be achieved
BUS PUNCTUALITY	For timetabled services, the 2010 target to be based on a trajectory towards 90% punctuality in 10 years i.e. by 2014/15 (punctuality is defined as less than 1 minute early or 5 minutes late). For services registered as frequent, a year-on-year reduction in Excess Waiting Time.	For timetabled services, the 2010 target to be based on a trajectory towards 90% punctuality in 8 years i.e. by 2012/13 (punctuality is defined as less than 1 minute early or 5 minutes late). For services registered as frequent, a year-on-year reduction in Excess Waiting Time	LTP2 funded measures to tackle congestion and deliver additional bus priority will assist operators to improve punctuality. Additional bus priorities, delivered by LTP2 and introduced alongside PIPs, offer an opportunity to 'lever-in' better operator performance
BUS SATISFACTION	Maintain bus satisfaction levels to 2009/10 (if level in 2003/04 is greater than 50%) or improve them by at least 6% over 2003/4 level by 2009/10 (if not)	Bus satisfaction levels in 2009/10 of more than 75%, and greater than 2003/04 levels	The impact of LTP2 funded measures to deliver better quality bus services will be reflected through our local LTP2 targets relating to Quality Bus and satisfaction with LTP2 funded PT facilities
MODE SHARE OF JOURNEYS TO SCHOOL	No reduction in the ratio between the total number of pupils and the total number of car journeys to school between baseline and 2010/11	Subject to a case by case assessment	MyBus will assist
CYCLING LEVELS	No reduction in cycling levels	Subject to a case by case assessment	Level of cycling difficult to establish without extensive monitoring
PEAK TRAFFIC FLOWS TO/FROM URBAN CENTRES	No increase between baseline and 2010/11 (unless there are significant reductions in car mode share)	Subject to a case by case assessment	Peak traffic is likely to increase as a result of job creation and regeneration activities. It is therefore essential that LTP2 achieves a reduction in car mode share

MAJOR SCHEMES

This section reviews the outstanding major scheme funding bids that were submitted during the first LTP, some of which have not yet had a decision on funding, including schemes in the RTS.

The main purpose of this section is to outline the major schemes that we intend to bid for funding for during LTP2 which are additional to the LTP2 programme shown earlier. Major schemes are those costing more than £5million.

LTP1 SCHEMES

SUPERTRAM

Supertram was the highest priority major scheme in the first LTP. The Partnership is extremely disappointed that the scheme has been cancelled as this leaves a significant gap in the overall transport strategy for the sub-region.

Following the decision on Supertram, a review of transport options has been undertaken and a revised approach to the strategy for delivering strategic and local public transport solutions has been developed.

Initial work has been undertaken on the scope of a Bus Rapid Transit (BRT) network covering certain sections of the former Supertram alignment:

- South Leeds: Stourton to City Centre (with park and ride);
- North Leeds: Bodington to City Centre (with park and ride);
- East Leeds: Seacroft to City Centre.

The initial approach is intended to provide the flexibility to expand the BRT network to include other corridors. This offers the potential of being developed further with options for serving North West Leeds beyond Bodington and to link into the emerging East and South East Leeds (EASEL) and Aire Valley Leeds (AVL) regeneration areas. In the longer term the creation of a BRT network focused on Leeds city centre has the capability of expanding to provide enhanced connectivity to other key centres in West Yorkshire.

It is the Partnership's view that a Leeds BRT system alone will not make up for the cancellation of Supertram and that a comprehensive package of complementary measures is required for enhanced accessibility to support economic growth and regeneration in West Yorkshire and the City Region.

Development work has already commenced on two 'quick win' major schemes that will partly address the legacy of the Supertram decision. Subject to a MSBC and DfT support they could be delivered during the period 2008-2011. The two schemes specifically address connectivity through and from the rapidly expanding area of the city centre to the south of the river. These schemes are:

- Stourton Park and Ride (initially this would be a bus based scheme to be followed by conversion to BRT)
- Leeds City Station southern access
- Further work is in progress, and under discussion with the Department to develop a BRT network based on access to Leeds City Centre to/from key destinations (such as Stourton Park and Ride, St James Hospital and the University) over the longer term beyond 2011.

It is intended to work closely with the DfT to develop this alternative package of measures for which we will be seeking a firm commitment to the required funding.

In the short term (2006-08) the aforementioned measures will be complemented by key elements of the wider West Yorkshire (and City Region) strategy. Additional rolling stock for local rail services, increased rail-based park and ride provision, a package to improve local bus services and realise the possibilities offered by new vehicles such as the "ftr" (through the Yorkshire Bus Initiative), and to develop an early bus-based park and ride schemes between the city centre and Stourton. Opportunity will be taken for the effective use of High Occupancy Vehicle Lanes, UTMC techniques and Smarter Choices measures identified in the LTP strategy.

During the medium (2008-11) and into the longer term (LTP3 post 2011), as the early delivery of schemes to address the particular issues in Leeds continues, the emerging Vision for Transport in West Yorkshire (and the City Region) will set the scene for the next stages of development of the integrated transport network. This will take on board greater innovation with solutions looking at both bus and rail networks and the opportunities for new solutions, such as those that may be offered by tram-train and other technologies.

It is expected that in the next five year period of LTP2, the wider Vision will be worked through in detail leading to further major transport scheme proposals being detailed in subsequent LTPs after 2011.

In addition to the Supertram replacement schemes a number of other schemes from LTP1 are still progressing. These are:

EAST LEEDS LINK ROAD

Government has recently agreed to increase its funding contribution for this scheme which links the M1 (Junction 45) to the Inner Ring Road and opens up access to undeveloped land in the regeneration area of Aire Valley Leeds.

LEEDS INNER RING ROAD STAGE 7

Leeds Inner Ring Road stage 7 provides the final link, connecting stage 6 (completed in 2000) to the M621 and the wider motorway network. The scheme completes this strategic route and reinforces the traffic reduction and public transport benefits achieved in the city centre by previous transport measures. The scheme also has beneficial effects for access to the inner Cross Green part of the Aire Valley Leeds regeneration area.

RTPI/YOURNEXTBUS

Metro and SYPTE have finalised the system which was launched to provide RTPI to the public in September 2005 and is used by bus operators to manage their fleets. The roll-out programme for on street RTPI displays will begin during the summer of 2006.

YORCARD

SYPTE and Metro are working in partnership to deliver a pilot of smartcard ticketing technology in Sheffield and on the Sheffield-Doncaster rail route. Following a successful pilot 'YORCARD' would then be implemented across West and South Yorkshire.

HEMSWORTH A1 LINK ROAD

Government has provisionally approved funding for this scheme. The Regional Transport Board has proposed this scheme be implemented within 2006/7-2010/11.

GLASSHOUGHTON COALFIELDS LINK ROAD

Government has provisionally approved funding for this scheme. The Regional Transport Board has proposed this scheme be implemented within 2006/7-2010/11.

CASTLEFORD TOWN CENTRE SCHEME (INCLUDING THE INTERCHANGE)

Government has provisionally approved funding for this scheme. Metro are currently developing a detailed design for the Interchange. The Regional Transport Board has proposed this scheme be implemented within 2006/7-2010/11.

LEEDS A65 QBC

The Regional Transport Board has proposed this scheme be implemented within 2006/7-2010/11.

BRADFORD INTERCHANGE INTEGRATION SCHEME

This scheme to improve facilities and links between the bus and rail stations was submitted in 2004. It has not been included in the RegionalTransport Board's initial priorities for 2006/7-2010/11, but could be implemented if additional funding was made available.

LTP2 MAJOR SCHEMES

A long list of over 20 potential major schemes has been appraised. This has been reduced to more realistic numbers of projects (reflecting the likely availability of DfT funding and the size of the West Yorkshire area) that will be sufficiently developed for submission during the LTP2 period and which best support the delivery of the LTP objectives.

The implications for major schemes to be submitted during 2006/2011 and 2011/2016 are complicated by the DfT's lack of clarity over the scale of funding available for Leeds Supertram 'replacement' schemes, and the 'pot' from which they could be funded. All the new LTP2 major schemes have been appraised and considered by the Regional Transport Board, and it is currently unclear how Supertram replacement schemes could be funded, in addition to those West Yorkshire schemes which have been identified and prioritised locally and regionally.

Information on each of these schemes is given on the following pages. There is more information given on some schemes than others. This reflects the state of readiness of the schemes rather than any importance.

It is difficult to prioritise the major schemes in order of importance, particularly as countywide and district specific schemes are all included. Consequently, following Government Office guidance, the schemes have been listed in the order in which they are likely to be submitted/implemented.

Two new schemes were submitted in July 2005, in advance of the final LTP, for:

- Kirklees Structures Strengthening and Major Maintenance
- Wakefield Westgate Station

At the time of writing, no decision on these schemes had been made by DfT.

Whilst the Kirklees scheme has not been prioritised by the Regional Transport Board, the final decision by the DfT remains unknown. If it was turned down, then this is potentially one type of improvement that could be funded from any bonus funding received.

The seven schemes that we intend to submit during the LTP2 period are:

- YBI;
- A62 Leeds Road, Huddersfield;
- Phase 1 Countywide Park and Ride Delivery Programme;
- MyBus Extension;
- A61 North Wakefield Gyratory System/Wakefield Inner Ring Road;
- Bradford City Centre Scheme or Airedale Integrated Transport Scheme; (details of each potential scheme is shown in this section); and
- A6120 Leeds Outer Ring Road (Initial Measures Scheme).

In addition there is one innovative pilot project proposed that will cost less than £5m and as such is subject to different submission criteria:

- Bradford Minitram

In addition, Major Scheme Business Cases (MSBCs) for the following Supertram replacement schemes are likely to be submitted during LTP2:

- Stourton Park and Ride (initially this would be a bus based scheme to be followed by conversion to BRT)
- Leeds City Station southern access
- Leeds BRT network

SCHEMES SUBMITTED IN JULY 2005

KIRKLEES STRUCTURES STRENGTHENING AND MAJOR MAINTENANCE

Scheme description

The scheme is based on a comprehensive assessment of the major transport structures within the district. A programme of carrying out major strengthening has been based on the results. The project comprises the strengthening of 9 key bridges and numerous failing retaining walls across the district.

The principle objectives of the scheme are to:

- secure the long term future of existing transport structures within the district;
- alleviate the need for their replacement in the future;
- allow unrestricted access for all levels of traffic;
- minimise disruption;
- prevent further deterioration of the structures; and
- reduce the risk of emergency maintenance and road closures.

Estimated cost

£15.75 million including Quantified Risk Assessment and inflationary elements

Implementation timescale

2006/07-2008/09

Value for money

The scheme offers good value for money with an average Benefit Cost Ratio (BCR) of 5.5.

Priority within the Regional Transport Strategy

The scheme fits with the objectives of the RTS for improving safety and making efficient use of transport resources. It also supports the transport priority of improving access to towns and cities.

Consistency and compatibility with LTP2

The scheme fits with the LTP2 programme by reducing existing and potential accessibility problems by strengthening bridges and walls to ensure all levels of traffic can access employment sites and residential areas.

The scheme will make efficient use of existing transport resources. It will complement measures to improve safety and will support development and regeneration opportunities in the district.

Effect on LTP2 programme

The scheme will allow accelerated delivery and will release funding from the LTP maintenance block for other essential structural maintenance and strengthening schemes.

Priority within the Authority

The scheme has the highest priority within Kirklees district because of the need to maintain access and minimise disruption.

Additionality (to targets, trajectories and objectives for shared priorities)

The scheme will provide accessibility, safety and cost benefits by controlling the potential effects of deteriorating structures.

Major Scheme Business Case (MSBC)

MSBC submitted in July 2005.

WAKEFIELD WESTGATE STATION

Scheme description

Set within the context of a redevelopment Master Plan, the Wakefield Westgate Key Development Area (encompassing the land surrounding the station and the construction of new station buildings and an accessible bridge replacement at Wakefield Westgate), provides an opportunity to enhance the main station redevelopment and overcome performance issues relating to the local and national services that use the station. The scheme will provide a doubling of platform capacity and passing loops on the north and south bound lines. These improvements will also create the potential to reinstate rail services that the SRA withdrew in December 2004 and also increase local rail services in the area.

Estimated cost

£7 million

Implementation timescale

Implementation would have to be during 2007/08 (which is determined by the regeneration scheme)

Value for money

Evaluation is currently taking place

Priority within the Regional Transport Strategy

Enhancement of the ECML and Leeds-Sheffield services are regional transport priorities. The potential to increase the range and number of services operating from Wakefield Westgate station would greatly enhance the value of the interchange facility and the travel opportunities available. This may encourage modal shift away from the car and any reduction in car use would have a positive impact on congestion, safety and the environment. Enhancements to the ECML at Wakefield will have benefits for Leeds-Sheffield services and the north south route through the region.

Consistency and compatibility with LTP2

The scope to increase the number of local services operating to Wakefield Westgate may have a positive impact on access to jobs by public transport. The anticipated reduction in car use should bring congestion, environmental and safety benefits. The scheme may also improve access to education and leisure opportunities, increasing the range of facilities accessible by public transport.

Effect on LTP2 programme

Complementary to the LTP2 programme.

Additionality (to targets, trajectories and objectives for shared priorities)

The improvements to performance would have benefits to local rail users as the station will benefit the ECML between Leeds and Doncaster. The potential to enhance local rail services at Westgate would improve public transport patronage. Modal shift from the car to rail would improve safety, congestion and the environment and the scheme would have the potential to improve the reliability of rail services in the area.

Synergistic benefits

Supports a major city centre redevelopment and will help to create a transport development area only 12 minutes from the centre of Leeds.

MSBC

Submitted in July 2005.

SCHEMES TO BE SUBMITTED DURING LTP2 PERIOD

YORKSHIRE BUS INITIATIVE

Scheme description

The YBI is designed to generate a step change in the quality of bus travel with significant mode shift from the car. This will be achieved through investment in infrastructure on core routes complemented by operator investment in new vehicles and improvements to the social networks.

A bid was submitted (jointly with SYPTE) in 2004 but did not receive approval. Following DfT advice the intention is to resubmit the bid in the form of a series of phased delivery stages. Those stages will be based on geographical sectors within which all components of the YBI will be delivered including bus priorities, accessibility and waiting facilities, interchanges, the appropriate network of core and feeder bus services and a strong strategy for marketing and promotion.

Work is currently underway to define a number of relatively self contained sectors. Once that is complete, and after they have been prioritised, a bid will be submitted to the DfT.

Estimated cost

The value of the original bid in West Yorkshire was around £70 million. The value of the different stages of the new bid are yet to be determined.

Implementation timescale

2007-2011

Value for money

The scheme offers good value for money with a BCR of 2.27 in July 2004.

Priority within the Regional Transport Strategy

YBI is identified as a priority scheme in the RTS. The scheme will implement improvements across the region and is in line with RTS by improving access to opportunities in a manner that is equitable and socially inclusive, integrating the operation of different transport modes and promoting modal shift away from the car.

Consistency and compatibility with LTP2

YBI will improve the quality and ease by which people can travel into West Yorkshire (and elsewhere in South Yorkshire) by public transport. It will encourage the use of sustainable modes of access and enable more sustainable growth to the main urban areas. YBI will moderate the upward trend in car use and will contribute to improved accessibility to jobs, education and other services, particularly for those in disadvantaged groups.

Effect on LTP2 programme

The project will accelerate delivery of bus priority measures releasing funding from the Integrated Transport block for other public transport measures.

Additionality (to targets, trajectories and objectives for shared priorities)

The scheme provides a good level of distribution and equity, as most visitors and residents (particularly those without access to a car) will benefit from the scheme. The benefits of the project will accrue to a large population in both urban and rural locations. The scheme will add value to the LPT2 targets on bus satisfaction, public transport patronage and casualty trends for different groups.

YBI will facilitate the introduction of new clean emission vehicles by the operators, replacing older buses, therefore reducing the impact on air quality. The scheme will address problems of poor access to employment opportunities and will provide a high standard level of access to key services such as health, education and food shopping.

MSBC

Expected to be submitted by October 2006.

A62 LEEDS ROAD, HUDDERSFIELD

Scheme description

The scheme consists of a multi-modal strategy to improve transport infrastructure to allow 90 hectares of new employment opportunities to be developed. It includes:

- the introduction or modification of bus services and improved pedestrian and cycling links, to connect areas of high unemployment to new job opportunities;
- the improvement of key sections of the corridor to accommodate development traffic without increasing congestion, and allow extensive bus priority measures to be introduced; and
- an integral Air Quality Management strategy.

Estimated cost

£18million

Implementation timescale

2007/08 to 2009/10

Value for money

Not yet estimated.

Priority within the Regional Transport Strategy

The scheme supports economic growth and regeneration in a sustainable manner due to the emphasis on public transport services and local employment. It improves access to economic opportunity and will have a small but beneficial impact on local air quality.

Consistency and compatibility with LTP2

The scheme addresses a number of LTP2 objectives:

- it improves access to employment opportunities, including via public transport;
- it supports the growth of local economies and has the potential to do this while minimising long distance car commuting; and
- it will have a small but positive impact on air quality at key junctions along the corridor.

Effect on LTP2 programme

Complementary to the LTP2 programme.

Additionality (to targets, trajectories and objectives for shared priorities)

The scheme will allow brown-field sites to be developed without increasing congestion. It will improve bus service punctuality and patronage, and thereby, with improvements to walking and cycling links, improve modal split. It will address problems of poor access to employment opportunities from areas of high unemployment and contribute to improving air quality and safety.

MSBC

Could be submitted during the period of LTP2.

PHASE 1 COUNTYWIDE PARK AND RIDE DELIVERY PROGRAMME

Scheme description

A study has been undertaken to review the development of park and ride provision in West Yorkshire, to assess provision for residents and visitors. A list of 125 sites was created to identify all existing and proposed sites in West Yorkshire (59 existing sites and 66 proposed sites). This has been used to identify sites with the greatest potential that could be taken forward for development and potential phased, integrated implementation.

The review includes a timetable for developing and implementing park and ride sites over the short, medium and long term. The detail and scope of this first stage bid are still being assessed.

The bid to be submitted in LTP2 will be for those schemes which can be delivered in the short term and developed in the medium term. Those with most impact on LTP objectives will be considered for the first stage bid.

Estimated cost

Not yet estimated

Implementation timescale

From 2008 to 2011

Value for money

High levels of non-user benefit have been forecast for all the park and ride sites, irrespective of mode, which can result in high positive BCRs. This is calculated on the basis that all park and ride trips equate to a like for like removal of car trips, and that the effect of passengers driving to park and ride sites is neutral.

One outstanding issue affecting delivery is the possible need for revenue support.

Priority within the Regional Transport Strategy

A Regional Demand Management Strategy has been identified by the RTS as one of the priority schemes to be implemented. This will introduce demand management measures, such as the improvement of parking standards at specific locations.

The RTS also promotes schemes which improve access to main urban areas. Park and ride can help to integrate the operation of different transport modes, promoting the use of public transport to access main urban areas.

The scheme will also help to meet the objectives of promoting sustainable developments and improving access to opportunities in a manner that is equitable and socially inclusive. Park and ride was identified in consultation as one of the most favoured solutions to tackle congestion.

Consistency and compatibility with LTP2

The scheme will help to improve access to jobs and other services in central urban areas. The scheme will help to create a more efficient use of highway space, making the most benefits of car use whilst addressing the problems caused by cars in central areas. If introduced as part of a demand management strategy it will contribute to alleviating problems associated with congestion.

Effect on LTP2 programme

Complementary to the LTP2 programme

Additionality (to targets, trajectories and objectives for shared priorities)

Park and ride schemes can promote accessibility for people with cars, but can also help to increase demand on radial public transport routes improving the efficiency. If introduced as part of a demand management package, it can be assumed that improvements in air quality, safety and congestion will ensue. The scheme will contribute to greater public transport patronage, and help meet targets for air quality, congestion and accessibility.

MSBC

Expected to be submitted during 2006

MYBUS EXTENSION

Scheme description

The first stages of the MyBus major scheme (which was approved in 2003) are now starting to roll out the delivery of Metro's Education Transport Vision: 'To work in partnership to provide an attractive, high quality home-to-school bus service designed to: reduce car dependence; and encourage bus use into adult life'. The proposed major scheme will enable us to roll out the Vision further by providing more dedicated vehicles for home-to-school transport supported by a package of measures to support a safe and secure journey to/from school. By the end of LTP1, around 90 vehicles will have been funded through initial major scheme funds with another 60 on order. The bid will seek to secure funding for around a further 150 vehicles.

Estimated cost

£15.0 million

Implementation timescale

From 2008 onwards, in yearly phases.

Value for money

The bid for the initial phases showed a BCR of over 4.0, owing in part to the considerable decongestion benefits the scheme would bring. The addition of more vehicles into the fleet would bring added value to existing management/booking facilities currently operating.

Priority within the Regional Transport Strategy

The scheme supports RTS objectives to reduce the need to travel by car and promote modal shift, and will improve access to opportunities in a manner that is equitable and socially inclusive. The scheme supports the objective to improve safety.

Consistency and compatibility with LTP2

The scheme complements the objectives of LTP2. The package improves access to education by public transport and supports an increase in the use of public transport.

The scheme reduces the adverse impact of car-based travel on communities. It reduces transport related impacts on the environment, reducing the impact on air quality, climate change, and natural resources through lower car use and higher use of sustainable travel.

The scheme is also designed to address issues surrounding personal security and the perception (by children and parents) of safety while travelling to school. The scheme aims to address social exclusion within rural communities and economically disadvantaged communities.

Effect on LTP2 programme

Complementary to the LTP2 programme.

Additionality (to targets, trajectories and objectives for shared priorities)

My Bus will provide a positive contribution to the DfT mandatory targets for modal split for journeys to school, road user casualty rates, casualty trends for children, congestion delay, nitrogen dioxide levels in AQMAs, area wide road transport emissions and footway conditions. It will also contribute to local key indicators on peak period modal split to main town and city centres and the congestion index.

The scheme supports all shared priority objectives and will assist in improving quality of life by promoting educational attainment and increasing parents' flexibility for work. The scheme offers good cross sector benefits to health, education and the environment.

The scheme also tackles issues of truancy and late attendance and will integrate more children with special educational needs onto mainstream transport.

MSBC

Bid will be considered once all the 3 phases of the initial scheme have been delivered and assessed, and this could be during 2007.

A61 NORTH WAKEFIELD GYRATORY SYSTEM/ WAKEFIELD INNER RING ROAD

Scheme description

This scheme involves introducing a one-way clockwise circulatory system on the A61 Leeds Road/Northgate (southbound) and Bradford Road/Wentworth Street (northbound) with two lanes for general traffic and a third lane for buses and cycles.

A link would need to be added to the southern end of the gyratory system to complete the circuit. Improving road links around Wakefield Westgate station and the adjacent 17-acre redevelopment site form part of the measures to improve the Ring Road.

Additional minor highway improvements to improve capacity and circulation are also included. Improved pedestrian crossing facilities and other measures to aid pedestrians, cyclists and public transport users accessing the city centre are included in the combined scheme.

Estimated cost

£8m

Implementation timescale

2008/09 to2009/10.

Value for money

Under evaluation

Priority within the Regional Transport Strategy

North Wakefield gyratory is part of the YBI, which is a regional priority. The scheme fits with all the other objectives of the RTS. Completion of the Inner Ring Road supports regeneration and economic growth. The integrated nature of the proposed development support reducing the need to travel, particularly by car.

Consistency and compatibility with LTP2

The gyratory system has the potential to improve the quality of the transport environment for pedestrians, cyclists and public transport users and improve access to opportunities (education, work, leisure etc) by these modes.

Removing traffic from routes which are generally unsuitable should aid the redevelopment of the city centre in general. Improving the Inner Ring Road has the potential to improve quality of life by aiding regeneration in the area, and reducing accidents and congestion.

The scheme will include measures to actively promote more sustainable forms of transport (pedestrian crossings, cycle priorities and improved bus journey time reliability).

Effect on LTP2 programme

Complementary to the LPT2 programme.

Priority within authority:

The scheme is the most important transport related scheme in Wakefield district. It has the potential to reduce congestion and air quality problems, by smoothing traffic flow and by promoting modal change to buses from private cars. It should maximise the capacity of the transport network on the northern side of Wakefield City centre. The objectives are consistent with the priorities contained in the Fast Forward (the Wakefield District Community Strategy).

Additionality (to targets, trajectories and objectives for shared priorities)

The scheme will help meet congestion and safety targets. It will also help to meet the targets for modal share, public transport patronage and bus service punctuality. Peak period journey time variability for car traffic may also be improved. Safety and accessibility, particularly for public transport users, will also be improved. The transport assessment for the redevelopment of land adjacent to Wakefield Westgate station proposes improvements to accessibility for buses, cyclists and pedestrians.

MSBC

Expected to be submitted during 2007.

AIREDALE INTEGRATED TRANSPORT SCHEME

Scheme description

The Airedale scheme is in two stages and whilst the prospect of carrying out the first stage in two phases is a possibility it is the Council's intention, working with Metro, to prepare a comprehensive scheme for submission to the DfT within the LTP2 period. The project aims and objectives arise from Masterplan studies of the Airedale and Canal Road corridors. The works will complement major land use/ regeneration measures being brought forward and also address public transport and vulnerable mode issues.

Estimated cost

To be determined.

Implementation timescale

At this stage, Bradford is not prioritising between the Airedale and City Centre schemes. The lead scheme will result from a wide ranging series of transport, land use and other priorities together with the feasibility and programme of the measures under consideration. It is the authority's intention that at least one of these projects will be brought forward as a major scheme bid during the LTP2 period.

Value for money

To be determined.

Priority within the Regional Transport Strategy

Within the context of the overall Masterplan measures being taken forward in the area, the scheme will address significant regeneration and economic objectives.

Consistency and compatibility with LTP2

As well as land use and regeneration issues, the scheme will also address public transport, pedestrian and cycling issues in the Airedale and Canal Road corridors.

Effect on LTP2 programme

Complementary to the LTP2 programme

Priority within authority

See Implementation timescale above.

Additionality (to targets, trajectories and objectives for shared priority areas)

To be determined.

Synergistic benefits

Airedale has been identified in the Regional Spatial Strategy as a place for economic change or regeneration. The scheme will be an essential catalyst for this change.

MSBC

To be determined.

BRADFORD CITY CENTRE AND WEST BRADFORD INTEGRATED TRANSPORT SCHEME

Scheme description

This scheme is one element of a wide ranging development package in the city centre arising from a major Masterplan study jointly commissioned by Bradford and Yorkshire Forward. The works will be designed to complement a range of land use and other developments supported by the Masterplan findings.

Part of the scheme will include a reassessed stage of an extension to the City Ring Road which has previously been at an advanced level of preparation. The measures in the package will consider the needs of public transport and other modes in this area and their integration with the major land use activities here both now and following the development of the Masterplan proposals.

The works will also include an assessment of the City's Outer Ring Road (West) and the measures necessary to address significant deficiencies in the facilities available here to all modes.

Estimated cost

To be determined.

Implementation timescale

At this stage, Bradford is not prioritising between the City Centre and Airedale schemes. The lead scheme will result from a wide ranging evaluation of transport, land use and other priorities together with the feasibility and programme of the measures under consideration. It is the authority's intention that at least one of these projects will be brought forward as a major scheme bid during the LTP2 period.

Value for money

To be determined.

Priority within the Regional Transport Strategy

Within the context of the overall Masterplan measures being taken forward in the area, the scheme will address significant regeneration and economic objectives.

Consistency and compatibility with LTP2

As well as land use and regeneration issues, the scheme will also address public transport, pedestrian and cycling issues in the city centre and those areas of the city where the measures will have direct impacts.

Effect on LTP2 programme

To be determined.

Priority within authority

See Implementation timescale above.

Additionality (to targets, trajectories and objectives for shared priority areas)

To be determined.

Synergistic benefits

To be determined.

MSBC

To be determined.

A6120 LEEDS OUTER RING ROAD (INITIAL MEASURES SCHEME)

Scheme description

This Strategy is being developed to address long standing issues relating to route management and congestion along the A6120 Ring Road Route in Leeds. The corridor under consideration takes in the entire A6120 from its junction with the M1 at Austhorpe to its junction with the A647 at Dawson's Corner.

The Initial Measures Scheme proposals will address short term issues in terms of congestion hotspots along the A6120 route including key junctions with major radial routes. In the longer term the Strategy also accommodates proposals within the revised Leeds UDP. Access to Leeds Bradford International Airport is also included within the Strategy as well as the potential for future strategic park and ride sites within the A6120 corridor.

Estimated cost

To be determined.

Implementation timescale

The staging of the full Strategy is to be determined as the evaluation of the full strategy package is progressed.

Within the Initial Measures Scheme it is intended that initial priority will be given to early route management measures that address congestion on the orbital route and to tackle issues relating to public transport priorities at key locations. Later elements of the Strategy are expected to address longer term route management issues, including access to Leeds Bradford International Airport. It is the authority's intention that at least the first part of the Strategy package, the Initial Measures Scheme proposal, is brought forward as a major scheme bid together with the overall Strategy Delivery Plan during the LTP2 period.

Value for money

To be determined.

Priority within the Regional Transport Strategy

The Strategy Initial Measures Scheme will support the ongoing development of the Leeds City Region by improving orbital traffic movements around the city and enhancing access for public transport on radial routes which will improve the strategic corridor from the M1 to Bradford and the north Aire Valley. Later elements will enhance access to strategic development sites notably the proposed East Leeds Extension, the Aire Valley regeneration area and address the Regional Priority for improved airport access.

Consistency and compatibility with LTP2

The proposals will address, at a strategic level within Leeds, key LTP issues of congestion and accessibility within the corridor. By allowing the better management of traffic at key locations the Strategy will also benefit local communities by reducing traffic impacts on inappropriate routes. As well as these higher level benefits, the Initial Measures Scheme will also address public transport, pedestrian and cycling issues at key locations along the route with beneficial impacts on safety and movement.

Effect on LTP2 programme

To be determined.

Priority within authority

The A6120 route and access to the Leeds Bradford International Airport are identified as strategic priorities for the city in the Vision for Leeds 2004-2020.

Additionality (to targets, trajectories and objectives for shared priority areas)

To be determined.

Synergistic benefits

To be determined.

MSBC

To be determined.

PILOT PROJECT

BRADFORD MINITRAM

Scheme description

Introduction of a mini-tram system in Bradford city centre which will link Bradford Interchange and Bradford Forster Square rail stations using existing road space and penetrating into the pedestrian precinct to serve areas not currently served directly by public transport.

Estimated cost

Less than £5.0m

It is envisaged that contributions may be available from other funding sources and it is likely that the LTP submission would be for less than the full project costs (£2.0m - £3.0m).

This scheme will be put forward for consideration under the premise that pilot or demonstration schemes costing less than £5.0m may be submitted for funding, providing that they include significant innovative elements.

Implementation timescale

It is anticipated the scheme could be implemented in 2008.

Value for money

A scheme trial was carried out during 2005/06. Information and experience gained from that trial have produced valuable evidence which will be used in developing the MSBC. In particular feedback from the trial will help establish the likely level of benefits the major scheme would deliver.

Priority within the Regional Transport Strategy

The scheme supports the RTS priority to improve access to main urban areas.

Consistency and compatibility with LTP2:

The scheme supports the growth of local economies. Linkages between major new retail developments, future public realm projects in the city centre and the main public transport hubs will be essential to ensure the economic growth of Bradford city centre and wider district.

The topography of the city centre can create barriers to travellers and customers, and hence the scheme will provide improvements to accessibility. In addition the vehicles are also wheelchair accessible. They are electrically powered with low emission and noise levels, contributing to endeavours to reduce the environmental impact of transport.

Effect on LTP2 programme

Complementary to the LTP2 programme.

Additionality (to targets, trajectories and objectives for shared priority areas)

The scheme will improve accessibility, and improve the opportunity for public transport interchange, leading to increased public transport patronage.

Synergistic benefits

The scheme would complement the existing 'Connecting the City' scheme in Bradford.

MSBC

Expected to be submitted by July 2006.

SUPERTRAM REPLACEMENT SCHEMES

STOURTON PARK AND RIDE

Scheme description

The utilisation of land designated for the main Supertram Park and Ride site (up to 3000 spaces) just 3km south of Leeds city centre, and immediately adjacent to the M621 Junction 7, close to the M1. The scheme would build a safe by design park and ride scheme, fund the purchase of a fleet of up to 6 high capacity, high quality buses (possibly cashless 'ftr' type), involve necessary highway works to provide bus priority measures on the selected route to the city centre and interchange opportunities within the city centre including the rail station. This scheme would be designed for later conversion to BRT.

Estimated cost

Still being evaluated, but likely to be around £11 million for land and construction and around £2 million for high quality/high capacity vehicles.

Implementation timescale

Before 2011.

Value for Money

The Supertram scheme showed this section of route between Stourton and the city centre as having the strongest economic case.

Priority with the Regional Transport Strategy

Access into Leeds from West Yorkshire and the Region is a clearly identified priority, and this scheme enables direct access from a motorway based park and ride site into the heart of the city centre and the railway station.

Consistency and compatibility with LTP2

By accommodating more capacity for public transport access in a way that diverts city centre parking to a location peripheral to the city centre, this will accommodate transport growth and increase city centre modal shares for public transport.

Effect on LTP2 Programme

Still being evaluated.

Additionality (to targets, trajectories and objectives for scared priorities)

To be determined.

MSBC

To be submitted late in 2006.

LEEDS CITY STATION SOUTHERN ACCESS

Scheme description

The scheme is in an early stage of development (pre-feasibility) but is likely to include the provision of new rail passenger facilities on the south side of Leeds City Rail Station adjacent to the developing Holbeck Urban Village. The required infrastructure is likely to include: a remote ticket/information office, a high capacity lift from the Granary Wharf area (plus steps), an elevated footway across 2/3 platforms connecting the lift access area to the existing modern footbridge and mezzanine area.

Estimated cost

Between £6 million and £9 million for construction

Implementation timescale

In order to complement ongoing land use development an opportunity exists to construct during 2009/10.

Value for Money

Around 100,000 rail passengers pass in and out of Leeds City Rail Station each day, and this figure is set to grow during LTP2. An increasing number are now walking to/from the rapidly expanding south bank area. A very conservative time savings of just 2 minutes would give a BCR of at least 2.5 if the capital costs were £7 million. At this stage it is our view that the scheme will have a very strong business case.

Priority with the Regional Transport Strategy

Access into Leeds from West Yorkshire and the Region could be compromised if existing exit/entrance capacity to/from Leeds City Station is not enhanced. The LTP strategy will seek to increase rail use as a preferred mode of access into Leeds, and a direct route into the south bank will reduce journey times for passengers to that area (and the existing city centre).

Consistency and compatibility with LTP2

Enabling rail growth and modal transfer from the car, particularly into expanding employment and residential zones on the south bank

Effect on LTP2 Programme

This scheme is complementary to the LTP programme,

Additionality (to targets, trajectories and objectives for scared priorities)

Modal transfer to rail would have wider benefits for existing bus services, alleviate congestion (particularly on the M621 corridor), improve safety and improve air quality, and increase the mode share of public transport into Leeds whilst accommodating overall growth.

MSBC

To be submitted during summer 2006.

BUS RAPID TRANSIT (BRT)

Scheme description

A BRT scheme in Leeds will contribute to delivering the transport improvements which are required to support sustainable economic growth in the sub-region, providing a step change in the quality and capacity of public transport. The scheme has the potential to improve accessibility to employment opportunities and other facilities for local communities, whilst also serving the wider strategic network, covering both commuters and visitors to the city. A significant amount of work has already been undertaken on the scope of a Bus Rapid Transit (BRT) network covering certain sections of the proposed former Supertram alignment:

South Leeds: Stourton to City Centre (with park and ride)

North Leeds: Bodington to City Centre (with park and ride)

East Leeds: Seacroft to City Centre

The initial approach is intended to provide the flexibility to expand the BRT network to include other corridors. It offers the capability of being developed further to take account of the emerging East and South East Leeds (EASEL) and Aire Valley Leeds (AVL) regeneration areas and options for serving North West Leeds beyond Bodington.

Estimated cost

The costs for the 3 lines is still being evaluated but is likely to be in the order of £140 million for construction and land plus vehicles, assuming that the earlier bus based Stourton Park and Ride is already implemented.

Implementation timescale

Post 2011

Value for money

Initial assessments by DfT indicate a BCR greater than 3.0

Priority within the Regional Transport Strategy

The Regional Transport Board have identified the requirement to implement a Supertram replacement scheme.

A Leeds BRT scheme will support the on-going development of the Leeds City Region, which is consistent with the Regional Spatial Strategy, and will contribute to delivering the priority outcomes of the RTS including improving the capacity and quality of public transport links between the main urban areas in the Leeds City Region, in particular to Leeds city centre. The scheme also supports RTS objectives to reduce the need to travel by car and to promote modal shift and improved public transport. Later elements will contribute to improving the accessibility of regeneration priority areas, including EASEL and Aire Valley Leeds.

Consistency and compatibility with LTP2

Making a step change in public transport through BRT provision complements other LTP2 strategies and measures to increase public transport patronage. BRT will support the sustainable growth of Leeds and will encourage modal switch to public transport; the effects of this will also contribute to minimising the environmental impacts of transport.

Effect on LTP2 programme

Complementary to the LTP2 programme

Priority within authority

Additionality (to targets, trajectories and objectives for shared priorities)

BRT complements the objectives of LTP2. It will contribute to alleviating the problems associated with congestion and will improve accessibility to jobs, education and other key services. The scheme will help to meet the targets for modal share, public transport patronage and bus punctuality. It will help to meet the congestion target and will improve safety and accessibility for public transport users.

MSBC

April 2007.

MAJOR SCHEMES FOR LTP3

Potential major schemes proposed for LTP3 and beyond:

- Schemes from the Transport Vision work (including, for example, improvements to the Harrogate rail line and better public transport links to the Aire Valley Employment Area to the south east of Leeds);
- Further development of the BRT network;
- Improved (public transport) access for Leeds/Bradford International Airport;
- Wakefield Eastern Bypass as part of a wider strategy (i.e. Wakefield City integrated transport scheme);
- Keighley integration scheme;
- Transportation projects from the Colne Valley Study;
- South East Link Road – Wakefield;
- Rapid transit for Bradford to Leeds corridor; and
- Other rapid transit/rail corridors.

USE OF OTHER FUNDING

There are other funding sources available for local transport. The Partnership will make use of these funds to enhance the funding available through LTP capital or the authorities' own resources.

OTHER CAPITAL EXPENDITURE

In addition to the LTP capital allocations from the DfT the authorities will make use of other internal capital funds for integrated transport and maintenance purposes. These funding sources will continue to be utilised in LTP2 to complement Integrated Transport/Maintenance funding. For example:

In 2005/06 Calderdale is providing £0.32m (£0.95m over 2 years) as part of a LPSA relating to stretched targets on highway conditions on unclassified roads.

In 2005/06 Kirklees is providing:

- £4.0m on unclassified roads and pavement improvements;
- £1.0m on drainage capacity improvements;
- £0.4m on street lighting;
- £0.59m on safer roads;
- £0.25k on UTMC maintenance;
- £0.2m on walking and improving mobility;
- £0.35m on street scene improvements;
- £0.5m on community traffic projects; and
- £0.2m on CCTV and security upgrades

In 2005/06 Leeds is providing

- £8.0m on highway maintenance (this more than compensates for the low revenue allocation); and
- £1.4m on private street works

Wakefield has a commitment for three years to provide £1.5m for highway maintenance.

OTHER DfT FUNDING

THE TRANSPORT INNOVATION FUND

The Partnership welcomes the January 2006 TIF Guidance. This Guidance provides greater clarity about the operation of the Fund and additional guidance for bidders.

We particularly welcome the references to the role of partnership working between the DfT and local transport authorities through a TIF partnership and the prospect for sharing information and knowledge between central and local government.

Demand management is part of the core strategy for the LTP2. The work on the longer-term vision for the Leeds City Region identifies the need to both improve connectivity to, from and within the City Region and to optimise the use of the transport system through demand management measures. This approach will require a comprehensive package of measures and a more holistic approach to network management (highway and public transport) than is possible through the technologies currently employed. The longer-term package will also require a means of achieving a better alignment of bus and rail service provision with economic priorities and the requirements of accessibility planning. Our LTP2 demand management strategy recognises that it is almost inevitable that congestion will increase to a point where more radical demand management measures are needed and the TIF bid will explore the point at which this is likely to happen and the range of options available.

The Partnership intends to enter into a close dialogue with the DfT and Government Office for Yorkshire and the Humber regarding a pump-priming submission (for the July 2006 deadline) that would seek to develop our understanding of the range of possible future interventions and how these relate to conditions within communities in West Yorkshire. This would lead to the promotion and implementation of a package of measures directed at sustaining and improving economic performance in West Yorkshire and the City Region. These discussions will include options to build upon the strong platform we already have with road-space allocation, RTPI, UTMC systems and smarter measures

The Partnership has had successful and productive experience of trans-national exchanges through the North Sea Interreg Programme and would also like to explore the potential for working through the future Interreg programme with EU partners (such as Bremen and Gothenburg) in developing an understanding of the use of pricing and other regimes to optimise network utilisation and influence travel choices whilst maintaining the connectivity and accessibility required for economic performance and social inclusion.

Following the publication of updated TIF Guidance in January 2006, the West Yorkshire LTP Partnership will co-ordinate the development of a pump priming funding proposal for a July 2006 proposal. The development of a locally supported and strong proposal will be based on dialogue with the DfT/Government Office for Yorkshire and the Humber (March/April), consultation with District Leaders (April), collection of evidence and data (April/May), the ongoing formulation of a proposal and the approval of a final submission by District Leaders in July.

RURAL BUS SUBSIDY GRANT

This is used to subsidise non-commercial bus services in rural areas. Metro received over £990,000 in 2004/05.

KICKSTART/CHALLENGE FUNDING

The aim of Kickstart is to pump-prime new bus services, or bus service improvements, which will increase bus patronage and

develop services as an alternative to car use. Funding will be given to projects which have a clear prospect of becoming commercially viable, or otherwise fully self-sustaining with a guarantee of local authority subsidy or other sources of funding.

Kickstart has replaced the Rural and Urban Bus Challenge schemes. The Rural Challenge scheme has been successfully used in West Yorkshire over recent years for a number of new bus services, including demand responsive services.

However, it is possible that Kickstart will not continue through LTP2. If this is the case it will be replaced by other Challenge funding.

NEIGHBOURHOOD ROAD SAFETY INITIATIVE (NRSI)

The DfT launched the NRSI as part of the Government's "Dealing With Disadvantage" programme. Its purpose is to find fresh and innovative ways to reduce road casualties, particularly those involving children from disadvantaged backgrounds. Fifteen local authorities are taking part including Bradford in West Yorkshire. The Government has provided around £20m for NRSI, over 2 years (2004/05 and 2005/06); with Bradford's allocation being £1.16 million.

NEIGHBOURHOOD RENEWAL FUNDING

Neighbourhood Renewal Funding is available for renewal and regeneration schemes. The funding is only available in SOAs which have a certain level of deprivation.

While in the previous financial year the Partnership (excluding Calderdale) gained £25.6 million, experience suggests that the actual allocation which is decided by Local Boards is rarely allocated to transport. An exception here is Wakefield, where several thousand pounds were committed to supporting Community Transport in the South East area of the district over a period of three years. This included a bus vehicle funded with LTP capital. LTP2 is an opportunity for improved partnership working here.

OPERATOR FUNDING

The average age of the bus fleet in West Yorkshire in 2005 is 8.6 years. The industry has a target of 8 years. Known investment plans suggest that the average age of the fleet may increase during the early years of LTP2. Faster implementation of the YBI may offer an opportunity to unlock greater investment in vehicles.

For rail, the Northern franchise does not provide for any significant new investment apart from limited match funding available from Northern and the SRA for physical access improvements, which we will aim to unlock through LTP partnership investment.

First Trans-Pennine are investing in new trains. The new GNER franchise offers the prospect of investment in new trains and both franchises offer the prospect of investment in rail stations and infrastructure during LTP2. We will work with these train operators to maximise the benefit of this funding to West Yorkshire.

YORKSHIRE FORWARD

Yorkshire Forward (the Regional Development Agency for Yorkshire and the Humber) has a number of funding pots that may be used for transport purposes, e.g. supporting travel to work and Community Transport initiatives.

RENAISSANCE TOWNS

Parts of Huddersfield, Halifax, Bradford, Airedale, Wakefield and the 'Five Towns' all have funding from this initiative. Most of the transport related expenditure so far has been on streetscape improvements.

MARKET TOWNS

Todmorden, Marsden and Slaithwaite have funding under this initiative. Streetscape and traffic management measures have already been implemented in Todmorden. Studies are currently underway for the other towns

SUB-REGIONAL INVESTMENT PLAN

The regional and sub-regional economic investment planning process offers an opportunity to harness capital and revenue funding for transport projects delivering economic benefits. Projects brought forward by the transport commissioning group to date have been carefully aligned with the development of the LTP2 programme.

These include an £8million funding for additional rolling stock for rail services in West Yorkshire and two travel to work projects (West Yorkshire Travel for Work and West Yorkshire Community Connect).

NORTHERN WAY

£12m has been allocated to transport by the Steering Group as part of the Northern Way strategy. There may be more funding available from this source for transport in the future. Metro has led the development of Leeds City Region work, which has identified a number of pan-regional schemes, which will benefit from this funding stream.

RURAL TRANSPORT FUNDING

Yorkshire Forward has recently taken over the funding of Rural Transport Partnerships and their projects from the Countryside Agency. Information on what funding will be available in the future is slowly being released. It is anticipated that bids for this funding will be made.

The three Rural Transport Partnerships in West Yorkshire have successfully introduced a number of innovative projects in recent years using rural transport funding. Some of the bus schemes have been introduced with the support of the DfT's Rural Bus Challenge funding.

EUROPEAN OBJECTIVE 2 FUNDING

Although there has been funding for transport schemes in the past, in recent years most of the funding has been allocated to other projects.

EUROPEAN INTERREG PROGRAMME

The implementation of LTP1 was supported by funding from the North Sea region Interreg IIIB programme. Metro was the lead partner for the TARGET project that developed and promoted the use of sustainable transport modes through transnational co-operation with partners (Goteborg, Bremen, Odense and Euregio Schedelmond).

Activities supported by Interreg funding included a car club in Leeds, the development of SAFEMark and Junior SAFEMark initiatives and a range of cross-boundary initiatives between West Yorkshire and the Yorkshire Dales National Park.

Metro is working with potential local and EU partners to develop further proposals for Interreg funding to complement the LTP2 strategy and proposed investment programme.

LOCAL AREA AGREEMENTS

Bradford Council is one of the national pilots for LAAs, which aim to simplify funding streams, facilitate better partnership working, and focus on key objectives. This now includes the 4th block of economic development and enterprise.

The development of future LAAs will consider how funding from different sources can help to support the role that transport has in meeting wider economic, social and environmental objectives. Most of the West Yorkshire authorities are developing LAA bids.

PRUDENTIAL BORROWING

The Partnership is able to incur additional borrowing with the debt charges and repayments funded through future revenue streams. Consideration will be given to the extent to which prudential borrowing could support the programme developed within the Planning Guideline assumptions.

DEVELOPER CONTRIBUTIONS

Developers often contribute to the funding of transport projects. Most of this is directly for works to allow developments to proceed. The overall amounts can be quite large, for example in a typical year Leeds receives around £5million in developer funding. The vast majority of these are fully funded schemes, although some are linked to adjacent LTP schemes.

Opportunities exist to provide a more formalised and stronger framework for developer contributions in the forthcoming LDFs. These opportunities will be maximised In the development of LDFs. In the meantime Metro has worked with the district authorities to produce technical guidance for new development and public transport contributions (Appendix L).

GRANTS FROM OTHER BODIES

Grants from other bodies have been used for a number of years and will continue to be used where available. Examples are:

- Heritage Lottery funds used in Todmorden, Halifax and Huddersfield town centres; and
- Sustrans (through the New Opportunities Fund) contributed to cycling schemes, notably Calder Valley cycleway, Hebble Trail and the Horbury to Wakefield cycle route.

The Partnership will seek to maximise the use of external funding to complement LTP2 investment and increase overall value for money.

INTRODUCTION

Part 4 sets out the targets and local indicators for the five years of LTP2. These will provide the basis for monitoring progress towards meeting our LTP2 objectives and the underlying shared priorities.

We have not set targets for all indicators but will be monitoring all of them. Annual milestones and trajectories will be used to show how progress is expected to occur. These aim to enable greater transparency and rigour in assessing the Partnership's performance over the life of LTP2. Graphs and trajectories are presented in Appendix F.

An important part of managing the delivery of LTP2 will be to monitor our progress towards targets. Part 4 sets out how the targets will be monitored and the likely timescales or programme for this process.

Closely associated with the monitoring of performance is the ability to identify the risks to achieving our desired objectives and set in place a process of management. Part 4 therefore places each of the targets within a detailed risk assessment framework in order to identify and quantify areas of concern.

To ensure that we continue to achieve our objectives we have developed a performance management framework which will allow us to manage the risks appropriately.

Value for money is an important part both of financial performance and ensuring that we use resources to the best ability to achieve our targets. Achieving value for money and environmental monitoring and management are described in Part 4.

FIVE YEAR TARGETS

OVERVIEW

This section should be read in conjunction with Appendices E and F.

The targets for LTP2 have been based upon a mixture of statistical analysis, modelling and risk assessment. This process ensures that the target setting follows a robust structure. It is, however, important that the outcomes reflect what is realistic given the programmes set out in the previous section chapter and the overarching objective for economic growth within West Yorkshire.

Of particular relevance is information on trajectories and detailed information on our approach to setting individual targets which is provided in Appendix F and the Baseline Data Report.

INDICATORS

The selection of indicators and setting of targets is the performance management structure for the five years of LTP2. The indicators will be used to monitor progress towards meeting the LTP2 objectives and the underlying shared priorities.

We have selected both mandatory and non-mandatory indicators to assess our progress. Whilst not all indicators have targets the vast majority will be monitored annually. A full assessment of monitoring techniques is set out in the next chapter.

The DfT's mandatory indicators measure progress towards accessibility, congestion, air quality and road safety as well as other quality of life issues and effective asset management. They include selected BVPIs and related LPSA targets.

Our non-mandatory indicators have been developed to reflect our LTP objectives and to ensure consistency with indicators developed by the Yorkshire and Humber Assembly for regional monitoring.

More information about indicators is provided in Appendix E and the Baseline Data Report.

TARGETS AND TRAJECTORIES

Targets ultimately set out the progress we need to make to achieve the desired objectives. The setting of our targets has been influenced by:

- national targets (e.g. for safer roads);
- minimum targets specified by the DfT;
- local circumstances e.g. economic growth and regeneration;
- outputs from the STM; and
- related BVPI and LPSA targets.

Table 4.1 provides a summary of the West Yorkshire targets. More information is contained within Appendix F, where we provide information on:

- the baseline data;
- why the target is ambitious and realistic (including our approach towards setting the target); and
- the actions required by the Partnership to achieve the target.

In addition to the above the principal risks to achieving the target and how these will be managed are set out in 'Risk Analysis' and 'Managing the Risks' chapters.

TARGETS TO BE SET AT A LATER DATE

Following guidance from the DfT, targets have not yet been set for two mandatory indicators relating to travel to school and congestion.

The target for mode share for school trips has been delayed until data from the DfES PLASC database is available in 2007.

The target relating to person journey times on 14 key routes will be developed after data is supplied by the DfT. Details of the target and associated background information will be provided to the DfT in July 2006.

A full explanation of progress on this indicator to date is set out in Appendix F.

ROAD SAFETY FUNDING

The impact of partnership working in West Yorkshire has seen a significant reduction in the numbers of people killed and seriously injured, including children. The present road safety target reductions for West Yorkshire may need to be evaluated in relation to this trend alongside the implications of the changes in funding for road safety.

An announcement by theDfT on the new funding arrangements was still awaited at the time of writing.

THE USE OF THE STRATEGIC TRANSPORT MODEL (STM) IN TARGET SETTING

The use of the STM to select a core strategy for LTP2 was discussed in Part 2 "Strategies". The use of the STM to set targets is described in Appendix F.

LINK TO OBJECTIVES AND PROGRAMME

The link between issues and challenges, objectives, programmes and targets is complex. The five diagrams (Fig 4.1 to 4.5) provide an overview of these relationships. There is one diagram for each of the shared priorities.

TABLE 4.1: LTP2 TARGETS

KEY OUTCOME INDICATORS		LOCAL TARGETS TO 2010/11	RELEVANT SHARED PRIORITY
Mandatory M1	A local accessibility target	Ensure that 89.5% of households without access to a car are within 30 minutes of a hospital by public transport	Delivering Accessibility
Mandatory M2	Bus punctuality	Increase bus punctuality to 95% by 2010/11 for all registered services. A year on year reduction in Excess Waiting Time for Frequent services	Delivering Accessibility; Tackling Congestion
Mandatory M3	Satisfaction with local bus services (BVPI 104)	Increase bus satisfaction to 59% by 2009/10	Delivering Accessibility; Tackling Congestion;
Mandatory M4	Annualised index of cycling trips	A 10% increase in overall cycling levels by 2010/11	Delivering Accessibility
Mandatory M5	Average journey time per person mile on key routes	Process of target setting still ongoing - awaiting DfT data and guidance - to be finalised by July 2006	Tackling Congestion
Mandatory M6	Change in peak period traffic flows to urban centres	Traffic growth in urban centres in the morning peak period (0700-1000) from 2003/04 to 2010/11 to be restricted to: Bradford 3%, Halifax 3%, Huddersfield 3%, Leeds 3% and Wakefield 3%	Tackling Congestion; Better Air Quality
Mandatory M7	Mode share of journeys to school	Setting of target on hold until DfES data available in 2007	Tackling Congestion
Mandatory M8	Public transport patronage (BVPI 102)	A 5% increase in bus patronage by 2010/11. (This is based on current predictions of the impact of changes to concessionary fares from April 2006)	Tackling Congestion
Mandatory M9	Total KSI casualties (BVPI 99)	A 40% reduction in the number of people KSI from the 1994/98 average by 2010 (National Target), stretched to a 30% reduction from the 2002-2004 average by 2010	Safer Roads
Mandatory M10	Child KSI casualties (BVPI 99)	A 50% reduction in the number of children KSI from the 1994/98 average to 2010 (National Target), stretched to a 40% reduction from 2002-2004 by 2010 (related to PSA)	Safer Roads
Mandatory M11	Total slight casualties (BVPI 99)	A 15% reduction in the number of people slightly injured from the 2002-2004 average by 2010	Safer Roads

Mandatory M12	NO_2 annual average concentration in designated AQMAs	A 10% reduction NO_2 in the Leeds AQMAs. Targets will be set for other AQMAs as they are declared during LTP2	Better Air Quality
Mandatory M13	Change in area wide road traffic	No more than a 5% increase in 16-hour weekday traffic flows, weighted by road length, at a representative sample of sites from 2003/04 levels by 2010/11	Better Air Quality
Mandatory M14	Principal Road Network where maintenance work should be considered (BVPI 223, formerly BVPI 96)	Reduce the percentage of the Principal Road carriageway network where maintenance should be considered, from 36% in 2004/05 to 27% by 2011	Effective Asset Management
Mandatory M15	Non-Principal road network where maintenance work should be considered (BVPI 224a, formerly BVPI 97a)	Reduce the length of the Non-Principal classified carriageway where maintenance work should be considered, from 13% in 2003/04 to 5% by 2011	Effective Asset Management
Mandatory M16	Unclassified road network where structural maintenance should be considered (BVPI 224b, formerly BVPI97b)	Reduce the length of the unclassified carriageway network where structural maintenance should be considered, from 16% in 2003/04 to 9% by 2011	Effective Asset Management
Mandatory M17	Footways where structural maintenance should be considered (BVPI 187)	Reduce the percentage of footway Category 1, 1a and 2 networks where structural maintenance should be considered. From 24% in 2003/04 to 14% in 2011	Effective Asset Management
Local L1	Satisfaction with LTP funded public transport facilities	Increase satisfaction with LTP funded public transport facilities to 90% by 2010/11	Delivering Accessibility
Local L2	Cycling trips to urban centres during the morning peak	A 20% increase in cycling trips to Leeds, Wakefield and Halifax centres during the AM peak (0730-0930) by 2010/11	Tackling Congestion
Local L3	AM peak period mode split to urban centres	Reduce the proportion of car-based trips into central Leeds from 57% to 55% by 2010/11 No increase in car mode share in Bradford, Halifax, Huddersfield and Wakefield	Tackling Congestion
Local L4	Peak period rail patronage	Increase peak time rail patronage on local train services into Leeds by 20% to 2010/11	Tackling Congestion
Local L5	Patronage on Quality Bus Corridors (QBCs)	Increase in bus patronage above the West Yorkshire patronage baseline on QBCs	Tackling Congestion
Local L6	Number of pedestrians KSI in road traffic collisions	A 50% reduction in the number of pedestrians KSI from the 1994/98 average by 2010, and stretched to a 30% reduction from the 2002-2004 average by 2010	Safer Roads
Local L7	Annual road traffic emissions of NOx across West Yorkshire principal road network	A 20% reduction in NOx from 2004/05 to 2010/11	Better Air Quality
Local L8	Annual road traffic emissions of CO_2 across West Yorkshire principal road network	No increase in CO_2 emissions from 2004/05 to 2010/11	Better Air Quality
Local L9	Structures with weight and/or width restrictions	To reduce temporary restrictions on council owned bridges to 1.5% from 4.3% in 2005	Effective Asset Management
Local L10	The percentage of bus shelters that meet modern standards	95% of bus shelters to meet modern standards by 2010/11	Effective Asset Management

FIG 4.1: 'DELIVERING ACCESSIBILITY' LINKAGES

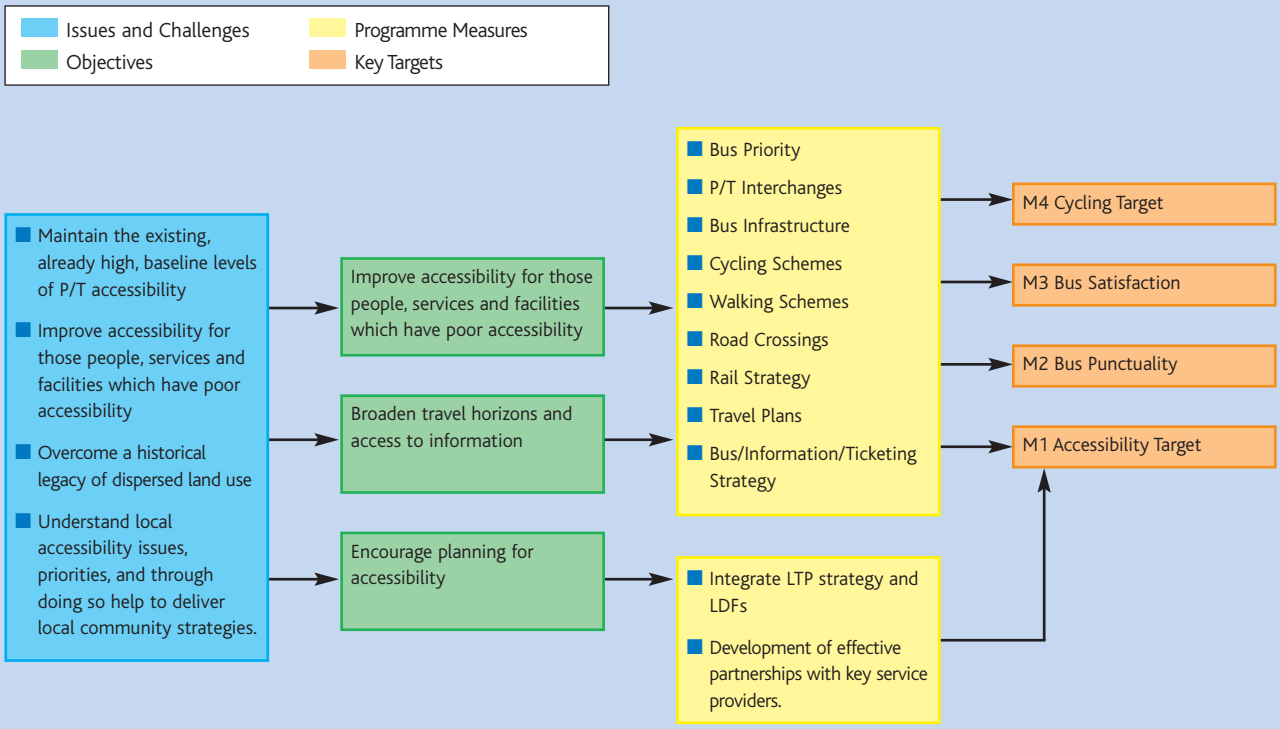


FIG 4.2: 'TACKLING CONGESTION' LINKAGES

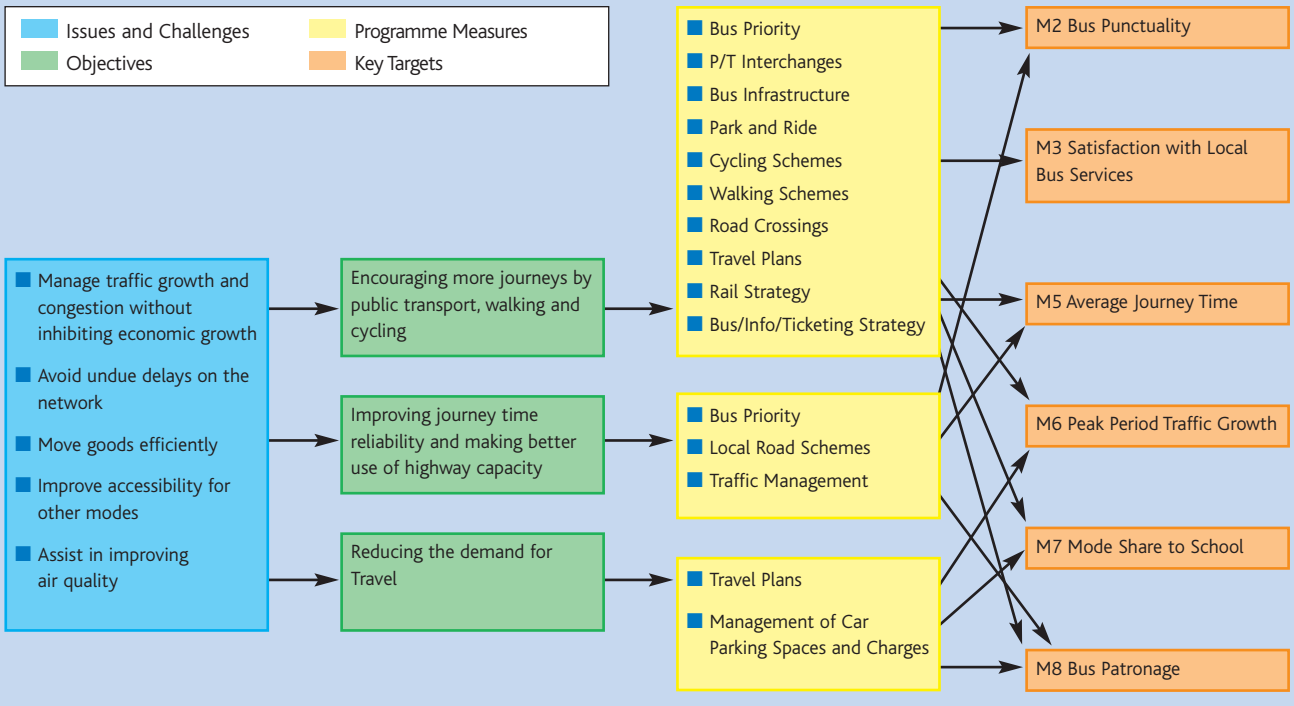


FIGURE 4.3: 'SAFER ROAD' LINKAGES

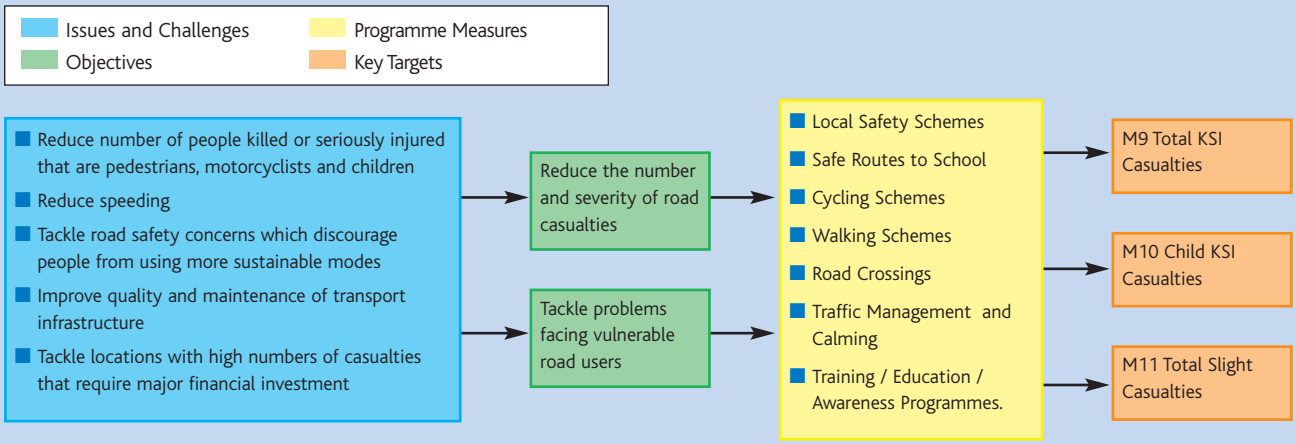


FIGURE 4.4: 'BETTER AIR QUALITY' LINKAGES

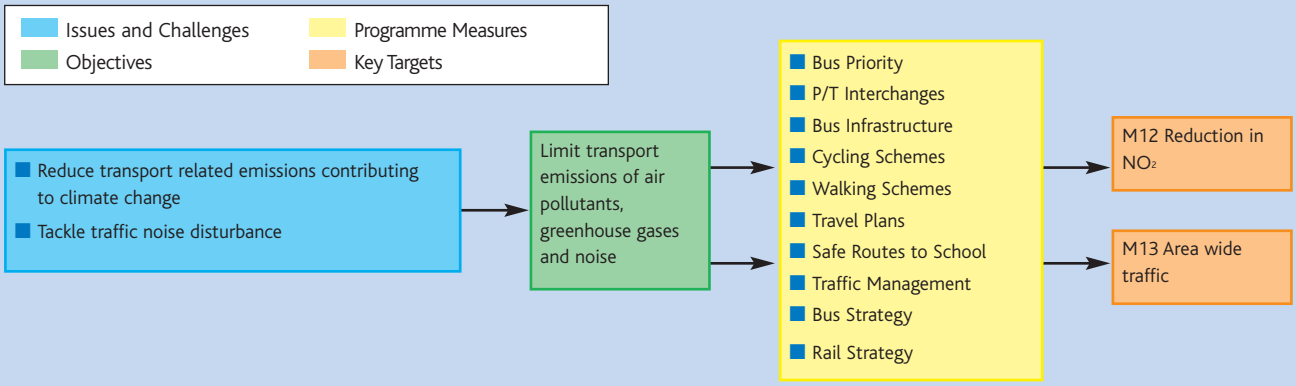
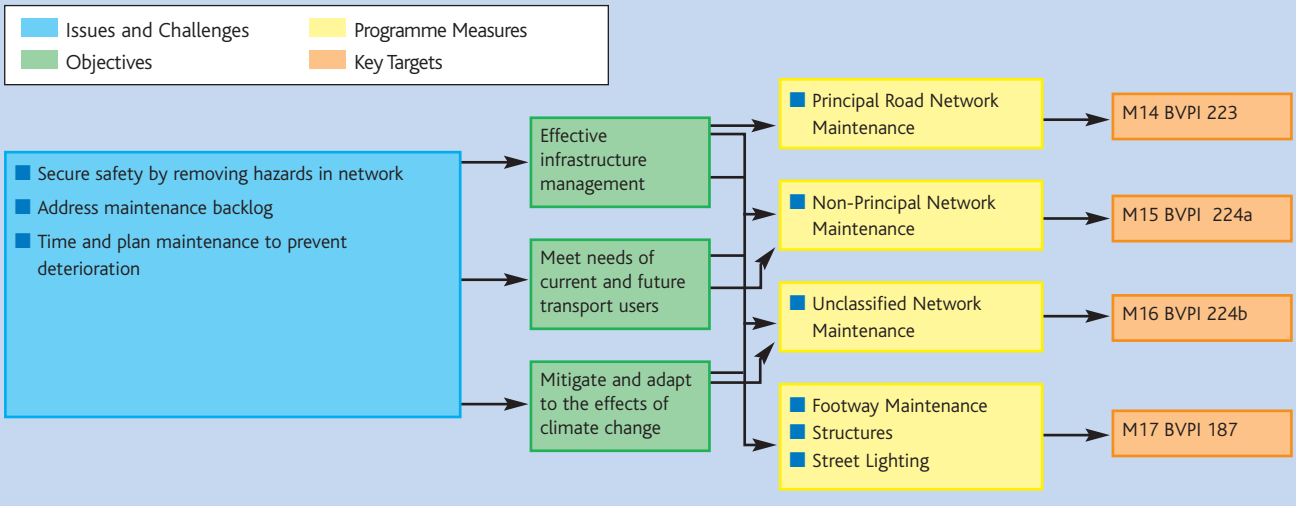


FIG 4.5: 'EFFECTIVE ASSET MANAGEMENT' LINKAGES



MONITORING PROGRESS TOWARDS TARGETS

OVERVIEW

Monitoring progress towards our objectives relies heavily on setting up a robust and efficient system of data collection and analysis, and a system for reviewing progress and taking corrective action where necessary.

The Partnership already has an excellent programme of monitoring in place and produces a number of technical reports to assist in the LTP process. This system will continue in order to provide data that feeds into indicators and targets and also at a wider level to help the Partners to understand the wider issues that are connected to our work.

MONITORING TECHNIQUES

In order to report on progress and measure our outputs we have developed a comprehensive monitoring regime throughout LTP1. This will be rolled forward into LTP2 and adapted to take account of the new objectives and revised indicators.

At present we have 24 indicators which are used to measure our local targets. We also have 22 background indicators which are used to measure broader trends such as economic growth, retail values or unemployment. The background indicators have no targets associated with them but are an integral part of understanding how the LTP contributes to the wider agenda. A full list of indicators is given in Appendix E.

Table 4.2 summarises how each of the indicators aligned with a target will be monitored with specific emphasis on the data to be collected and the method of collection.

Full details of monitoring techniques and data sources are given in the Baseline Data Report which accompanies this LTP.

MONITORING PROGRAMME AND REPORTING

Whilst some data is collected on a continuous basis, for example, road safety and air quality information, other areas require carefully programmed surveys to ensure that the indicators and targets can be updated. The main areas relate to traffic growth or flows, congestion, cycling, rail and maintenance. Table 4.2 also sets out the frequency of data collection and the preferred months for surveys to be carried out.

An important part of the monitoring process is to ensure that the data we collect is used to inform, not only progress towards our objectives, but also how we plan future programmes and outputs. With this in mind we will continue to supplement the APR process with a Monitoring Report containing technical data. As well as survey information this will include information on the effectiveness of schemes through scheme impact reports. This process is already well established with the Partnership.

METHODS OF REVIEWING TARGETS AND INDICATORS

An important part of the overall process of monitoring is to continue to assess the appropriateness of our indicators and targets both in terms of the range and type of indicator but also the level at which each target will be set. This will be carried out on an annual basis as part of our performance management framework. Our approach to this is set out in "Managing the Risks".

TABLE 4.2: MONITORING OF TARGETS AND INDICATORS

INDICATOR	RELEVANT TARGET	DATA SOURCE AND COLLECTION TECHNIQUES	TIMESCALE
Accessibility	Mandatory M1	Use of Accession modelling suite	Updates produced annually and/or during services changes
Bus punctuality	Mandatory M2	Roadside Surveys and RTPI system	Updates produced annually
Satisfaction with local bus services (BVPI 104)	Mandatory M3	Information supplied by ODPM. Supplemented by Metro market research	Data produced every 3 years
Annualised index of cycling trips	Mandatory M4	A representative selection of sites across West Yorkshire have been chosen to reflect a variety of cycling environments. Both on and off road sites are monitored. Data collected both automatically and manually	Automatic sites collect data continuously. Manual counts undertaken in neutral months
Average journey time per person mile on key routes	Mandatory M5	14 routes have been selected across West Yorkshire. Occupancy, flow and journey times undertaken on each route	Annual counts carried out in neutral months
Change in peak period traffic flows to urban centres	Mandatory M6	Automatic Traffic Counts (ATC) on five urban centre cordons	Annual counts carried out in neutral months
Mode share of journeys to school	Mandatory M7	Method of collection deferred until 2007	

Public transport patronage (BVPI 102)	Mandatory M8	Metro surveys	Updates produced annually
Total KSI casualties (BVPI 99)	Mandatory M9	STATS 19 Data	Updates produced annually
Child KSI casualties (BVPI 99)	Mandatory M10	STATS 19 Data	Updates produced annually
Total slight casualties (BVPI 99)	Mandatory M11	STATS 19 and flow data from DfT	Updates produced annually
NO_2 annual average concentration in designated Air Quality Management Areas (AQMAs).	Mandatory M12	Permanent monitoring stations in AQMAs. Continuous data collected via real time analyser	Updates produced annually
Change in area wide road traffic	Mandatory M13	Stratified sample of ATC surveys weighted by road length.	Updates produced annually
Principal road network where maintenance work should be considered (BVPI 223, formerly BVPI 96)	Mandatory M14	Scanner	Annual assessments
Non principal road network where maintenance work should be considered (BVPI 224a, formerly BVPI 97a)	Mandatory M15	Scanner	Annual assessments
Unclassified road network where structural maintenance should be considered (BVPI 224b, formerly BVPI97b)	Mandatory M16	Visual surveys	Annual assessments - 25% rotating sample
Footways where structural maintenance should be considered (BVPI 187)	Mandatory M17	Visual surveys	Annual assessments - 50% rotating sample
Satisfaction with LTP funded public transport facilities	Local L1	Market research surveys	Scheme by scheme assessment
Cycling trips to urban centres during the morning peak	Local L2	Mode split surveys into five main urban centres across West Yorkshire	Annual counts carried out in neutral months
AM peak period mode split to urban centres	Local L3	Mode split surveys into five main urban centres across West Yorkshire	Annual counts carried out in neutral months
Peak period rail patronage	Local L4	Peak period surveys at Leeds rail station	Annual counts carried out in neutral months
Patronage on Quality Bus Corridors	Local L5	Electronic ticket machine data on selected routes	Scheme by scheme assessment
Number of pedestrians KSI in road traffic collisions	Local L6	STATS 19 Data	
Annual road traffic emissions of NO_x across West Yorkshire principal road network	Local L7	Use of Airviro model, DMRB factors and traffic counts on principal network	Updates produced annually
Annual road traffic emissions of CO_2 across West Yorkshire principal road network	Local L8	Use of Airviro model, DMRB factors and traffic counts on principal network	Updates produced annually
Structures with weight and/or width restrictions	Local L9	Technical assessment of assets	Updates produced annually
The number of bus shelters that meet modern standards	Local L10	Monitoring of capital programme	Updates produced annually

RISK ANALYSIS

The next sections deal with the identification of risk in delivering LTP2 objectives and how this can be managed.

Risk analysis ensures that the delivery of the LTP outcomes is exposed to a level of risk which is acceptable and manageable.

It will be impossible to eliminate all elements of risk from delivering our outcomes at the start of the Plan. As such we have ensured that we have mechanisms in place to review and monitor our progress at all stages of Plan delivery. The risk management process, set out in the next section, will therefore be an integral part of the Plan over the coming five years.

The process we will follow is set out in Figure 4.6.

RISK IDENTIFICATION

The targets we have set are the measure of outcomes as such these are used as the focus for risk identification.

As part of a target setting workshop a technical panel has also compiled a comprehensive list of risks to each target. This forms our comprehensive risk register. The full set of risks can be seen in Table 4.3 and Appendix F.

QUANTIFYING THE RISK

Whilst it is clear that there are risks associated with each target, not all will have the same impact on outcomes. In order to quantify this we have set up a framework for assessing the level of risk and the subsequent methods of management. The details of this are also set out in Table 4.3.

In terms of quantifying the risk we have used a standard approach of first identifying the likelihood or probability and then assessing a potential impact on the target area. Both assessments utilise a simple scoring process as follows:

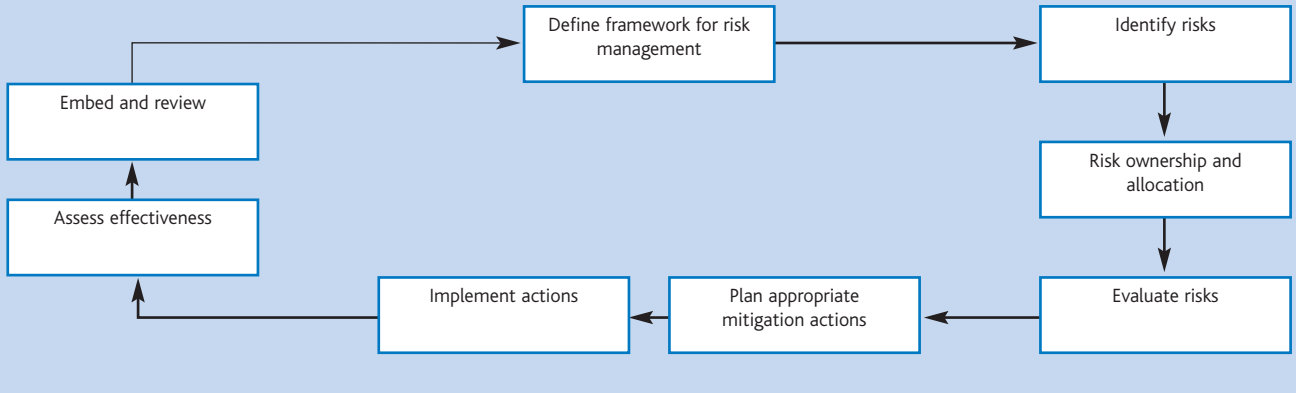
PROBABILITY	IMPACT	SCORE
Very High	Severe	5
High	Major	4
Medium	Moderate	3
Low	Minor	2
Very Low	Insignificant	1
Nil	Nil	0

The relative assessments were undertaken by a second technical panel. The purpose of the scoring was to highlight the risks that were judged to be of greatest threat to the delivery of LTP2. This was assessed by producing a Risk Index score which combined both probability and impact.

Each risk was then graded into a red, amber or green category, where red is the most significant risk item. The grading criteria used was:

CATEGORY	SCORE
Red	Above 15
Amber	10-15
Green	Below 10

FIGURE 4.6 - RISK MANAGEMENT PROCESS (MANAGING SUCCESSFUL PROGRAMMES - OFFICE OF GOVERNMENT COMMERCE - 2003)



TYPES OF RISK IDENTIFIED

Through the process we have chosen, it has been possible to identify common areas of risk. These are largely confined to the four categories set out below plus a generic set.

EXTERNAL RISK

A number of factors will impact upon the eventual outcomes but are not linked directly to the LTP delivery process. These include:

- strong economic growth leading to a higher than expected growth in car ownership and use;
- a relative decrease in the cost of car use;
- widespread service disruption as witnessed on the rail network during LTP1;
- energy costs; and
- specific behavioural influences such as the increase in drink or "drugged" driving.

PROGRAMME RISK

This area of risk relates specifically to being unable to deliver our programme within the prescribed timescale.

PARTNERSHIP RISK (INCLUDING OPERATOR PERFORMANCE)

Some of our outcomes rely on action and/or co-operation from partners such as bus operators or local health providers. Failure of engagement or support could undermine our chances of success.

MONITORING RISK

Whilst we have taken steps to ensure that the monitoring techniques set out in the previous chapter are robust, some areas are more difficult to measure accurately than others, for example cycling.

Where this occurs we may not be able to measure changes with any degree of certainty.

GENERAL RISK ELEMENTS

In addition to the above we have identified four overarching risks to delivery. The impacts of these are in addition to those already identified. The risks are:

- a reduction in funding levels;
- a significant increase in the overall cost of delivering schemes;
- where future legislation/central government policy does not support and help to enhance our approaches; and
- the lack of qualified staff to deliver our programme.

All areas would impact upon the eventual outcomes and need to be managed accordingly.

KEY RISK AREAS

The risk assessment process has identified where the risk lies with each indicator and target. The process has also ranked these in terms of importance. The assessment has shown we have four targets in the red category, eight in amber and 14 in green, as shown in Figure 4.3

The key areas are:

- bus punctuality;
- satisfaction with bus services;
- overall bus patronage; and
- patronage on QBCs

In most cases the key factors for high risk are either due to external or partnership elements. Management of these areas is outlined in the next chapter and within Appendix F.

CONTINUOUS MONITORING OF THE RISKS

Having quantified the risks and highlighted which target areas are most affected it is important that these are managed over the life of LTP2.

The risk assessment process is dynamic and will be reviewed continuously. As a result the probability and impact of each risk is likely to change as we progress through LTP2. Further risks may be added, some may no longer be relevant.

TABLE 4.3 RISK ASSESSMENT FRAMEWORK

TARGET		RISK	CONSEQUENCES	LIKELI-HOOD	IMPACT	RI *	RANK **	RISK GROUP
M1	Accessibility target	Reorganisation of health care facilities	Worsened accessibility could affect target	3	4	12	🟠	External
		Cooperation from key partners poorer than anticipated	Worsened accessibility could affect target	2	3	6	🟢	Partnership
		Bus operators - reorganisation or removal of commercial bus services	Worsened accessibility could affect target	5	2	10	🟠	External
		Reduction in tendered services	Worsened accessibility could affect target	3	1	3	🟢	Partnership
M2	Bus punctuality	Unable to deliver bus priority schemes to timescale	More buses late - could affect progress toward target & increased patronage	3	2	6	🟢	Programme
		Bus operator performance + involvement + commitment poorer than anticipated	More buses late & cancelled - could affect progress toward target & increased patronage	4	4	16	🔴	External/ Partnership
		Radical strategy undelivered (bus strategy)	More buses late - could affect progress toward target & increased patronage	4	2	8	🟢	Programme
M3	Satisfaction with local bus services (BVPI 104)	Unable to deliver LTP2 P/T improvement schemes to programme timescale	Customer dissatisfied - affects target and lowers patronage	3	2	6	🟢	Programme
		Bus operator performance + involvement + commitment poorer than anticipated	Customer dissatisfied - affects target and lowers patronage	4	4	16	🔴	External/ Partnership
		Bus operators increase fares above inflation	No/lower growth in bus patronage - affects target	5	4	20	🔴	External
		Radical strategy undelivered	Customer dissatisfied - affects target and lowers patronage	4	2	8	🟢	Programme
		Rising expectations from customers	Customer dissatisfied - affects target and lowers patronage	4	2	8	🟢	External
M4	Cycling (annualised index of cycling trips)	Cycle infrastructure improvements not delivered on time	No growth in cycling target	2	4	8	🟢	Programme
		Monitoring methods unsuitable	No growth in cycling target	3	4	12	🟠	Monitoring
		Costs of alternative modes declines	No growth in cycling target	3	4	12	🟢	External

TARGET		RISK	CONSEQUENCES	LIKELI-HOOD	IMPACT	RI *	RANK **	RISK GROUP
M5	Average journey time per person mile on key routes	Economic and traffic growth exceed forecasts	Adds to delay and restricts growth in non car modes - target fails	2	5	**10**		External
		P/T patronage does not grow at expected rate	Adds to delay and restricts growth in non car modes - target fails	2	4	**8**		External
		Increased cost of bus use	Adds to delay and restricts growth in non car modes - target fails	5	3	**15**		External
		Car ownership costs decline	Adds to delay and restricts growth in non car modes - target fails	3	4	**12**		External
		Unable to deliver congestion elements of programme to timescale	Adds to delay and restricts growth in non car modes - target fails	2	4	**8**		Programme
		Monitoring methods unsuitable	Achievements under estimated or undetected - target fails	2	4	**8**		Monitoring
M6	Change in peak period traffic flows to urban centres	As M5 above						
M7	Mode share of journeys to school	No Target Set						
M8	Public transport patronage (BVPI 102)	Unable to deliver LTP2 P/T improvement schemes to programme timescale	No/lower growth in bus patronage - affects target	3	2	**6**		Programme
		Bus operator performance + involvement + commitment poorer than anticipated	No/lower growth in bus patronage - affects target	4	4	**16**		External/ Partnership
		Bus operators increase fares above inflation	No/lower growth in bus patronage - affects target	5	4	**20**		External
		Radical strategy undelivered (bus strategy)	No/lower growth in bus patronage - affects target	4	3	**12**		Programme
		Car ownership costs decline	No/lower growth in bus patronage - affects target	3	4	**12**		External
		Effect of free concessionary fares less than anticipated	No/lower growth in bus patronage - affects target	3	4	**12**		External

TARGET		RISK	CONSEQUENCES	LIKELI-HOOD	IMPACT	RI *	RANK **	RISK GROUP
M9	Total KSI casualties (BVPI 99)	Existing policy, initiatives and implementation less effective than anticipated	Fail to meet target	3	3	**9**	●	Programme
		Relaxation of efforts to control speed especially in residential areas	Fail to meet target	2	4	**8**	●	External
		Insufficient funding for speed cameras	Fail to meet target	3	3	**9**	●	External
		Increase in drink/drugged driving	Fail to meet target	3	3	**9**	●	External
M10	Child KSI casualties (BVPI 99)	As M9 above						
M11	Total slight casualties (BVPI 99)	As M9 above plus the added risk of increased car ownership	Fail to meet target	As M9 above				
M12	NO_2 annual average concentration in designated Air Quality Management Areas (AQMAs)	Unanticipated increases in traffic growth in urban areas and motorways	Fail to meet target	2	4	**8**	●	External
		Unpredictable weather patterns	Fail to meet target	3	3	**9**	●	External
M13	Change in area wide road traffic	Economic and traffic growth exceeds recent trends	Worsening road condition/ Fail to meet target	2	5	**10**	●	External
M14	Principal road network where maintenance work should be considered (BVPI 223, formerly BVPI 96)	Funding levels lower than planning guidelines	Worsening road condition/ Fail to meet target	3	4	**12**	●	Programme
M15	Non-principal road network where maintenance work should be considered (BVPI 224a, formerly BVPI 97a)	As above plus changes in condition survey methods	Worsening road condition/Fail to meet target	3	3	**9**	●	Programme/ Monitoring

TARGET		RISK	CONSEQUENCES	LIKELI-HOOD	IMPACT	RI *	RANK **	RISK GROUP
M16	Unclassified road network where structural maintenance should be considered (BVPI 224b, formerly BVPI97b)	As above	Worsening road condition/Fail to meet target	4	3	**12**	●	Programme/ Monitoring
M17	Footways where structural maintenance should be considered (BVPI 187)	As above	Worsening road condition/Fail to meet target	2	3	**6**	●	Programme/ Monitoring
L1	Satisfaction with LTP funded public transport facilities	Operational problems affect satisfaction with facilities	Customer dissatisfied - affects target and lowers patronage	3	1	**3**	●	External
		Rising expectations	Customer dissatisfied - affects target and lowers patronage	4	2	**8**	●	External
L2	Cycling trips to urban centres during the morning peak	As per M4						
L3	AM peak period mode split to urban centres	As per M5						
L4	Peak period rail patronage	Economic decline	Reduces rail patronage - target fails	2	4	**8**	●	External
		New rolling stock not provided	Increases customer dissatisfaction - reduces patronage - target fails	2	4	**8**	●	External
		Widespread service disruption	Increases customer dissatisfaction - reduces patronage - target fails	2	4	**8**	●	External

TARGET		RISK	CONSEQUENCES	LIKELI-HOOD	IMPACT	RI *	RANK **	RISK GROUP
L5	Patronage on QBC's	Unable to deliver LTP2 P/T improvement schemes to programme timescale	No/lower growth in bus patronage - affects target	3	5	**15**	🔴	Programme
		Bus operator performance + involvement + commitment poorer than anticipated	No/lower growth in bus patronage - affects target	3	4	**12**	🟠	External/ Partnership
		Bus operators increase fares above inflation	No/lower growth in bus patronage - affects target	5	4	**20**	🔴	External
		Radical strategy undelivered (bus strategy)	No/lower growth in bus patronage - affects target	4	2	**8**	🟢	Programme
		Car ownership costs decline	No/lower growth in bus patronage - affects target	3	3	**9**	🟢	External
		Effect of free concessionary fares less than anticipated	No/lower growth in bus patronage - affects target	3	4	**12**	🟠	External
L6	Number of pedestrians KSI in road traffic collisions	As per M9						
L7	Annual road traffic emissions of NOx across West Yorkshire principal road network	As per M12						
L8	Annual road traffic emissions of CO_2 across West Yorkshire principal road network	As per M12						
L9	Structures with weight and/or width restrictions.	Faster than anticipated decline in bridge/structure stock	Fail to meet target	2	4	**8**	🟢	External
		Reduction in anticipated level of spending	Fail to meet target	2	4	**8**	🟢	Programme
L10	The number of bus shelters that meet modern standards	Higher level of shelter relocations than anticipated	Fail to meet target also affects bus patronage	1	4	**4**	🟢	External/ Programme
		Co-ordinate with other programmes	Fail to meet target also affects bus patronage	2	2	**4**	🟢	Programme

* Risk Index

** Each risk was graded into a red, amber or green category, where red is the most significant risk item

MANAGING THE RISKS

The previous section set out a detailed risk assessment for each of our targets.

This chapter sets out the methods we will employ to manage the risks and improve performance overall.

KEY RISK MANAGEMENT TOOLS

Some areas of risk identified in the previous chapter will be in our direct control, in particular those associated with the delivery of the capital programme. Others risk groups, particularly when external factors are involved, may require more radical approaches and may mean that the Partnership needs to revisit its priorities and predicted outcomes.

In order to maintain a high level of performance we intend to continue with proven practices from LTP1 but also introduce an enhanced performance management framework.

Within this process are the tools for managing the risks we have identified in the previous chapter.

LEARNING FROM LTP1

Delivering the programme each year is essential to successful LTP2 outcomes. It is clear from the risk analysis process that there are a number of factors which could prevent us from successfully delivering our objectives.

The way in which programmes are managed by the Partnership has evolved greatly during the course of LTP1. A number of practices have proven very effective and will continue. These include:

- quarterly reviews of authority level programme delivery via the West Yorkshire Finance Monitoring Group;
- reallocation of resources between Partners to ensure that spend is maximised;
- the use of over-programming as a management tool, particularly in those programme areas where delays to schemes are common; and
- the use of framework contracts for consultants and contractors to cover for lack of resources particularly at peak times in scheme development and implementation.

PROCESSES FOR LTP2

To enhance the effectiveness of current practices an enhanced performance management framework has been agreed. The details are set out below.

ENHANCED PERFORMANCE MANAGEMENT FRAMEWORK

The framework will include assessments of:

- delivery against planned expenditure;
- delivery against planned schemes;
- progress towards targets; and
- delivery against policy.

Expenditure Monitoring

Each Partner produces their own annual spend profiles for their capital programmes. Progress against these will be reviewed at least quarterly to identify where spend is slower than anticipated against the forecasts. The reasons behind the divergence from the planned profile will be investigated. This will either result in an action plan to address the divergence or a potential re-allocation of funding.

Programme Delivery

At each reporting period, each Partner will review how delivery of actual schemes compares with that set out in the capital programme at the beginning of the year. This will identify key scheme slippage and would be used to assess the potential impact on achieving targets. This will inform the Partnership as to the likely impact of the slippage and whether further action needs to be taken to ensure targets are met.

Targets and Trajectories

The target monitoring information will be used to compile a detailed report each year summarising;

- progress against the target trajectories shown within the LTP document;
- if the target is failing, the action needed to bring the target back on track and the implications for the capital and revenue programmes;
- factors likely to influence future progress; and
- if there is the need to revise the target.

The report will be considered by senior officers within each Partner. A summary of key issues and recommended actions will be prepared and presented to the WYLTP Member Steering Group.

Whilst the review of targets is seen as an important part of the risk management process, the re-evaluation of the targets will ensure that individual targets will be stretched when monitoring indicates that the target level will be achieved earlier than indicated.

Advice from the Government Office will be sought at all stages.

The Use of ICT

Consideration is being given to ICT solutions to help collate and analyse data as well as provide a live central database that could be updated and viewed by the Partnership via a secure internet site. This would support and inform ongoing monitoring and regular assessment. The assessments would be used to inform action taken to address poor performance against specific targets.

DYNAMIC PROGRAMME MANAGEMENT

There will be an annual review of each part of the programme. Informed by the enhanced performance monitoring framework, the reviews will take into consideration specific local and external influences.

Reviews will be undertaken jointly by the Partnership and will take into account other policy areas such as economic development and land use planning. The key players will be the relevant Traffic Managers and UTMC staff as well as bus and rail operators. This broad range of involvement will ensure that the full range of policy levers can be addressed.

For those risk areas which are not directly programme related this process will be a key management tool allowing programmes to be reprioritised accordingly.

FUNDING FLEXIBILITIES

There are two objectives associated with greater funding flexibility:

- to maximise use of LTP funding and ensure 100% spend in any given year; and
- to reward good performance (in terms of delivery of schemes and policies).

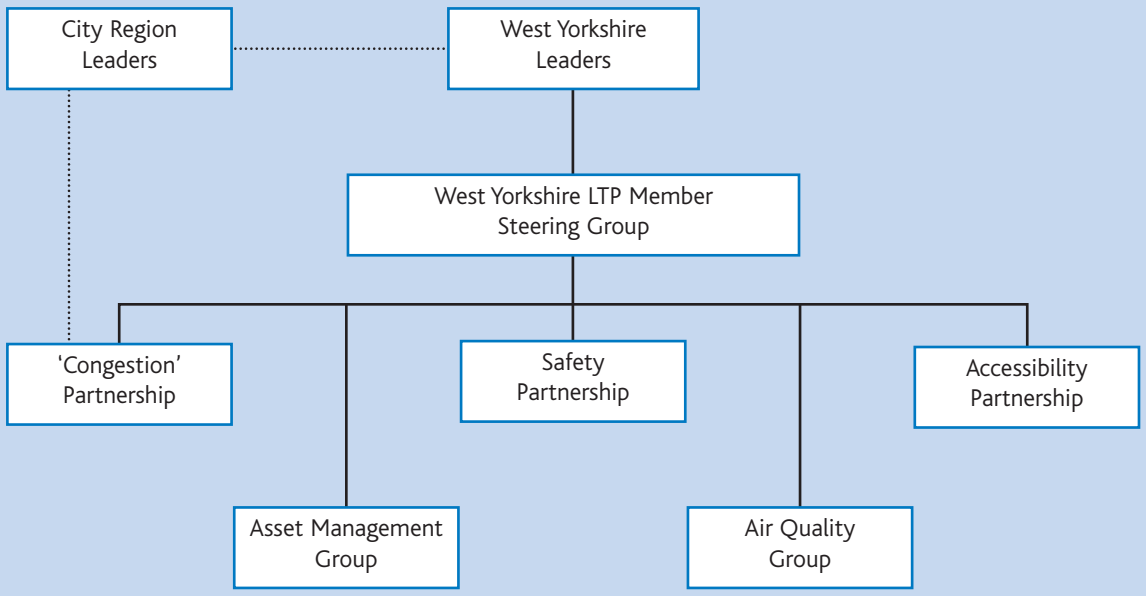
The Partnership has made good progress in delivering full spend against the capital programme during LTP1. However, it is important that a robust procedure is in place to incentivise continued good programme management. As such, each Autumn, the enhanced report of spend against the programme will be used to identify any authorities where an under-spend is likely to occur.

Where a high risk of under-spend is identified, a transfer of funding between authorities would take place to ensure we spending potential is maximised.

To incentivise good performance, it is proposed that any additional reward funding (above the indicative allocations) from Year 3 onwards of the LTP is directed towards those authorities who have performed the best.

The reward funding would also be directed towards areas of the programmes where key targets or outcomes were not on track.

FIGURE 4.7 - PROPOSED PARTNERSHIP ARRANGEMENTS



INDEPENDENT ADVICE

In order to ensure greater objectivity in the performance management process, it is proposed that there should be an independent 'reviewer' of performance data who can advise the Partnership of the best course of action to keep the LTP on track.

REVIEW OF SCHEME EFFECTIVENESS

The Partnership has already established a system to review the impact of selected schemes and to assess the benefits of individual measures. This is disseminated in the form of Impact Reports and through groups such as the West Yorkshire Road Safety Strategy Group.

By utilising up to date best practice we will be able to ensure that the schemes we choose to go into our programme can deliver the maximum outputs.

ALIGNING STRUCTURES AND RESPONSIBILITIES

NEW PARTNERSHIP ARRANGEMENTS

New partnership working arrangements will be developed around the shared priorities for transport. These groups will facilitate a greater degree of integration of wider stakeholder groups into the ongoing development and delivery of LTP2. The relationship of the proposed partnerships is shown in Figure 4.7.

The safer roads partnership will build on the successes of the West Yorkshire Casualty Reduction Partnership in LTP1. A new accessibility partnership will be established to oversee the development and implementation of area based action plans.

A new partnership will be established to oversee work to address the negative impact of congestion and support economic growth. The remit and membership of this partnership will reflect the wider economic growth/productivity and environmental agendas, (including the shared priority for air quality) that are associated with the LTP and will consider issues at a City Region level. The partnership will also oversee the development of a Transport Innovation Fund bid.

RISK OWNERSHIP

As part of the overall risk assessment process it is important that we understand who will be responsible for managing the risks. In our case we envisage the risks being managed at two levels:

- at an individual authority level; or
- as a Partnership.

Table 4.4 summarises where responsibilities will fall.

MANAGING THE KEY RISK AREAS

Whilst the measures outlined will be rolled out as an integral part of LTP2 we are aware that we can influence our outcomes in other ways.

We have already identified in the previous chapter the targets most at risk. Those targets categorised red are particular areas of concern. It is these areas that are already receiving additional attention and this will continue into LTP2.

Table 4.5 sets out the key targets and the measures being pursued in addition to the wider performance management approaches. Of particular note are the actions required to help us achieve our public transport targets, including:

- the commitment of operators to improve performance through the current form of partnership and voluntary agreements;
- the pro-active use of the RTPI system, by operators for better bus fleet management;
- participation by operators in WYTESA to improve driver retention, training and motivation; and
- the implementation of Performance Improvement Partnerships (PIPS).

A more detailed approach to tackling the risks identified for all target areas is set out in Appendix F.

TABLE 4.4 MANAGEMENT OF KEY RISK GROUPS

RISK MANAGEMENT GROUP (SEE TABLE 4.3)	RISK MANAGEMENT TOOLS/ACTIONS	LEVEL OF OWNERSHIP
General Risk Elements	■ Effective programme and performance management ■ Reviews of programme priorities ■ Scheme effectiveness ■ Target monitoring and review	Individual authority
External Risk	■ Reviews of programme priorities ■ Scheme effectiveness ■ Target monitoring and review	West Yorkshire Partnership
Partnership Risk	■ Reviews of programme priorities ■ Scheme effectiveness ■ Target monitoring and review	West Yorkshire Partnership
Programme Risk	■ Effective programme and performance management	Individual authority
Monitoring Risk	■ Target monitoring and review	West Yorkshire Partnership

TABLE 4.5 ADDITIONAL MANAGEMENT OF KEY RISK AREAS

TARGET	RISK INDEX	ADDITIONAL MEASURE/TOOL			
Accessibility - M1	🟡	Selection of tendered services (3-5 year process) linked to accessibility mapping process. This ensures that low accessibility areas become highlighted and targeted.			
Bus Punctuality - M2	🔴	PIP's	WYTESA	RTI	Implementation of the Bus Strategy
Bus Service Satisfaction - M3	🔴	PIP's	WYTESA	RTI	Implementation of the Bus Strategy
Cycling - M4	🟡	A broader set of sites to be monitored during LTP2 period. This will ensure that data is more robust and representative. Methodology set out in Appendix F and the Baseline data Report.			
Bus Patronage - M8	🔴	PIP's	WYTESA	RTI	Implementation of the Bus Strategy
Patronage on QBCs - L5	🔴	PIP's	WYTESA	RTI	Implementation of the Bus Strategy

ACHIEVING VALUE FOR MONEY

The Partnership will endeavour to make sensible and accountable use of public funding. Opportunities for greater efficiency will also be pursued in line with the 'Gershon Report' Releasing Resources for the Frontline: Independent Review of Public Sector Efficiency.

Value for money will be achieved through:

- efficient planning and delivery of schemes with focus on achieving shared priorities and LTP objectives;
- achieving added value through combining schemes, for example implementing integrated transport schemes as part of highway maintenance schemes;
- maximising capital investment through revenue and other sources of funding;
- working in partnership with other organisations to achieve wider benefits and additional match funding;
- benchmarking with other comparable authorities to tackle excessive costs and poor performance;
- providing what customers need;
- making more and better use of existing assets;
- making more effective use of technology to plan and manage improvements to the existing transport system rather than building new infrastructure wherever possible; and
- more emphasis on 'smarter choices' to win hearts and minds of people which will make it easier to implement controversial but essential proposals.

LEARNING FROM EXPERIENCE

'LESSONS LEARNED' FROM THE FIRST LTP

During the first LTP the Partnership delivered a wide range of measures to try and determine what works best and to give an indication of the scale of improvement that could be achieved by these measures elsewhere. In many cases, the outcomes have been measured in the form of 'before and after' impact reports and reported in our APRs. Appendix M shows a summary of these impact reports.

We have used the findings from these studies to influence the selection of measures in LTP2. The number and breadth of impact reports has provided particularly good information on measures that can work well in the area or road safety engineering measures. In this and other areas however, demonstrating causal links can be more difficult due to the number of external influences acting upon travel behaviour.

LEARNING FROM OTHERS

The Partnership has learnt from the experience of other authorities through the Centre of Excellence process. We have also shared our practices with other authorities, for example through the Beacon Council process.

USE OF RESOURCES

INTEGRATION

Combining integrated transport funded measures and highway maintenance funded measures in a holistic way gives value for money and is practised by all the district authorities, providing a package of benefits at a lower cost.

ROAD SAFETY

Great efforts are made to maximise value for money through sharing of best practice and joint working between the partner agencies.

In Bradford it has been estimated that it will take around 10 years to deliver the engineering side of speed management with current funding. It therefore becomes necessary to target police resources to address safety concerns and involve local people in anti-speeding initiatives.

Local safety schemes are approached in terms of the 'first year rate of return' to measure value for money in reducing road injuries. The HA is developing analysis techniques on trunk roads and motorways to use information on damage only collisions to identify risk; we intend to use the findings to improve our performance.

Road Safety ETP initiatives are subject to evaluation to make sure that they have reached the appropriate audience and have had the required impact.

ASSET MANAGEMENT

Efficient methods of working have been developed over a number of years and will continue to be improved.

The new TAMPs will bring better planned programmes of repair and renewal. These should ensure that maintenance is carried out at the most cost effective times in the life of an asset and give a better focused delivery and ensure value for money.

Whole life costing is gradually being introduced, though as this sometimes means higher initial costs for higher specification work progress is slow. Risk assessment of, for example, the likelihood of excavations by utilities, is part of the calculation of whole life costs.

The most cost effective approach to maintenance is to intervene with timely, low cost works just as a street is beginning to deteriorate. However, it is also necessary to address the backlog of streets which need significant work.

PUBLIC TRANSPORT REVENUE FUNDING

Part 3 "Strategy Delivery" showed how revenue expenditure on public transport was the biggest area of revenue expenditure. Our efforts to secure other sources of revenue funding were also discussed.

Achieving value for money from revenue funding is equally important.

Metro has worked constructively with the DfT on the Northern franchise review to explore ways in which in best value for money can be achieved from local rail services during LTP2 and beyond. Metro is also actively exploring new ways to generate additional revenue income from rail services during the course of LTP2.

Subsidised bus services and concessionary fares are the next biggest items of revenue expenditure. Regular reviews of tendered (non-commercial) bus services will continue to be undertaken on an area basis to ensure that the best outcomes are realised in the most economical way when re-tendering services. Usage criteria will continue to be applied to decide whether funding of services should continue, or commercial operation should be restored (for example some Sunday services).

The use of accessibility tools to review tendered services was described in Part 3 'Revenue Programme', along with the difficulty of re-specifying services to give even better value for money given the existence of residual historic service patterns operating commercially at other times. A potential solution is the more radical approach to bus service delivery being pursued by the Partnership (described in the Bus Strategy).

Expenditure on concessionary fares is expected to rise following the Government's 2005 budget announcement of free fares for older and disabled people. This increase is expected to be funded by Government grants to the district authorities. During LTP1, Metro maintained expenditure on concessionary fares at broadly similar levels. During LTP2, Metro will investigate efficiencies in the way concessionary fares reimbursement is calculated and administered to meet the requirements of the report Releasing Resources for the Frontline: Independent Review of Public Sector Efficiency.

Developer contributions towards the revenue costs of additional rail rolling stock, bus services, replacement bus shelters and additional RTPI on–street display units will continue to be sought during LTP2.

The opportunity will be taken, through the LDF process and the use of SPDs, to identify how developer contributions can be co-ordinated to complement and enhance the LTP2 revenue and capital programmes. In the meantime, guidelines for developers, land use planners and development control officers for the remainder of the UDP period are shown in Appendix L.

Additional external sources of revenue funding will also be investigated, for example, Metro bus shelters are being modified to include advertising panels, which will generate revenue income during LTP2.

COSTS

Costs of schemes are managed and controlled through our internal project management processes (See 'Managing the Risks')

OTHER ISSUES

Value for money is not just about finance it is also about things that cannot be measured in financial terms such as landscape, severance and physical fitness.

Table 4.6 gives an appraisal of the proposed Action Plan against a range of measures that are used in the DfT New Approach to Appraisal (NATA) process. This appraisal is a largely subjective analysis as it has not been possible to undertake a full NATA analysis because of the complexity of dealing with large numbers of very diverse schemes.

This appraisal is for the overall LTP2 strategy excluding the effect of major schemes (which will be assessed in their individual appraisals).

TABLE 4.6: APPRAISAL SUMMARY TABLE

OPTION		DESCRIPTION	PROBLEMS	PRESENT VALUE OF COSTS TO PUBLIC ACCOUNTS
Overall LTP2 Strategy (excluding major schemes)		Improvements to accessibility, congestion, safety, air quality and more effective asset management through packages of bus, cycling, walking, safety, traffic and demand management measures	Increasing traffic levels and congestion, public transport reliability, level of casualties and quality of infrastructure.	£286m capital - excluding majors £210m per year revenue
NATIONAL OBJECTIVE	**SUB-OBJECTIVE**	**QUALITATIVE IMPACTS**	**QUANTITATIVE ASSESSMENT**	**ASSESSMENT**
ENVIRONMENT	Noise	Constrained traffic growth (compared to do nothing) together with speed management and use of low noise surfacing will lead to noise reductions		Slightly beneficial
	Local Air Quality	Constrained traffic growth (compared to do-nothing) will lead to improved air quality	Reduction of 2,820 tonnes of NO_x per year by 2011	Beneficial
	Greenhouse Gases	Constrained traffic growth (compared to do-nothing) will lead to no reduction in greenhouse gas emissions despite a growing economy and traffic flows	No reduction of CO_2 emissions	Neutral
	Landscape	Few schemes will affect the landscape		Neutral
	Townscape	Schemes in town centres will facilitate townscape improvements but some transport infrastructure can detract		Slightly beneficial
	Heritage of Historic Resources	We would seek to protect the environment in conservation areas and around listed buildings.		Beneficial
	Biodiversity	Few if any schemes will affect biodiversity, may be slight benefits from 'Greenway' cycling schemes		Neutral
	Water Environment	Constrained traffic growth (compared to do nothing) and improved drainage may lead to slightly improved water environment through less water borne pollution		Slightly beneficial
	Physical Fitness	Pedestrian, cycling and travel awareness strategies encourage a healthier lifestyle with more cycling and walking		Slightly beneficial
	Journey Ambience	Better public transport - bus and rail station improvements, RTPI, shelters, etc. Improved cycling and walking facilities		Beneficial

NATIONAL OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT	ASSESSMENT
SAFETY	Accidents	Reduction in casualties through safety engineering measures and road safety ETP	Approx. 595 fewer people killed or seriously injured per year by 2010 compared to 1994-1998 average	Beneficial - Present Value of Benefits - to be estimated for final LTP2
	Security	Continued use of CCTV, improved street lighting and improvements to staffing at bus and rail stations will improve security		Beneficial
ECONOMY	Transport Economic Efficiency: Business Users & Transport Providers	Reduction in vehicle operating costs through bus priorities and reduced congestion Increases in car costs for some journeys from demand management measures (e.g. increased parking charges)		Beneficial
	Transport Economic Efficiency: Consumers	Significant improvements to bus journey times Improvements to journey times along cycle and pedestrian routes Reduction in vehicle operating costs through reduced congestion (compared to do-nothing) but increases in car costs for some journeys from demand management measures		Beneficial
	Reliability	Improved reliability of bus journey times particularly along quality corridors Reduced congestion (compared to do-nothing) will improve car and lorry journey time reliability		Beneficial
	Wider Economic Impacts	Strategy supports regeneration initiatives City and town centre proposals will assist the local economy		Beneficial
ACCESSIBILITY	Option values	Improvements to the available transport options for many areas particularly disadvantaged communities		Beneficial
	Severance	Improvements to pedestrian movements and reduction in traffic (compared to do-nothing) will tend to reduce severance		Slightly beneficial
	Access to the Transport System	Strategy includes significant initiatives to address social inclusion initiatives including a developing Accessibility Strategy		Beneficial

NATIONAL OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT	ASSESSMENT
INTEGRATION	Transport Interchange	Strategy includes significant improvements to interchange between all modes		Beneficial
	Land-Use Policy	Strategy supports and is supported by land use policies - UDPs, emerging LDFs and RSS through support for developments, parking standards, travel plans, etc		Beneficial
	Other Government Policies	Defra - improved access for rural communities DfES - improved access to schools and other education establishments DH - improved physical activity through cycling and walking Home Office - reduced crime through CCTV and other security measures DTI - assisting businesses through improved journey reliability and operating costs		Beneficial

ENVIRONMENTAL MANAGEMENT

INTRODUCTION

The effect on the environment of the LTP strategies and programmes is being taken seriously by the Partners. The Strategies and programmes have been developed so that the environmental effect is either beneficial or any negative impact is kept as small as possible.

An SEA has been undertaken and its findings have influenced the LTP as it has been developed.

STRATEGIC ENVIRONMENTAL ASSESSMENT

The European Directive 2001/42/EC (the 'SEA Directive') was transposed into UK law in July 2004 by means of The Environmental Assessment of Plans and Programmes Regulations.

The aim of the SEA is to assess the likely impact of strategic level plans and programmes on the environment and to inform decision-making throughout the development of the LTP2, ensuring that sustainable development is promoted throughout the process. Basic principles of SEA include:

- Promoting stakeholder participation through the consultation process, providing the opportunity for issues of concern beyond the main area of focus in the LTP to be considered throughout development of the Plan;
- To identify and focus on the main environmental constraints for implementation of the Plan;
- To identify and assess the best option for strategic action in terms of environmental performance;
- To minimise the negative effects of the Plan, optimise the positive impacts and compensate for any loss of valuable features/benefits;
- Ensure that actions resulting from the Plan do not incur irreversible damage to the environment, including consideration of cumulative and indirect impacts; and
- SEA is an iterative process that takes place during the development of the Plan, rather than a 'bolt-on' appraisal of the final draft.

Key stages in the SEA process include Scoping and the final Environmental Report.

Table 4.7 summarises the findings of the SEA. The findings indicate that there are further opportunities for environmental improvement. These will need to be investigated during the period of the LTP.

The SEA process and the findings are explained in more detail in Appendix K.







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