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APPENDICES CONTENTS

The following appendices are included to provide additional/ supporting material to that in the main body of the LTP:

In addition, the following supporting documents are available, bound separately:

- West Yorkshire Bus Strategy
- RailPlan 6
- Passenger Information Strategy
- Data Baseline Report

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APPENDIX A
REGIONAL AND LOCAL POLICIES

LINKS TO REGIONAL AND LOCAL POLICIES

Table A.1 gives the aims of the Yorkshire and Humber Regional Sustainable Development Framework

Table A.2 shows how the LTP2 objectives

- link to the DfT Shared Priorities;
- contribute to the long-term Community Vision for West Yorkshire; and
- contribute to the objectives of the RTS.

Table A.1: The 15 aims of the Yorkshire and Humber Regional Sustainable Development Framework

1.	Good quality employment opportunities available to all
2.	Conditions enabling business success, economic growth and investment
3.	Education and training opportunities building the skills and capacities of the population
4.	Safety and security for people and property
5.	Conditions and services engendering good health
6.	Culture, leisure and recreation opportunities available to all
7.	Vibrant communities participating in decision making
8.	Local needs met locally
9.	A transport network maximising access whilst minimising detrimental impacts
10.	A quality built environment and efficient land use patterns making good use of derelict sites, minimising travel and promoting balanced development
11.	Quality housing available to everyone
12.	A bio-diverse and attractive natural environment
13.	Minimal pollution levels
14.	Minimal greenhouse gas emissions and a managed response to the effects of climate change
15.	Prudent and efficient use of energy and natural resources with minimal production of waste

Table A.2: LTP2 Objectives and links to the long-term Community Vision for West Yorkshire and RTS Objectives

LTP2 objective	Long-term Community Vision for West Yorkshire	RTS objectives
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.	• Promote and regenerate local economies, ensuring continuing growth. • Care for and strengthen communities.	1. Supporting regeneration and economic growth and in particular facilitating development in the main urban areas and regeneration priority areas identified in the RSS 2. Assisting sustainable development 5. Improving access to opportunities in a manner that is equitable and socially inclusive 12. To be affordable and achievable in practical terms
Delivering Accessibility		
• **To improve access to jobs, education and other key services for everyone.** – To improve accessibility for those people, services and facilities which have poor accessibility. – To broaden travel horizons and access to information. – To encourage planning for accessibility.	• Promote and regenerate local economies, ensuring continuing growth. • Have access to jobs, and an improved quality of life • Care for and strengthen communities.	2. Assisting sustainable development 3. Reducing the need to travel, especially by car 5. Improving access to opportunities in a manner that is equitable and socially inclusive 6. Integrating the operation of different transport modes and promote modal shift away from the car 9. Maximising the use of more energy efficient modes of travel, including cycling and walking 12. To be affordable and achievable in practical terms

LTP2 objective	Long-term Community Vision for West Yorkshire	RTS objectives
Tackling Congestion		
• **To reduce delays to the movement of people and goods**. – 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	• Promote and regenerate local economies, ensuring continuing economic growth.	1. Supporting regeneration and economic growth and in particular facilitating development in the main urban areas and regeneration priority areas identified in the RSS 2. Assisting sustainable development 3. Reducing the need to travel, especially by car 4. Reducing the impact of traffic and travel on the environment 6. Integrating the operation of different transport modes and promote modal shift 9. Maximising the use of more energy efficient modes of travel, including cycling and walking away from the car 10. Assisting in the achievement of the government's local air quality targets 12. To be affordable and achievable in practical terms
Safer Roads		
• **To improve safety for all highway users.** – To reduce the number and severity of road casualties – To tackle problems facing vulnerable road users (including those in deprived areas)	• Be safer, healthier and to get help when in need. • Care for and strengthen communities	8. Improving safety 12. To be affordable and achievable in practical terms

LTP2 objective	Long-term Community Vision for West Yorkshire	RTS objectives
Better Air Quality		
• **To limit transport emissions of air pollutants, greenhouse gases and noise.** – To mitigate and adapt to the effects of climate change	• Transform and protect the local environment in a sustainable way.	3. Reducing the need to travel, especially by car 4. Reducing the impact of traffic and travel on the environment 6. Integrating the operation of different transport modes and promote modal shift away from the car 9. Maximising the use of more energy efficient modes of travel, including cycling and walking 10. Assisting in the achievement of the government's local air quality targets
Effective Asset Management		
• **To improve the condition of the transport infrastructure.** – 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		7. Making efficient use of transport resources 12. To be affordable and achievable in practical terms

APPENDIX B
CAPITAL EXPENDITURE SUMMARY TABLES

CAPITAL EXPENDITURE SUMMARY TABLES

Tables B1 to B7 summarise how the Capital Allocations for LTP2 from the DfT will be spent by each local authority.

These tables will be used as the basis for programme monitoring, and will form part of the assessment of the LTP progress carried out by the DfT.

Table B.1 gives an overall West Yorkshire summary. Tables B2 to B7 give information for each of the local authorities. More details are given in Part 3 of the LTP2 Document.

Tables B.8 to B.13 give details of schemes and groups of schemes costing less than £200k, funded from the LTP capital allocations, which are planned to be implemented by each local authority over the period of LTP2. These complement Tables 3.7 to 3.26 in Part 3 of the LTP2 document that show schemes costing over £200k

Table B.14 identifies those bridges and other structures on the Primary Route network that have been identified for strengthening. These structures are usually funded separately to the LTP Maintenance Capital block allocation.

Table B.15 identifies schemes on recently de-trunked roads that are eligible for separate funding from DfT.

APPENDIX B
CAPITAL EXPENDITURE SUMMARY TABLES

Table B.1: Summary Action Plan for West Yorkshire – LTP Capital Expenditure

Scheme Category	Planned Expenditure (£000s)					
	2006/07	2007/08	2008/09	2009/10	2010/11	Net Total
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.Rights of Way)	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**
Principal Roads	5,264	5,846	6,129	5,577	5,258	**28,074**
Non Principal Roads	3,528	3,556	3,728	3,573	3,672	**18,057**
Unclassified Roads	9,129	8,842	8,985	10,288	11,497	**48,741**
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**

Table B.2: Summary Action Plan for Bradford – LTP Capital Expenditure

Scheme Category	Planned Expenditure (£000s)					
	2006/07	2007/08	2008/09	2009/10	2010/11	Net Total
Bus Priority/HOV	175	150	150	174	600	**1,249**
Public Transport Interchanges	0	0	0	0	0	**0**
Park and ride	0	0	0	0	0	**0**
Bus infrastructure (exc. interchanges)	250	250	275	275	250	**1,300**
Cycling Schemes	285	200	200	400	150	**1,235**
Walking Schemes	375	250	285	285	318	**1,513**
Travel Plans	0	0	0	0	0	**0**
Local Safety Schemes	650	650	650	650	650	**3,250**
Safe Routes to Schools	250	250	250	250	250	**1,250**
Road crossings	150	150	150	150	150	**750**
Traffic Management and Traffic Calming	1,600	1,175	1,078	1,025	975	**5,853**
Local Road Schemes	0	450	750	890	1,090	**3,180**
Miscellaneous	703	618	593	593	593	**3,100**
Integrated Transport Total	**4,438**	**4,143**	**4,381**	**4,692**	**5,026**	**22,680**
Principal Roads	539	550	577	606	636	**2,908**
Non Principal Roads	310	316	332	349	366	**1,673**
Unclassified Roads	2,000	2,020	2,142	2,049	2,362	**10,573**
Bridge and wall strengthening and maintenance	2,256	2,320	2,416	2,730	2,663	**12,385**
Miscellaneous	82	84	88	98	97	**449**
Maintenance Total	**5,187**	**5,290**	**5,555**	**5,832**	**6,124**	**27,988**
Grand Total	**9,625**	**9,433**	**9,936**	**10,524**	**11,150**	**50,668**

APPENDIX B
CAPITAL EXPENDITURE SUMMARY TABLES

Table B.3: Summary Action Plan for Calderdale – LTP Capital Expenditure

Scheme Category	Planned Expenditure (£000s)					
	2006/07	2007/08	2008/09	2009/10	2010/11	Net Total
Bus Priority/HOV	265	122	132	105	116	**740**
Public Transport Interchanges	0	0	0	0	0	**0**
Park and Ride	0	0	0	0	0	**0**
Bus infrastructure (exc. interchanges)	298	224	267	154	168	**1,111**
Cycling Schemes	211	267	407	375	310	**1,570**
Walking Schemes	274	180	215	375	508	**1,552**
Travel Plans	25	27	31	31	35	**149**
Local Safety Schemes	250	250	250	250	175	**1,175**
Safe Routes to School	250	250	250	275	300	**1,325**
Road crossings	101	91	60	56	56	**364**
Traffic Management and Traffic Calming	585	516	319	459	572	**2,451**
Local Road Schemes	0	0	0	0	0	**0**
Miscellaneous	137	137	137	137	137	**685**
Integrated Transport Total	**2,396**	**2,064**	**2,068**	**2,217**	**2,377**	**11,122**
Principal Roads	980	980	980	1,030	1,070	**5,040**
Non Principal Roads	220	220	220	240	260	**1,160**
Unclassified Roads	1,330	1,330	1,330	1,450	1,540	**6,980**
Bridge and wall strengthening and maintenance	1,200	1,280	1,480	1,500	1,580	**7,040**
Miscellaneous	152	149	147	145	134	**727**
Maintenance Total	**3,882**	**3,959**	**4,157**	**4,365**	**4,584**	**20,947**
Grand Total	**6,278**	**6,023**	**6,225**	**6,582**	**6,961**	**32,069**

Table B.4: Summary Action Plan for Kirklees – LTP Capital Expenditure

Scheme Category	Planned Expenditure (£000s)					
	2006/07	2007/08	2008/09	2009/10	2010/11	Net Total
Bus Priority/HOV	259	140	189	224	243	**1,055**
Public Transport Interchanges	250	265	190	230	240	**1,175**
Park and Ride						
Bus infrastructure (exc. interchanges)	826	820	721	739	793	**3,899**
Cycling Schemes	237	230	240	250	262	**1,219**
Walking Schemes	200	200	200	210	220	**1,030**
Travel Plans	30	30	32	33	34	**159**
Local Safety Schemes	1,066	900	925	1,008	1,074	**4,973**
Safe Routes to School	200	200	190	190	190	**970**
Road crossings	100	50	100	130	160	**540**
Traffic Management and Traffic Calming	391	341	520	548	618	**2418**
Local Road Schemes	0	0	0	0	0	**0**
Miscellaneous	278	278	278	278	278	**1390**
Integrated Transport Total	**3,837**	**3,454**	**3,585**	**3,840**	**4,112**	**1,8828**
Principal Roads	1,164	800	800	800	800	**4,364**
Non Principal Roads	1,550	1,550	1,550	1,550	1,550	**7,750**
Unclassified Roads	1,454	1,935	1,935	1,935	1,935	**9,194**
Bridge and wall strengthening and maintenance	1,500	1,500	1,799	2,114	2,444	**9,357**
Miscellaneous (Street Lighting)	200	200	200	200	200	**1,000**
Maintenance Total	**5,868**	**5,985**	**6,284**	**6,599**	**6,929**	**31,665**
Grand Total	**9705**	**9439**	**9869**	**10439**	**11041**	**50493**

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CAPITAL EXPENDITURE SUMMARY TABLES

Table B.5: Summary Action Plan for Leeds – LTP Capital Expenditure

Scheme Category	Planned Expenditure (£000s)					
	2006/07	2007/08	2008/09	2009/10	2010/11	Net Total
Bus Priority/HOV	2,879	2,550	2,000	2,135	2,500	**12,064**
Public Transport Interchanges	50	400	151	328	390	**1,319**
Park and Ride						**0**
Bus infrastructure (exc. interchanges)	1,245	693	720	700	700	**4,058**
Cycling Schemes	107	393	450	500	556	**2,006**
Walking Schemes	50	207	550	550	450	**1,807**
Travel Plans						**0**
Local Safety Schemes	240	372	782	756	765	**2,915**
Safe Routes to School	100	100	100	100	100	**500**
Road crossings	170	232	700	700	765	**2,567**
Traffic Management and Traffic Calming	830	565	860	815	975	**3,645**
Local Road Schemes	200	290	193	500	500	**1,683**
Miscellaneous						**0**
Integrated Transport Total	**5,871**	**5,802**	**6,506**	**7,084**	**7,701**	**32,964**
Principal Roads	1,960	2,880	3,100	2,430	2,000	**12,370**
Non Principal Roads	350	350	450	200	200	**1,550**
Unclassified Roads	3,298	2,489	2,456	3,676	4,423	**16,342**
Bridge and wall strengthening and maintenance	2,978	3,038	3,189	3,349	3,516	**16,070**
Miscellaneous	50	52	54	56	58	**270**
Maintenance Total	**8,636**	**8,809**	**9,249**	**9,711**	**10,197**	**46,602**
Grand Total	**14,507**	**14,611**	**15,755**	**16,795**	**17,898**	**79,566**

Table B.6: Summary Action Plan for Wakefield – LTP Capital Expenditure

Scheme Category	Planned Expenditure (£000s)					
	2006/07	2007/08	2008/09	2009/10	2010/11	Net Total
Bus Priority/HOV	730	630	630	1,480	1,320	**4,790**
Public Transport Interchanges	0	0	0	0	0	**0**
Park and ride	0	20	0	0	0	**20**
Bus infrastructure (exc. interchanges)	317	562	738	60	283	**1,960**
Cycling Schemes	275	300	290	300	320	**1,485**
Walking Schemes	182	390	375	875	1,075	**2,897**
Travel Plans	60	60	75	75	75	**345**
Local Safety Schemes	600	125	750	175	0	**1,650**
Safe Routes to School	250	250	250	250	300	**1,300**
Road crossings	75	75	75	75	75	**375**
Traffic Management and Traffic Calming	490	573	410	490	438	**2,401**
Local Road Schemes	0	100	0	200	400	**700**
Miscellaneous	300	400	350	250	250	**1,550**
Integrated Transport Total	**3,279**	**3,485**	**3,943**	**4,230**	**4,536**	**19,473**
Principal Roads	621	636	672	711	752	**3,392**
Non Principal Roads	1,098	1,120	1,176	1,234	1,296	**5,924**
Unclassified Roads	1,047	1,068	1,122	1,178	1,237	**5,652**
Bridge and wall strengthening and maintenance	483	491	517	544	571	**2,606**
Miscellaneous	150	152	154	156	158	**770**
Maintenance Total	**3,399**	**3,467**	**3,641**	**3,823**	**4,014**	**18,344**
Grand Total	**6,678**	**6,952**	**7,584**	**8,053**	**8,550**	**37,817**

APPENDIX B
CAPITAL EXPENDITURE SUMMARY TABLES

Table B.7: Summary Action Plan for Metro – LTP Capital Expenditure

Scheme Category	Planned Expenditure (£000s)					
	2006/07	2007/08	2008/09	2009/10	2010/11	Net Total
Bus Priority/HOV						
Public Transport Interchanges	2,172	3,910	3,946	2,817	3,295	**16,140**
Park and ride		600		750	750	**2,100**
Bus infrastructure (exc. interchanges)	4,517	2,603	2,830	2,734	2,560	**15,244**
Cycling Schemes						
Walking Schemes						
Travel Plans						
Local Safety Schemes						
Safe Routes to School						
Road crossings						
Traffic Management and Traffic Calming						
Local Road Schemes						
Miscellaneous	1,981	1,085	2,002	3,155	3,574	**11,797**
Integrated Transport Total	**8,670**	**8,198**	**8,778**	**9,456**	**10,179**	**45,281**
Grand Total	**8,670**	**8,198**	**8,778**	**9,456**	**10,179**	**45,281**

Table B.8: Bradford district wide schemes and schemes costing less than £200,000

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Bus infrastructure - accessibility at bus stops, DDA compliant routes to bus stops etc	A1 ,A4, C1, AQ1	250	250	275	275	250	**1,300**	
Road crossings - signalled and un-signalled crossings	A1, C5, S1	150	150	150	150	150	**750**	
New and improved footways	A2, C5, S1, AQ1	100	100	100	100	100	**500**	
Rights of Way Improvement Plan	A1, A2, C5, S1, AQ1	100	100	135	135	150	**620**	
Mobility for All - measures for all sectors of community, with focus on those with mobility impairment	A1,C5	75	50	50	50	68	**293**	
Safer routes to schools	C5, S1, S4	250	250	250	250	250	**1,250**	
Casualty reduction programme	S1, S4	475	475	475	475	475	**2,375**	
Speed management	S1, S4	150	150	150	150	150	**750**	
Road safety education publicity and training	S1, S4	150	150	150	150	150	**750**	
20 mph Zones	S1, S4	25	25	25	25	25	**125**	
UTMC	C3, AQ1	250	250	250	250	275	**1,275**	
Traffic management/calming- local community support	A1, C3, S1, AQ1	375	375	375	375	375	**1,875**	
Minor safety schemes/ TROs – local community support	A1, C3, S1, AQ1	100	100	100	100	100	**500**	
Major Scheme development		160	125	100	100	100	**585**	
Performance management, monitoring and modelling		150	100	100	100	100	**550**	
Integrated Transport Miscellaneous		393	393	393	393	393	**1,965**	
Principal Roads	A2, C4, S1, M1	539	550	577	606	636	**2,908**	
Non Principal Roads	A2, C4, S1, M1	310	316	332	349	366	**1,673**	

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Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Unclassified Roads	A2, C4, S1, M1	2,000	2,020	2,142	2,049	2,362	**10,573**	
Bridge and wall strengthening and maintenance	A2, A3, S1, M2	1,356	1,240	1,646	2,505	2,508	**9,255**	
Maintenance Miscellaneous	AQ4	82	84	88	99	97	**449**	

Table B.9: Calderdale district wide schemes and schemes costing less than £200,000

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Minor Bus Priority Measures – on QBCs (ie Bradford-Brighouse-Huddersfield route)	A4, C1, C3, C4, AQ1	230	75	76	75	50	**506**	506
Minor Bus Infrastructure Schemes –accessibility at bus stops (DDA compliant), access to bus stop areas	A1, A4, C1, AQ1	275	144	196	88	69	**772**	772
District Centre Improvement Schemes – comprehensive package of measures to control and regulate parking, provide better bus and pedestrian access, and complement the treatment of bus stops to ensure DDA compliance on the bus corridors	A1, C3, S1, S4	0	100	350	200	250	**900**	900
District Wide Cycling Schemes – providing links to schools from NCN and local catchment areas	A1, A2, C5, S1, AQ1	33	11	50	25	50	**169**	169
New Cycling Route Schemes – creating a comprehensive network including promotion and publicity	A1, A2, C5, S1, AQ1	55	30	100	50	63	**298**	298
District Wide Cycling Schemes and Measures – secure parking, on-road facilities and lanes, and improved signing	A1, A2, C5, S1, AQ1	33	14	51	25	38	**161**	161
District Wide Walking Schemes –direct, safe and convenient routes to workplaces and public attractors, including DDA measures	A1, A2, C5, S1, AQ1	129	80	103	50	75	**437**	437
Safer Routes to School Schemes – providing convenient access from local catchment areas and measures to encourage car to walking/cycling modal shift	C5, S1, S4	250	250	250	250	175	**1,175**	1,175

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
New and Improved Road Crossing Facilities – providing for all types of signalled and un-signalled sites	A1, C5, S1	35	56	60	38	56	**245**	245
Travel Plans – support for sustainable travel to work schemes	C1,C2,AQ1	25	27	31	31	35	**149**	149
Local Safety Schemes – covering casualty reduction, speed management and road safety initiatives	S1, S4	250	250	250	275	300	**1,325**	1,325
Traffic Management Measures and Parking -congestion and parking control	A1, C3, S1, AQ1, AQ3	191	225	115	124	80	**735**	735
Integrated transport miscellaneous		137	137	137	137	137	**685**	685
Principal Roads - Minor Structural Maintenance of Carriageways	A2, C4, S1, M1	50	50	50	50	50	**250**	250
Principal Roads Minor Schemes	A2, C4, S1, M1	80	470	440	100	710	**1,800**	1,800
B & C Roads Minor Schemes	A2, C4, S1, M1	220	220	220	240	260	**1,160**	1,160
Unclassified Roads Schemes	A2, C4, S1, M1	440	440	440	470	490	**2,280**	2,280
Non Principal Roads Minor Structural Maintenance of Carriageways	A2, C4, S1, M1	100	100	100	100	100	**500**	500
Minor Structural Maintenance of Footways	A2, C4, S1, M1	400	400	400	450	480	**2,130**	2,130
Surface Treatment of Carriageways	A2, C4, S1, M1	120	120	120	140	160	**660**	660
Surface Dressing of Carriageways	A2, C4, S1, M1	270	270	270	290	310	**1,410**	1410
Condition Surveys and Assessment	A2, C4, S1, M1	52	49	47	55	54	**257**	257
Bridge and Wall Strengthening and Maintenance	A2, A3 ,S1, M2	250	985	1,125	965	1,360	**4,685**	4,685
Street Lighting Improvements	M5	100	100	100	100	100	**500**	500

APPENDIX B
CAPITAL EXPENDITURE SUMMARY TABLES

Table B.10: Kirklees district wide schemes and schemes costing less than £200,000

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Minor Bus Priority Measures	A4, C1, C3, C4, AQ1	90	140	189	224	243	**886**	886
Minor Public Transport Interchange Schemes	A4, C1, AQ1			190	230	240	**660**	660
Minor Bus infrastructure Schemes – includes accessible stops	A1, A4, C1, AQ1	556	270	100	310	400	**1,636**	1,636
Cycling Infrastructure – ASL/ Parking/ Lanes/ Signs	A1, A2 ,C5, S1, AQ1	27	60	60	60	72	**279**	279
District Wide Walking Schemes	A1, A2 ,C5, S1, AQ1	200	200	200	210	220	**1,030**	1,030
Pedestrian accessibility, mobility and neighbourhood paths	A1, A2, C5, S1, AQ1	30	30	32	33	34	**159**	159
Local Safety Schemes	S1 ,S4	1066	900	925	1,008	1,074	**4,973**	4,973
Road Crossings –signalled and un-signalled crossings	A1, C5, S1	100	50	100	130	160	**540**	540
Support for local communities	A1, S1, S4	100	100	90	90	90	**470**	470
Improving journeys to school	S1, S4	200	200	190	190	190	**970**	970
Traffic Management Schemes	A1, C3, S1, AQ1, AQ3	266	156	80	58	178	**738**	738
Miscellaneous – Minor Integrated Transport Schemes		278	278	278	278	278	**1,390**	1,390
Principal Road – General surfacing	A2, C4, S1, M1	125	125	125	125	125	**625**	625
Principal Road - Structural Patching	A2, C4, S1, M1	100	100	100	100	100	**500**	500
Principal Road Maintenance – Minor Schemes	A2, C4, S1, AQ4, M1	635	255	59	100	75	**1,124**	1,124
B6432 Colne Road -Reconstruction of carriageways and footways	A2, C4, S1, M1	160					**160**	160

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Surface Treatment on B & C Roads	A2, C4, S1, M1	120	120	120	120	120	**600**	600
Non Principal Roads – Structural Patching	A2 ,C4 ,S1, M1	120	120	120	120	120	**600**	600
Non Principal Roads – Drainage	AQ4, M1	200	200	200	200	200	**1,000**	1,000
Non-Principal Road Maintenance – Minor Schemes	A2, C4, S1, M1	755	1,105	1,110	1,110	1,110	**5,190**	5190
Unclassified Roads – Structural Patching	A2, C4, S1, M1	100	100	100	100	100	**500**	500
Unclassified Roads – Drainage	AQ4, M1	100	100	100	100	100	**500**	500
Unclassified Roads Maintenance – Minor Schemes	A2, C4, S1, M1	984	1,735	1,735	1,735	1,735	**7,924**	7,924
Bridge and Wall Strengthening and Maintenance	A2, A3, S1, M2	860	870	880	880	1,007	**4,497**	4,497
Street Lighting Replacement Strategy	M5	200	200	200	200	200	**1,000**	1,000

Table B.11: Leeds district wide schemes and schemes costing less than £200,000

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Bus Priority and Infrastructure								
Other Bus Infrastructure	A1, A4 ,C1, AQ1	295		400	700	700	**2,095**	
Further Bus Priority	A1, A4 ,C1, C3, AQ1	374			235	1300	**1,909**	
Public Transport Interchanges								
Further Public Transport Interchanges	A4, C1, AQ1			151	328	390	**869**	
Cycling								

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Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Cycle Network Improvements	A1, A2 ,C5, S1, AQ1		50	100	100		**250**	
Further Cycling	A1, A2, C5, S1, AQ1	107	343	350	400	556	**1,756**	
Local Safety Schemes								
Generated by Sites and Lengths for Concern	S1, S4	240	272	382	756	765	**2,415**	
Safe Routes to School	S1, S4	100	100	100	100	100	**500**	
Road Crossings								
Pedestrian Crossings Installation of Crossings as identified in annual review.	A1, C5, S1		200	500	500	765	**1,965**	
DDA Upgrade Tranche 8/9 - Programme of Crossing improvements to meet DDA requirements	A1 ,C5, S1	170	32	200	200		**602**	
Local Road Schemes								
Transport Policies and Programme 1 Allocation	C4, S1	200	290	193	500	500	**1,683**	
Traffic Management and Traffic calming								
UTMC Upgrade – Enhancement of the UTMC computer system	A1, C3, AQ3	180	100				**280**	
Further Traffic Management	A1, C3, S1, AQ1, AQ3			170	395	975	**1,540**	
Walking schemes								
Dropped Kerbs	A1, C5, AQ1		50	50	50	50	**200**	
Further Walking Schemes	A1, A2, C5, S1, AQ1	50	157			400	**607**	
Maintenance								
Principal Roads	A2, C4, S1, M1	240	240	240	240	240	**1,200**	

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Non Principal Roads	A2, C4, S1, M1	100	50	50	200	200	**600**	
Unclassified Roads	A2, C4, S1, M1	3,298	2,489	2,456	3,676	4,423	**16,342**	
Bridge and Wall Strengthening and Maintenance	A2, A3, S1, M2	2,408	2,688	1,939	1,599	976	**9,610**	
Miscellaneous		50	52	54	56	58	**270**	

Table B.12: Wakefield district wide schemes and schemes costing less than £200,000

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Bus Priority Schemes (excl. signalling)								
Busways/ bus lanes - Barnsley Road	A4, C1, C3, C4, AQ1			150			**150**	
Busways/ bus lanes - Horbury Road Broadway	A4, C1, C3, C4, AQ1	100					**100**	
Bus Interchanges								
Category C interchanges (6 sites)	A4, C1, AQ1	30	30	30			**90**	
Bus Infrastructure Schemes (excl. interchanges)								
Automatic Vehicle Location (AVL) priority at signals	A1, A4, C1, C3, AQ1	25	25	25	25		**100**	
Improvements to existing bus stops	A1, A4, C1, AQ1	200	300	350	250	250	**1,350**	
Community Transport + Accessibility Measures	A1, A4, C1	92	50	50	35	33	**260**	
Park and Ride								
Park and ride (bus/road related)	C1, C2, C3, AQ1		20				**20**	

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Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Cycling Schemes								
Cycling tracks	A1, A2 C5, S1, AQ1	226	255	265	275	295	**1,316**	
Cycle lanes	A1, A2, C5, S1, AQ1	24	20				**44**	
New cycle parking facilities	A1, C5, AQ1	25	25	25	25	25	**125**	
Walking Schemes								
New or improved footways (incl dropped crossings)	A1, C5, S1	62	150	75	75	75	**437**	
Other walking schemes (ROWIP)	A1, A2, C5, S1, AQ1	120	240	300	300	250	**1,210**	
Travel Plans								
Wakefield travel plan (Maintenance/supervision/upgrade)	C1, C2, AQ1	30	30	30	30	30	**150**	
School travel plans (support)	C1, C2, AQ1	30	30	45	45	45	**195**	
Local Safety Schemes								
Schools implementing safe routes scheme	S1, S4	250	250	250	250	300	**1,300**	
Junction improvements (2 sites)	S1, S4	100			175		**275**	
Road Crossings								
Toucan or puffin crossings (2/year)	A1, C5, S1	50	50	50	50	50	**250**	
Other un-signalled crossings (zebras/refuges)	A1, C5, S1	25	25	25	25	25	**125**	
Traffic Management and Traffic Calming								
Wakefield & Pontefract Centre car parks –VMS Parking Signing	C3, AQ1	50	150	100			**300**	
UTMC (in-stations)	A1, C3, AQ3	10	50				**60**	
Signalling/signal upgrading (outstations) BVPI 165	A1, C3, S1, AQ1, AQ3	50		75	40	208	**373**	

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Other traffic management schemes (5 per year)	A1, C3, S1, AQ1, AQ3	40	75	75	40	40	**270**	
Urban 20 mph Zones (2 or 3 per year)	S1, S4	40	40	60	60	40	**240**	
Quiet lanes	S1, S4			50			**50**	
General (5 per year)	A1, C3, S1, AQ1, AQ3	150	208	150	150	150	**808**	
Local Road Schemes (excluding trunk roads)								
Dewsbury Road/Broadway	C4,S1		100				**100**	
Miscellaneous		250	250	250	250	250	**1,250**	
Maintenance Block Schemes								
Principal Roads	A2, C4, S1, M1	621	636	672	711	752	**3,392**	
Non Principal Roads	A2, C4, S1, M1	1,098	1,120	1,176	1,234	1,296	**5,924**	
Unclassified Roads	A2, C4, S1, M1	1,047	1,068	1,122	1,178	1,237	**5,652**	
Bridge and Wall Strengthening and Maintenance	A2, A3, S1, M2	483	491	517	544	571	**2,606**	
Miscellaneous		150	152	154	156	158	**770**	

Table B.13: Metro's West Yorkshire wide schemes and schemes costing less than £200,000

Scheme 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 additional timetable cases across West Yorkshire	A6		200	400	250		**850**	850

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Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
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	1580	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	A4, 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	A4, 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

Scheme 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.	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

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Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Capital Salaries Funding of staff cost of employees developing and delivering capital programme schemes		350	350	350	350	350	**1,750**	1,750
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

STRUCTURES ON THE PRIMARY ROUTE NETWORK

The DfT provides separate funding for the strengthening and maintenance of structures on the Primary Route Network that are assessed as being unable to carry 40 tonne lorries. Table B.14 shows those structures that have been identified so far.

Table B.14: Primary Route structures

Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
Bradford								
A6177 Bradford Beck Phase 1, Bradford	M2	195	195	10			**400**	400
A6036 Odsal Edge Beams (Phase 2), Bradford	M2	50	450	10			**510**	510
A6036 Odsal Interchange Parapets (Phase 3), Bradford	M2	500	20				**520**	520
A6036 Odsal Subway Parapets (Phase 4), Bradford	M2		40	400	10		**450**	450
A6036 Odsal Footbridge Refurbishment (Phase 5), Bradford	M2	20	100	10			**130**	130
Primary Route Network Retaining walls, Bradford District	M2	10		20	300	300	**630**	630
Calderdale								
Burdock Way Parapets	M2	1633					**1633**	1633
Kings Cross Viaduct	M2		1325				**1325**	1325
Kirklees								
A638 Ashworth Road Bridge Dewsbury	M2	500					**500**	500
A629 Queensgate underpass, Huddersfield	M2	250					**250**	250
A629 Unna Way Tunnel, Huddersfield	M2	375					**375**	375
A629 Hudds Ring Road Parapet strengthening	M2	700	450				**1,150**	1,150
A644 Whitehall Way, Dewsbury Ring Road	M2	100	400				**500**	500
A642 Mining Museum Bridge, Grange Moor	M2	200	550				**750**	750
PRN Retaining walls - General	M2	250	250				**500**	500
Leeds								
A661 Wetherby Bridge Major Maintenance	M2		500				**500**	500

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Scheme Title and Description	Relevant Strategies	Expenditure (£000s)						
		2006/07	2007/08	2008/09	2009/10	2010/11	Net Total	Gross Total
A64(M) Inner Ring Road Retaining Walls Major Maintenance (Phase 3)	M2	600					**600**	600
A64(M) Inner Ring Road Retaining Walls Major Maintenance (Phase 4)	M2		600				**600**	600
A64(M Inner Ring Road Retaining Walls Major Maintenance (Phase 5)	M2			600			**600**	600
A6120 Calverley River Bridge Strengthening	M2					700	**700**	700
A6120 Calverley Canal Bridge Major Maintenance	M2					300	**300**	300
A58(M) Inner Ring Road Parapets Replacement (Phase 6)	M2	900					**900**	900
A58(M) Inner Ring Road Parapets Replacement (Phase 7)	M2		900				**900**	900
A58(M) Inner Ring Road Parapets Replacement (Phase 8)	M2			500	500		**1,000**	1,000
A61Crown Point Bridge Parapet Upgrading and Painting	M2	210					**210**	210
A64(M) North Street Tunnel Major Maintenance	M2				500	500	**1,000**	1,000
A64(M) Lovell Park Road Bridge Strengthening	M2				500	500	**1,000**	1,000
A58(M) West Street Tunnel Major Maintenance	M2			500			**500**	500
A64(M) New York Road Tunnel Major Maintenance	M2				400		**400**	400
A58 Wellington River Bridge Strengthening	M2				400		**400**	400
A58 Wellington Canal Bridge Strengthening	M2				150		**150**	150
A6110 Bangor Terrace Bridge Strengthening	M2					250	**250**	250
A 58 Clay Pit Lane Strengthening	M2			500	500		**1,000**	1,000
Wakefield								
None								

SCHEMES ON RECENTLY DE-TRUNKED ROADS

The DfT provides separate funding for schemes on recently de-trunked roads. Table B.15 shows those schemes that have been identified as requiring funding in 2006/07.

Table B.15: Schemes on de-trunked roads

Route and location	Description of works	Cost (£000s)	Issues
A646 Halifax Road, Hebden Bridge (Church Lane to Underbank Avenue)	Carriageway Resurfacing	290	The condition of the road surface has deteriorated badly since formal de-trunking and this section of A646 Halifax Road has been included in the draft capital reconstruction and resurfacing programme for 2006/2007, its condition having been assessed and prioritised against all other principal roads within Calderdale
A650 Drighlington By-Pass (B6135 Wakefield Road to B6125 Field Head Lane)	Re-kerbing and carriageway resurfacing incorporating vertical re-alignment.	210	This section of the former A650 Trunk Road, Drighlington Bypass is of overlaid continuous reinforced concrete construction and is constructed on the made ground of a former landfill facility. The kerbing and carriageway has undergone differential settlement resulting in excessive changes to longitudinal profile. The settlement is progressive and will soon become a hazard to road users. The proposed repairs to this road receive a high priority when its condition is assessed and prioritised against all of the other principal roads within Leeds.
A65 Addingham/Wharfedale Road (Roundabout at junction with A6034 to lay-by at north end of Addingham By-Pass)	Surface Dressing	25	This section is the only part of the Addingham By-Pass that has not had structural maintenance since it was built (believed to be approximately 20 years ago). It is now showing signs of advancing deterioration with initial loss of surface material and fine cracking (including in the wheel track) being apparent. Surface dressing during 2005/06 is expected to arrest the deterioration by sealing the surface against ingress of water and to prevent further erosion of the surface giving the road 5/7 years additional life If the deterioration is not arrested, resurfacing during the following 2/3 years may well be necessary. The proposed repairs to this road receive a high priority when its condition is assessed and prioritised against all of the other principal roads within Bradford.

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Route and location	Description of works	Cost (£000s)	Issues
A65 Church Street/Leeds Road, Ilkley. (Bolton Bridge Road to Castle Road)	Carriageway Resurfacing	80	This section of the road exhibits Major and Minor Cracking, Wheel Track Rutting and Surface Course failure including de-lamination of the surface and loss of surface chippings/surface material. In addition the Skid Resistant Surfacing on the Brook Street junction approach is also failing due in part to the lack of integrity of the underlying surface course. The proposed repairs to this road receive a high priority when its condition is assessed and prioritised against all of the other principal roads within Bradford.
A6120 Ring Road, Moortown. (King Lane to Tongue Lane)	Carriageway resurfacing	314	This section of the former A6120 Trunk Road, Ring Road Moortown is suffering severe chipping loss over the majority of its area with isolated structural failures. The resurfacing of the continuation of the Ring Road, between Tongue Lane and the A660, was in a similar condition and resurfaced as part of the hand-over in 2004. The proposed repairs to this road receive a high priority when its condition is assessed and prioritised against all of the other principal roads within Leeds.
A660 Otley Road, Adel (Kingsley Drive – New Adel Lane)	Carriageway resurfacing	154	This section of the former A660 Trunk Road, Otley Road has both structural and surface failures over 45% of its area, Temporary maintenance has been carried out, however more significant structural attention is needed before any significant surfacing can be undertaken, The proposed repairs to this road receive a high priority when its condition is assessed and prioritised against all of the other principal roads within Leeds.

APPENDIX C
ACCESSIBILITY STRATEGY

ACCESSIBILITY STRATEGY

CONTEXT FOR ACCESSIBILITY PLANNING

In February 2002, the SEU published its report *Making the Connections: Final Report on Transport and Social Exclusion* which demonstrated the importance of transport and accessibility to social inclusion.

The report concluded that the key barriers to accessibility were:

- location of services in inaccessible places;
- availability of transport to meet demand and the suitability of vehicles to meet the needs of users;
- cost of transport;
- information on travel options; and
- safety and security.

The report also set out a cross-Government strategy for reducing social exclusion by improving access to the services with the greatest impact on life opportunities:

- jobs;
- health care;
- learning; and
- food shops.

It anticipated joint action between Government departments (and their local delivery agencies) to improve public transport, introduce more innovative travel options or change the location and delivery of services that people need.

Who's doing Accessibility Planning and why?

The Government expects all transport authorities to incorporate the concept of Accessibility Planning into their LTPs, including setting local targets for assessing accessibility improvements. In doing so, local transport authorities have been given the responsibility for leading on Accessibility Planning. Within West Yorkshire, the development of LTP2, and an approach to Accessibility Planning, has been undertaken jointly by the Partnership authorities.

The development of the Accessibility Strategy has been informed by a process of awareness-raising, collation of local evidence and partnership working.

HOW THE LTP AND ACCESSIBILITY PLANNING FITS TOGETHER

LTP objectives aim to facilitate the delivery of wider goals for the economic, social and environmental well being of the West Yorkshire sub region and have been developed with full consideration of accessibility objectives.

'Delivering Accessibility' is one of the shared priorities in the LTP. Our objectives for delivering accessibility identified in the LTP are:

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

Other LTP Priorities

In addition to 'Delivering Accessibility', there are four other complementary key strands within the LTP:

- Tackling Congestion;
- Safer Roads;
- Air Quality and Vehicle Emissions; and
- Effective Asset Management.

Measures to address congestion, road safety, air quality and asset management will have a positive impact on accessibility, for example:

- the integration of land use planning and transport, will reduce the need to travel;
- better pedestrian and cycling facilities will create a more attractive local environment;
- physical accessibility will be improved by making bus stops and bus and rail stations more accessible;
- revenue funding will be used to maintain and develop public transport services, concessionary fare schemes, raise awareness of public transport, improve safety and security and improve information; and
- rail and bus services will be improved through our bus and rail strategies.

It is an intention that accessibility planning will, in the longer term, assist local decisions made about how LTP funding is targeted.

How accessibility planning fits with wider policy agendas

Improving accessibility to jobs and services helps meet the wider regional, sub-regional and local policy visions and objectives including:

- promoting social inclusion;
- economic regeneration;
- Welfare to Work;
- reducing health inequalities; and
- improving participation and attendance in education.

Accessibility planning is specifically being developed within the context of the community strategies across the five district authorities. The 'Calderdale Futures Plan' recognises that 'access to services (and facilities) is a major influence on the quality of life of people in Calderdale and can promote the inclusion of individuals and groups in the life of the wider community'. In Leeds, local accessibility issues are identified in the five District Partnership Area Action Plans which cover the whole of the city and are the local delivery plans for the implementation of the city's Regeneration Plan; the strategy to deliver the Narrowing the Gap priorities of the local strategic partnership.

The District Councils, as Planning Authorities, have begun the preparation of LDFs and accessibility planning is influencing the development of these documents through the criteria in the RSS and local engagement (including core strategies and other local development documents, area action plans and supplementary planning documents).

The Accessibility Strategy will assist stakeholders to meet their objectives but in order to do so successfully, the accessibility planning process relies on input and commitment from all sectors.

ACCESSIBILITY ISSUES AND CHALLENGES

We believe that there are four key challenges in West Yorkshire to be addressed by our LTP Accessibility Strategy. These are to:

- maintain the existing, already 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.

These challenges are made more difficult because West Yorkshire is a large and diverse area. Potential partners, service providers and stakeholders are numerous, they vary within each sector and between each district authority area.

The LTP highlights:

- the role of Leeds and Bradford city centres as major employment centres both now and in the future;
- more polycentric settlement patterns elsewhere (e.g. the 'Five Towns' and the 'Heavy Woollen Area');
- extensive rural areas in some district authorities;

The LTP refers to external trends, including:

- significant additional housing (mostly in infill areas);
- greater centralisation of facilities (for example health facilities in Wakefield); and
- new employment sites and new regeneration areas that make maintaining and improving accessibility a major challenge.

Accessibility planning takes place against a backdrop of changing economic, social and land use conditions.

Identifying issues and challenges by mapping

The DfT has developed mapping software 'Accession' to measure accessibility to key services. Accession and our own in-house software (PTAM) have been used to develop an initial picture of travel time accessibility to key services in West Yorkshire. For accuracy, 2001 Census data and population-weighted output area centroids have also been used.

The DfT has identified a number of national core indicators which measure travel time to jobs and key services. Our performance against the DfT's core indicators 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.
- 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.
- 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 super output area 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.
- 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.
- 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 the mapping shows that:

- 33% of the population in Calderdale is not within 30 minutes of a hospital by bus;
- 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 southeast Wakefield.

Additionally, a number of major employment sites across West Yorkshire have limited accessibility, an example being Aire Valley Leeds. Some initial steps have been taken through the introduction of a Metro Connect Service, and the relationship between transport and land-use will form a key part of the regeneration strategy.

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 intend to investigate the feasibility of incorporating journey cost into the mapping process.

The core indicators in LTP guidance 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;
- the nearest facility may not be the most suitable facility i.e. parents may place educational quality above ease of access;
- people with disabilities may consider the biggest barriers to accessibility to be physical obstacles; and
- consultation highlights cost and the cost of interchange journeys as a barrier.

Identifying accessibility issues through consultation

Accessibility issues have also been identified through LTP consultation, local stakeholder involvement and collation of local data and evidence. We have consulted with key partners and representatives of service user groups across the districts to identify 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.

Key accessibility issues

Consultation backed up by the accessibility mapping, and an analysis of the social, economic and demographic data for West Yorkshire has identified what we currently understand to be key strategic accessibility issues in West Yorkshire and issues which are more localised. The issues identified are not exhaustive:

General levels of accessibility:

- Despite fairly high levels of accessibility against the DfT's core indicators, LTP consultation identified lengthy travel times and 'difficulty getting to services and facilities' as two of the most important tasks for us to address in the LTP.

Land Use and Location of Services:

- The legacy of dispersed land use within West Yorkshire has resulted in out of town employment sites, leisure and shopping facilities which are difficult to access for non-car users.
- Historically, services have been centralised with little regard to accessibility and the ability of communities to access those services. Health services across West Yorkshire are being reconfigured; a need for accessibility information to contribute to this process has been identified.
- The promotion of 'choice' in the education and health sectors potentially conflicts with goals for improved accessibility.
- Rural deprivation is linked with isolation from jobs and services (e.g. former mining towns and villages in Wakefield and Leeds)
- Closure of local shopping and community services necessitates longer, more awkward journeys.

Public Transport:

- Access to shift work (specifically early morning and late evening shifts) when public transport services are less frequent or inexistent.
- Limited travel horizons within disadvantaged communities for travel to work and further education, and in some cases to health services.
- Differing standards of physical accessibility at rail stations and on trains.
- Cost of travel, generally but also in relation to specific groups of people such as job seekers and job starters, and also affecting access to healthcare appointments for older people who are given appointments outside the time when concessionary fares apply.
- Additional barriers to public transport use for older people, people with disabilities and people with learning difficulties.

Quality of Life:

- Greater access needs of disadvantaged groups such as older people, people with a disability.
- Inadequacy of pedestrian and cycle access to local services.
- Fear of crime and intimidation as a barrier to travel.
- Fear of road accidents and injuries.
- Poor health linked to physical inactivity.

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 this process.

Strategic West Yorkshire priorities

At a strategic level, a key long-term priority will be to embed accessibility in partners' approach to service delivery. The development of our mapping package will enable us to visually plot the accessibility implications of land use and location decisions. This tool will help us to encourage our partners to consider the accessibility implications of their organisational decisions.

It is also recognised that accessibility needs to be given full consideration in relation to our own policy development, for example inclusion of accessibility criteria in the review of public transport tendered services.

Accessibility planning is already influencing the development of LDFs across the district authority areas and will continue to influence this process.

District priorities

A range of district based issues have been prioritised following discussions with partners and use of mapping information.

Neighbourhood Renewal and other regeneration areas which cover the most disadvantaged communities have provided an opportunity for focusing initial investigations in some districts.

Access to primary health care has been identified by residents within peripheral Neighbourhood Renewal Fund (NRF) areas in Kirklees as an issue of particular concern. A joint survey of 35,000 households in NRF and other areas undertaken in 2005 identified specific NRF areas where perceptions of accessibility to primary care services was considered lower than average. Proposals to address this issue in partnership with the local Primary Care Trust are outlined in the Action Plan (see Table C.1).

The Aire Valley Leeds regeneration area is one of the most significant areas for new investment and employment in Leeds. Unemployment in the communities adjacent to Aire Valley Leeds is more than double the city average and transport is a recognised barrier to these new and existing opportunities. Poor access means that local people find it hard to travel to jobs in the area. Proposals to address this in partnership with the Aire Valley Employment Team are outlined in the Action Plan.

Neighbourhood Renewal Areas are also a priority area for further investigation in Bradford.

ACTION PLAN

An Action Plan has been put together to address strategic, countywide issues and local, district based issues. The Action Plan is not an exhaustive list of accessibility issues in West Yorkshire.

Over the period of LTP2, work with stakeholders will continue in order to identify additional priorities. For example, it is intended that the Local Strategic Partnership in Wakefield will confirm the accessibility priorities for the city, and the Environmental Well Being Partnership has already been engaged in this process.

The work that has been carried out to date has identified that there are areas which require more investigation in order to fully understand the nature of the problem. For example consultants have been commissioned to undertake a survey of rural accessibility needs in South Kirklees. Isolation from community services and social networks is a recognised problem which the consultants are investigating from the perspectives of both service providers and end users.

Delivery of the identified actions will require on-going partnership working. Where appropriate, further consultation with service users and community groups will take place in order to develop solutions.

Work will also take place with operators in reviewing networks and to encourage investment in modern, physically accessible vehicles.

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.

Table C.1: Action Plan

Issue	Location	Evidence	Partners	Proposed Actions	Responsibility	Funding source	Outcomes	Timescale/ Milestones	Indicator/ Target
Health									
NHS Trusts in West Yorkshire are reconfiguring acute services. At a strategic level, this represents a challenge to ensure that access to services is fully considered in this process.	West Yorkshire	Mapping of existing access levels, stakeholder consultation	NHS Trusts, West Yorkshire local authorities, local strategic partnerships	Influence location decisions through engagement with key stakeholders, provision of a sound evidence base, and development of detailed joint action plans. Ongoing travel planning activity with stakeholders.	West Yorkshire local authorities, Metro, NHS Acute Trusts		Improved access to health and social care services.	To be developed in line with individual reorganisation timescales	Indicator: Proportion of people within 30 minutes travel time by public transport of nearest hospital. Target: To ensure that 89.5% of households in West Yorkshire without access to a car are within 30 minutes of a hospital by public transport by 2011.
	Potential relocation of services from St. Lukes Hospital & Huddersfield Royal Infirmary to Halifax (outside of district)	Consultant's Report, Accession mapping & analysis, Dec 2005	Calderdale & Huddersfield NHS Trust, Kirklees Highways Service, Calderdale MBC, Metro	Inform NHS consultation exercise and service delivery decisions. Ongoing travel planning activity with stakeholders.	Calderdale & Huddersfield NHS Trust	Investigation: Kirklees Revenue	Improved access to health and social care services.	Commencing 2006/7	Indicator: Proportion of people within 30 minutes travel time by public transport of nearest hospital.

Issue	Location	Evidence	Partners	Proposed Actions	Responsibility	Funding source	Outcomes	Timescale/ Milestones	Indicator/ Target
Primary Care Trusts in West Yorkshire are reconfiguring primary care services. At a strategic level this represents a challenge to ensure that access to services is fully considered in this process.	West Yorkshire wide.	Awareness of existing issues arising from current reorganisation of services	Primary Care Trusts, West Yorkshire local authorities, local strategic partnerships	Influence location decisions through engagement with key stakeholders. Ongoing travel planning activity with stakeholders.	West Yorkshire local authorities,, Metro, NHS PCTs		Improved access to health and social care services.	Ongoing	
Perception of poor accessibility to local primary health services, & PCT programme of centralising service delivery in 'super centres' in main towns in North Kirklees	Peripheral Neighbourhood Renewal Areas in North Kirklees (Heavy Woollen area): Chickenley, Dewsbury South (Thornhill), Fieldhead, Windy Bank	Joint Kirklees & PCT 'Currently Living In Kirklees' ('CLIK') survey March 2005 of 35,000 households in NRF & other areas. PTAM & Accession mapping	North Kirklees PCT, Kirklees Neighbourhood Renewal, Kirklees Highways Service, Metro	Provision of hospital service & transport information to households. Ongoing travel planning activity with stakeholders.	West Yorkshire local authorities,, Metro, NHS PCTs	Revenue funding	Improved access to health and social care services.	Commencing 2006/7	
Real and perceived barriers to accessing health and social care services at the St George's centre, Middleton from South Leeds	Leeds	Mapping, discussions with local partners	South Leeds PCT, Metro, Leeds City Council	Improve provision and quality of travel information. Ongoing travel planning activity with stakeholders.	South Leeds PCT, Metro, Leeds City Council		Improved access to health and social care services.	Commencing 2006/7	

Issue	Location	Evidence	Partners	Proposed Actions	Responsibility	Funding source	Outcomes	Timescale/ Milestones	Indicator/ Target
Barriers to accessing health services on the periphery of Leeds city centre, specifically Leeds General Infirmary (LGI) and the Mount centre	Leeds	Mapping, feedback from stakeholders	Metro, LGI, The Mount	New city centre shuttle bus, providing a frequent, free service from the bus and rail stations and other city centre locations in order to expand accessibility catchments	Metro	Metro, with partnership contributions	Improved access to health services	Commencing 2006/7	Indicator: Proportion of people within 30 minutes travel time by public transport of nearest hospital.
Real and perceived barriers to accessing the expanding Eccleshill Health Campus for communities in North Bradford and parts of Leeds.	Bradford / Leeds	Mapping, local research and consultation with communities	North Bradford PCT, Metro	Improve provision and quality of travel information, investigate alternative travel options. Ongoing travel planning activity with stakeholders.	North Bradford PCT, Metro	Existing revenue resources, possible LTP capital for small infrastructure and possible revenue commitment from other partners (to be investigated).	Improved access to health and social care services.	Commencing 2006/7	
Bradford Royal Infirmary (BRI). Staff and patient records show high numbers travelling from Aire Valley/Baildon (data available) but long journey times with interchange.	Bradford	Mapping, feedback from stakeholders, staff and patient records (through travel planning activity).	Metro, BRI	Gather evidence and develop a business case for further approaches to operators, explore alternative solutions and funding opportunities.	Metro, BRI	To be identified through business case development		TBC	Indicator: Proportion of people within 30 minutes travel time by public transport of nearest hospital.

Issue	Location	Evidence	Partners	Proposed Actions	Responsibility	Funding source	Outcomes	Timescale/ Milestones	Indicator/ Target
Education									
Access to 16-19 education including special needs students	West Yorkshire	Consultation with Travel Plan contacts at Further Education Colleges	Metro, District Education Partnerships, Colleges, Connexions, Learning & Skills Council	Work with education partnerships to develop greater understanding of student travel needs and existing interventions. Review & develop student ticketing policies across West Yorkshire. Provision of transport information to prospective students. Improved information and marketing of ticketing options for students (Student Plus discounted ticket).	Metro	Existing revenue sources	Improved evidence base for decision making and future actions	Commencing 2006/07	

Issue	Location	Evidence	Partners	Proposed Actions	Responsibility	Funding source	Outcomes	Timescale/ Milestones	Indicator/ Target
Access to 16-19 education	North Kirklees (Heavy Woollen Area), Rural South Kirklees	Kirklees Learning Partnership 'Review of 14-19 Education 2003'. Melia Review of 14-19 Education & Training in North Kirklees 2004. Consultants study, Accession mapping & analysis, Dec 2005.	Kirklees Education Service, Kirklees Highways Service, Metro	Provision of transport information to prospective students. Improved information and marketing of ticketing options for students (Student Plus discounted ticket).	Kirklees Education Service	Kirklees Education Service, Kirklees LTP/ Revenue, Metro	Improved awareness of post 16 education services and transport options	Starting 2006/7	Investigate the feasibility of measuring improved awareness of post 16 education services and transport options.
Food Shops / Health									
Access to local shops & services	Littletown & Mill Bridge, Cleckheaton (North Kirklees)	Kirklees Highways Service commissioned study by Huddersfield University 0ct 05 - March 06 undertaking audit of shopping services, walking routes & consultation exercise	Spen Local Area Committee, Huddersfield University, Kirklees Environment Unit, Kirklees Highways, Kirklees Culture & Leisure Service, North Kirklees PCT	Maps of services & walking routes distributed to households, Possible pedestrian signing & infrastructure improvements	Kirklees Highways	Spen Local Area Committee, Kirklees Highways LTP	Support viability of local shopping centre & encourage walking	Commencing 2006/7	

Issue	Location	Evidence	Partners	Proposed Actions	Responsibility	Funding source	Outcomes	Timescale/ Milestones	Indicator/ Target
General									
Pedestrian access to local shops & services for residents in Ovenden	Ovenden (Neighbourhood Management Pathfinder area)	Local data and consultation. 'Access to services' is a key theme of the pathfinder programme.	Ovenden Initiative, CMBC Transportation	Pilots - pedestrian audits/access improvements. Address barriers to walking.	Ovenden Initiative, CMBC Transportation	CMBC Revenue / LTP Capital, Ovenden Initiative	Improved access to local services	2006/7	Under development.
Older People									
Barriers to public transport use contributing to social isolation amongst older people. Availability, reliability, cost, customer service, physical barriers.	West Yorkshire	Local consultation with older people and service providers. Local research e.g. Driven report.	Metro, bus operators, district councils, West Yorkshire Community Transport Forum	Bus strategy interventions, including delivery of a more accessible network, consideration of the role of demand responsive and community transport, improving physical accessibility to the network, improving the customer/driver interface. Review of Accessbus. Community transport capacity building project (subject to funding).	Metro, bus operators, local service providers	LTP, Yorkshire Forward (Community transport capacity building)	Improved satisfaction of public transport for older people.	Commencing 2006/7	We will use the target L2, and indicator LTP5 to monitor success in this area.

Issue	Location	Evidence	Partners	Proposed Actions	Responsibility	Funding source	Outcomes	Timescale/ Milestones	Indicator/ Target
Rural areas									
Access to local services from rural communities	West Yorkshire	Accessibility mapping and local evidence.	West Yorkshire Rural Transport Partnership Forum	Ongoing provision and development of rural transport services and Taxibus services. Ongoing use of accessibility mapping, community and stakeholder consultation to identify accessibility gaps, interventions and funding sources. Rural interchange projects, shopmobility, Wheels to Work, rural car clubs (subject to YF funding).	Metro, West Yorkshire Rural Transport Partnership Forum.	RBCC. RTP Delegated fund 2006/7 (TBC). Rural Bus Service Grant (until 2008). Yorkshire Forward	Improved access to local services and facilities for residents of rural areas.	Ongoing	Under development.
	Rural South Kirklees	Kirklees Highways Service commissioned survey of service providers & users undertaken Jan 06, to identify & prioritise needs	Denby Dale Centre, Kirklees Highways, Kirklees Rural Transport Partnership, Metro	Funding bid to Yorkshire Forward for Voluntary Community minibus service	Denby Dale Centre	Investigation: Kirklees Highways LTP/Revenue Delivery: Local Area Committees, Yorkshire Forward	Assistance in providing local community bus services	TBC	Under development.

Issue	Location	Evidence	Partners	Proposed Actions	Responsibility	Funding source	Outcomes	Timescale/ Milestones	Indicator/ Target
Mobility									
Access and acceptability of public transport for people with disabilities and learning difficulties. Physical accessibility of infrastructure and vehicles, driver attitudes.	West Yorkshire	Local consultation with people with disabilities and learning difficulties and service providers. Local research e.g. People in Action My travel project report, Driven report.	Metro, bus operators, district councils	Bus strategy interventions, including delivery of a more accessible network, consideration of the role of demand responsive and community transport, improving physical accessibility to the network, improving the customer/driver interface. Review of Accessbus. Information provision.	Metro, bus operators, West Yorkshire Community Transport Forum, local service providers e.g. People in Action	WYTESA, LTP2 Capital Programme	Increase in the number of drivers trained and improved customer satisfaction	Commencing 2006/7	Under development.
Employment									
Community severance and poor pedestrian access for communities on the periphery of the city centre creating barriers to employment.	Leeds	Evidence of community severance in Leeds. Mapping of access times on foot. Discussions with local partners.	Leeds City Council, Jobcentre Plus.	Package of measures for pedestrian improvements. Provision of training and information for local jobseekers.	Leeds, Jobcentre Plus	LTP2 Capital Programme	Reduced levels of economic inactivity.	Commencing 2008/9	We will set a target to increase the proportion of households adjacent to the city centre which are within a 20-minute walk of the centre.

Issue	Location	Evidence	Partners	Proposed Actions	Responsibility	Funding source	Outcomes	Timescale/ Milestones	Indicator/ Target
Poor access to employment in Aire Valley Leeds regeneration area for local communities.	Leeds	Aire Valley Leeds Employment Team, including evidence from local employers.	Aire Valley Leeds Employment Team (Jobcentre Plus and Leeds Jobs and Training).	Identify accessibility issues affecting local communities. Use of mapping to identify local catchment areas. Identify skills shortages. Provide training and information for local jobseekers. Inform refinement of Transport Strategy.	Leeds, Aire Valley Employment Team, Metro	TBC	Reduced levels of economic inactivity.	Commencing 2006/7	Over the course of LTP2 we intend to set a target to reduce levels of economic inactivity in wards adjacent to the Aire Valley area
Limited public transport to employment sites located near motorways and major new development areas.	West Yorkshire	Invest Connect Enhance (ICE) new routes to employment, study, mapping, discussions with local partners.	Under development.	Ongoing role of travel plan activity, influencing DC and land use planning.	Metro	Use of section 106 to secure developer funds, Kickstart bids	Improved access to jobs.	TBC	We are unable to set a target as funding has not yet been secured for substantial actions.
Limited travel horizons, travel cost barriers for job seekers	West Yorkshire	Local consultation with job seekers and Jobcentre Plus, Connexions report, national research.	Jobcentre Plus, West Yorkshire West Yorkshire local authorities,, Metro	West Yorkshire Travel for Work Partnership Project: information and ticketing interventions	Metro, Jobcentre Plus	Yorkshire Forward Sub Regional Investment Plan (to be approved)	Improved access to jobs.	Commencing 2006/9	Under development.

MEASURING OUR SUCCESS

Targets

We recognise the importance of setting outcome based targets to deliver accessibility improvements. Our 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 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.

Our 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%.

As specified in our Action Plan partnership working with the health authorities aims to ensure 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 E.

DEVELOPING ACCESSIBILITY PLANNING PARTNERSHIPS

The development of a strong, committed relationship with partners is a key objective within the accessibility planning process. Although the process is being taken forward by the transport sector, successful implementation will require that partners take an active role in developing and delivering solutions. This may include making changes to the way that services are delivered.

At a strategic level, the development and delivery of accessibility planning is being reported through and aligned with the Transport theme group of the WYEP. This relationship aims to achieve high-level recognition and buy in to the accessibility planning process in West Yorkshire.

Early development of partnership working involved engaging with stakeholders at a West Yorkshire level. In order to further develop the accessibility planning process partners have also been engaged at a local district level.

Stakeholder engagement to date has aimed to raise awareness of accessibility planning and identify accessibility issues at a strategic and local level. This has involved:

- an internal seminar for land use planning officers;
- two initial awareness raising accessibility planning seminars in West Yorkshire, giving examples of best practice and local case studies. Over 100 stakeholders from across West Yorkshire attended the events, representing key organisations such as Jobcentre Plus, Primary Care Trusts, NHS Trusts, Planning authorities, education transport and regeneration partnerships. These events highlighted to partners the benefits of involvement in the process;
- circulation of the outline accessibility strategy to stakeholders across West Yorkshire;

- consultation with stakeholders and public sector partners on accessibility issues which has raised the profile of accessibility planning; and
- the organisation of two national Beacon Conferences on accessibility planning. These conferences were designed to facilitate information sharing between practitioners and were very well received.

Stakeholders have formally supported the development and delivery of accessibility planning and letters of commitment have been received from the partners shown in Table C.2.

Table C.3 sets out our approach to engaging with stakeholders. The engagement plan is a 'living' document, which will be referred to on a regular basis and will be updated according to developments in the accessibility planning process.

Table C.2 List of organisations committed to supporting accessibility planning

Organisation	Location/Coverage
Calderdale PCT	Calderdale
Eastern Wakefield PCT	Wakefield
Education Leeds	Leeds
Job Centre Plus	Wakefield
Job Centre Plus	Huddersfield
Learning and Skills Council West Yorkshire	West Yorkshire
Leeds Mental Health NHS Trust	Leeds
North Bradford PCT	Bradford
North Kirklees PCT	Kirklees
The Mid Yorkshire Hospitals NHS Trust	Wakefield
Wakefield Local Education Authority	Wakefield
West Yorkshire Strategic Health Authority	West Yorkshire
Yorkshire Forward	Yorkshire

Table C.3 Stakeholder engagement plan

Stage of Accessibility Planning	Purpose of stakeholder involvement	Stakeholder Organisations	Methodology	Timescales	Responsibility	Completed
Stage 1: Strategic Accessibility Assessment and development of outline Accessibility Strategy	Making stakeholders aware of Accessibility Planning. Seek early feedback from partners on their perceptions of accessibility issues within their service areas. Kick start the partnership process and identify practical mechanisms for taking the accessibility planning process forward in West Yorkshire. Inform the development of the outline accessibility strategy.	Yorkshire Forward LSPs Strategic Health Authority JobCentre Plus Primary Care Trusts Acute Trusts Mental Health Trusts Ambulance Trust Health inequalities partnerships Learning and Skills Council Learning Partnerships Colleges Local authorities: Planning services Education services Neighbourhood Renewal Economic development Social services Leisure services	Accessibility planning seminars and workshops. Attended by over 100 delegates.	April 2005	Metro and the five West Yorkshire district authorities	✓

Stage of Accessibility Planning	Purpose of stakeholder involvement	Stakeholder Organisations	Methodology	Timescales	Responsibility	Completed
	Provide stakeholders with an opportunity to support the outline accessibility strategy and demonstrate their commitment to the accessibility planning process.	Key stakeholders from the above list.	Letter requesting statements of support from stakeholders.	May 2005	Metro	✓
	Feed back to stakeholders following the accessibility planning seminars held in April. Feedback from stakeholders at the events has been incorporated into the outline strategy.	All stakeholders who attended or were invited to the seminars.	Outline strategy to be circulated by post/e-mail.	July 2005	Metro and the five West Yorkshire district authorities	✓

Stage of Accessibility Planning	Purpose of stakeholder involvement	Stakeholder Organisations	Methodology	Timescales	Responsibility	Completed
Stage 2: Local Accessibility Assessments	Inform the development of Full Accessibility Strategy. Strengthen stakeholder involvement. Issue identification. Data and evidence gathering. Prioritisation of areas, groups and issues for further action. Development of local indicators.	Checklist of essential stakeholders to be developed for use in each district authority. LSPs should play a key role. Should include service user/interest groups as well as service providers.	Toolkit to be developed for use in each district authority. Activity to include: presentations at and feedback from LSPs, meetings with individual organisations, seminars and workshops with thematic and/or geographic focus, telephone discussions, and use of pro-formas for issue identification.	June 2005 – December 2005	To be led by individual district authority within their areas, with support from Metro; with active involvement of stakeholders.	✓
Stage 3: Option appraisal and identification of Resources and **Stage 4:** Accessibility plan preparation	Inform the development of Full Accessibility Strategy. Identifying locally appropriate actions to tackle identified accessibility priorities. Develop local action plans.	As above.	Toolkit to be developed for use in each district authority. Activity to include workshops, discussions, meetings, mail out for partners to ratify the outcomes.	October 05 – March 2006 and onwards	To be led by individual district authority within their areas, with support from Metro; with active involvement of stakeholders	

Stage of Accessibility Planning	Purpose of stakeholder involvement	Stakeholder Organisations	Methodology	Timescales	Responsibility	Completed
Final strategy sign off	Stakeholder ratification of and sign up to the full accessibility strategy.	As above.	Draft full strategy to be circulated by post/e-mail, at partnership meetings and events. Stakeholders to be informed of mechanisms for providing feedback on the strategy.	January 2006 – February 2006	The Partnership	
Stage 5: Performance monitoring and evaluation	Action plan implementation Establishing indicators, targets and monitoring frameworks.	As above.	Development of work stream partnerships to take forward local action plans	February 2006 - 2011	To be led by the most appropriate partner, either district authority, Metro or other stakeholders.	

MOVING FORWARD

The wide range of issues identified within this strategy is not exhaustive, and it is recognised that issue identification through mapping, consultation and stakeholder engagement will be an iterative process. The process to date has already identified a number of areas which require further investigation, such as accessibility issues in Neighbourhood Renewal areas in Bradford.

Throughout the period of LTP2 we will continue to engage with stakeholders to identify and address other issues and ultimately to embed the principles of accessibility planning into the way services are developed and delivered.

Through the development and delivery of joint actions identified within our Action Plan we will develop best practice to inform the development of future actions.

The Action Plan will be updated annually to reflect progress in delivering against existing issues, and the ongoing identification of new areas of work. Progress made on delivering improved accessibility will be reported in the APR.

APPENDIX D
AIR QUALITY AND VEHICLE EMISSIONS

AIR QUALITY AND VEHICLE EMISSIONS

INTRODUCTION

This appendix contains further information on the effects of air quality and the long term trends in the levels of pollutants.

In addition it contains a summary of the AQAP for the Leeds AQMA.

THE HEALTH EFFECTS OF AIR POLLUTANTS

Air pollution can seriously affect the health of people living in urban and sometimes rural areas.

Short-term high pollution episodes can trigger acute health related problems to vulnerable people suffering from cardio-vascular or respiratory diseases. Scientific evidence suggests that long-term exposure to air pollution can cause chronic effects on health that can lead to premature death. Source: Committee on the Medical Effects of Air Pollutants (COMEAP).

Primary road transport pollutants such as nitrogen dioxide (NO_2) and fine particles can cause both acute and chronic health effects on vulnerable members of the population. It is therefore important that the LTP2 can provide measures to help reduce emissions of these pollutants.

The West Yorkshire Transport and Health Group estimated in 2001 (based on national statistics from the COMEAP) that transport related premature deaths from air pollution in West Yorkshire could be as high as 457 premature deaths each year. Stress and anxiety are also secondary health impacts arising from the effects of air pollution. There is evidence that certain groups in the population are more affected (women, older citizens, and people suffering from respiratory or coronary illnesses).

TRENDS IN URBAN AIR QUALITY

Since the introduction of the National Clean Air Acts in the late 1950s there has been a general improvement in the standard of air quality in West Yorkshire. The improvement is mainly attributable to changes in the types of industry that dominate in the region, anti-pollution legislation and a switch away from coal and oil towards much cleaner fuels.

Since the more visible types of pollution have declined, other types of pollution have become more prevalent. Road transport emissions are now the major source of urban air pollution in West Yorkshire. The following types of emissions have been contributing to poor air quality in some areas:

- Nitrogen Dioxide ($NO_{2)}$;
- Particulate Matter (e.g. PM_{10});
- Carbon Monoxide (CO);
- Lead (Pb); and
- Sulphur Dioxide (SO_2) ;

As car ownership and total distance travelled have continued to grow over time, there has been an accompanying increase in emissions, particularly around areas of traffic congestion.

The levels of emissions are now lower than was previously the case. However, the adverse health effects that they have, even at lower levels, will continue to make the reduction of them in West Yorkshire one of the main priorities.

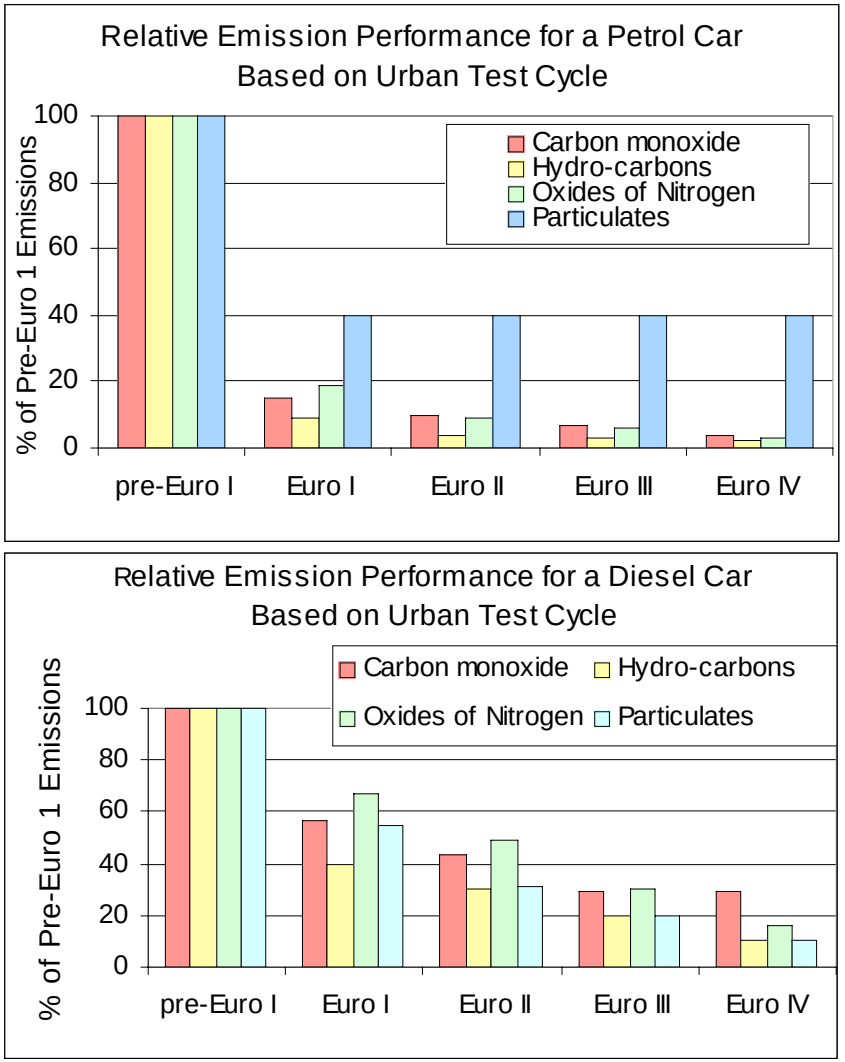
APPENDIX D
AIR QUALITY AND VEHICLE EMISSIONS

The impact of the Euro Standards on transport emission reduction

A series of European Commission (EC) Directives were developed in the 1980s that have helped mitigate increases in road transport emissions. Fuel quality standards were introduced to reduce Pb, benzene and sulphur contents of both petrol and diesel. Great benefits were subsequently achieved in terms of reduced exhaust emissions of Pb and carbon particulate matter, hydrocarbons and SO_2.

Additional legislation was introduced to stringently regulate emissions for different categories of vehicle types. These became known as the 'Euro' Emission Standards. The Euro I emissions standard for new petrol cars was introduced in 1993. This standard made vehicle manufacturers incorporate 3-way catalytic converters, which were able to reduce tailpipe emissions of NO_x, CO and hydrocarbons by up to 90% compared to Pre-Euro I vehicles. The introduction of subsequent Euro Standards have continued to improve the emission performance of new vehicle engines (see figure D.1).

Figure D.1 Changes in Car Exhaust Emissions with the Euro



Standards for Petrol and Diesel Engines

TRENDS IN URBAN WEST YORKSHIRE

In response to the Euro Standards, urban air quality has steadily improved nationally since the early 1990s. However, in recent years this improving trend is showing signs of becoming more variable. The figures D.2 and D.3 summarise the results of air quality monitoring in West Yorkshire urban areas since 1998. The broken horizontal lines here represent the NO_2 and PM_{10} annual average air quality standards that should be met by the end of 2004 (PM_{10}) and 2005 (NO_2).

The following factors all play an important role in controlling our urban air quality:

- growth in transport movements;
- the peak period lasting longer and associated congestion;
- atmospheric chemistry and effects on NO_2 emissions;
- the prevailing weather conditions and climate change; and
- the shape of the urban and rural landscape.

Figure D.2 West Yorkshire Annual Average PM_{10} Monitoring – Summary Data

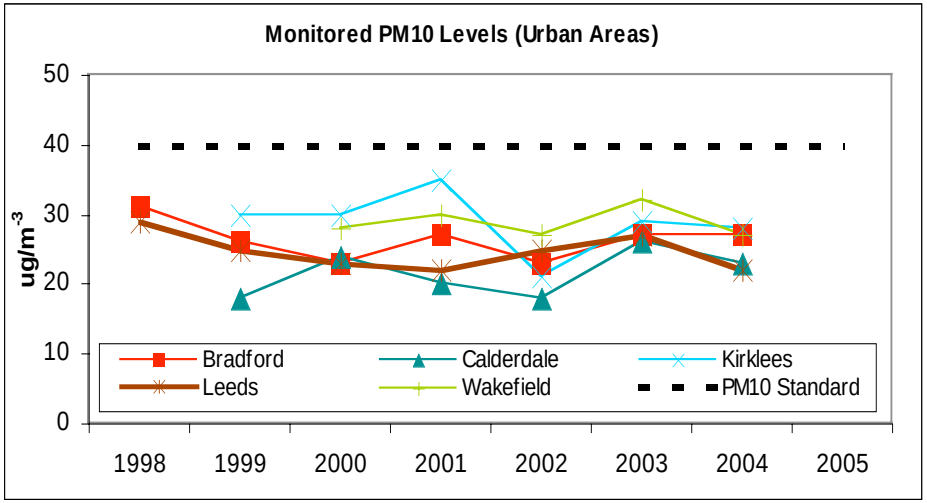
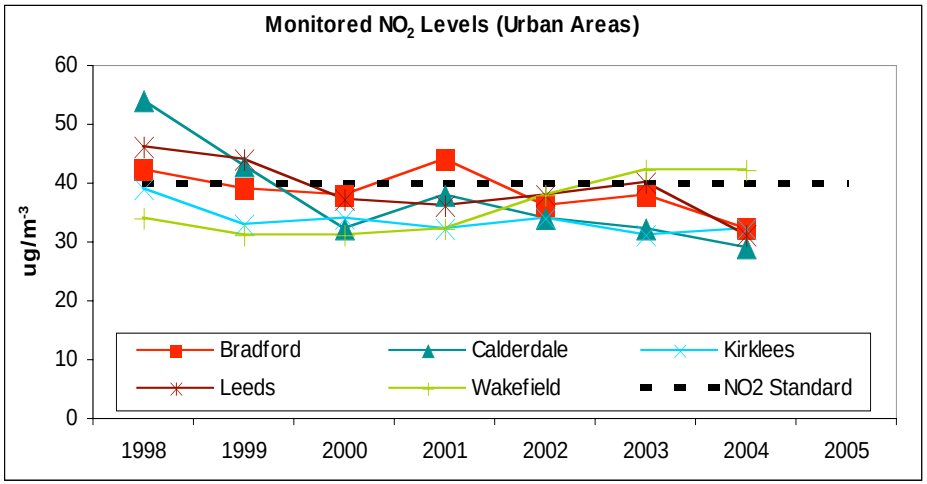


Figure D.3 West Yorkshire Annual Average NO_2 Monitoring –



Summary Data

The growth in transport movements

The strong growth trend in transport movements in West Yorkshire are described in Part 1. Increased traffic growth together with peak period congestion is starting to work against the benefits achieved by the Euro Standards. The effects of traffic congestion are difficult to predict, but it is estimated that exhaust emissions could increase by 20% to 30%, when traffic flows are congested. Between them, the two peak periods produce disproportionately higher rates of emissions (55% of the total emissions on a typical weekday).

Short car journeys

Short car journeys can have a significant effect on elevating road traffic emissions. For example, in the vicinity of schools, local traffic flows can increase 20% between 08:00 and 09:00. This additional traffic will generate local congestion for commuting traffic. The effects of short journeys to schools and other destinations will further exacerbate emissions due to the problems of 'cold starts'. Emissions from modern catalyst cars can increase 10-fold during the first kilometre of a journey, prior to the engine warming and the efficient operation of the catalyst.

Changing weather conditions

The effects of the weather, especially wind speed and stability, is an important factor for local air quality. Some weather conditions act to reduce the level of pollutant dispersion. This can create significant local and sometimes regional problems with poor air quality. Despite small variations in daily road traffic emissions, the resultant air quality, or pollutant concentrations, can increase greatly in West Yorkshire due to the effects of weather conditions.

Climate change

The effects of climate change are now in evidence in national weather patterns. Our local and regional air quality will be effected by this. The UKCIP(02) Scenarios for UK Climate Change forecast that the following climate change induced conditions may occur with increasing frequency:

- hotter summers increase incidence of photochemical pollution, creating low level ozone and acidic fine particles;
- drought conditions will generally increase PM_{10} re-suspension within the vicinity of highways; and
- possible increase in storms that will help disperse pollution during the winter period.

The shape of the urban and rural landscape

The shape of the natural and built (urban) landscape can modify the impacts of air quality. Valleys and street canyons within built up urban areas, (both characteristic of West Yorkshire), tend to trap pollutants such as vehicle exhausts, and this can lead to deterioration in local air quality.

ATMOSPHERIC CHEMISTRY

Chemical reactions between emissions in the atmosphere are complicating factors. The introduction of the Euro standards have significantly reduced primary emissions of oxides of nitrogen (NO_x), primarily (nitric oxide (NO) + NO_2) from road transport between the early 1990s and the present day. This information is backed up by the APR data 2003/04, where predicted emissions of NO_x from the principal road network of West Yorkshire, identified a 22% reduction between the years 2000 and 2003. But the actual NO_2 levels have not responded in a similar way across West Yorkshire.

This has been caused by urban atmospheric chemistry, which has resulted in greater levels of NO being converted to NO_2.

Atmospheric chemistry is complex and little understood. As a result Leeds University has been asked to research this issue as part of the current partnership working on issues related to transport and air quality management.

AIR QUALITY STANDARDS

The NAQS (2000) sets health based standards for seven air pollutants. This strategy specifies mandatory limits and makes the review and assessment of local air quality a requirement for all district authorities.

The review and assessment process involves a combination of air quality monitoring and modelling, against the standards for O_2, NO_2, PM_{10}s, SO_2, CO, Pb, Benzene; and 1,3-Butadiene.

Not meeting the standards for any of the above pollutants (non-compliance) requires declaration of an AQMA together with the preparation of an AQAP to help mitigate the problem. AQAPs are also required for sites deemed to be AOC.

AIR QUALITY AND ECONOMIC GROWTH

The conflict between increased traffic levels and associated air quality issues resulting from economic growth is an issue to resolve. This is particularly the case when delivering sustainable growth and spreading the success of the Leeds economy have become regional priorities.

Conflicts in priorities can arise if areas targeted for regeneration already have problems with local air quality. Any increases in traffic could potentially result in air quality standards being breached. An example is the A62 Leeds Road corridor in Huddersfield, which is identified as an AOC but is also targeted for future industrial development in Kirklees.

THE INFLUENCE OF VEHICLE TYPES

In the Transport White Paper the Government has set targets for a greater use of low-carbon emitting cars and buses.

Average household car ownership levels are increasing in West Yorkshire (0.98 cars per household in 2001, compared to 0.82 in 1991). Households and businesses now have more opportunity of reducing the level of emissions they produce through their choice of vehicles for personal or business use.

With the increase in motorcycle use, which is noted by the DfT as a better alternative to the car in terms of air quality, there is the opportunity to encourage the use of lower powered motorcycles emitting far less pollution.

Table D.1: LEEDS' Air Quality Action Plan

A Study is currently being undertaken to report on the progress of this Action Plan

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
OBJECTIVE 1 TRAFFIC DEMAND MANAGEMENT METHODS						
A	**SUPERTRAM** To construct and operate three major routes from Leeds City Centre to Park and Ride sites outside the Outer Ring Road. (Total Length 28km)	Approval of funding awaited from DfT Supertram Consortium	Bid Evaluation starts October 2002 Construction programme depends on DfT approval	Early 2008	High	Moderate / High Potential to reduce total commuting traffic by 5%
	Supplementary Planning Guidance (SPG) No. 5 on Supertram contributions, which seeks planning obligations from all new appropriate development to fund the Supertram initiative, is intended to be widened to support a fund for public transport in general	Development Department				
B	**Quality Bus Corridors (QBC's)** i) A65 Kirkstall Road QBC	DfT provisional approval for scheme designed by Development Department (Transport Planning)	Initiate preliminary design. Preparation of orders and relevant planning processes.	2008	High	Low Benefits of the QBC schemes should increase with time.
	ii) A653 Dewsbury Road QBC	Development Department	LTP	Early 2006	Low	Low
	iii) Burley Road Bus Priority	Development Department	LTP	2005	Moderate	Low
	iv) A61 Hunslet Road QBC	Development Department	LTP	2006	Moderate	Low
	v) East Leeds QBC	Development Department	LTP	2001	High	Low

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
	vi) A61 Scott Hall Road Guided Bus Route	Development Department	LTP	1998	Moderate	Low
	vii) Leeds Bradford Road Bus Priority	Development Department	LTP	2007	Moderate	Low
	viii) Bus priority junction improvements and bus stop accessibility improvements	Development Department	LTP	2003-2006	Moderate	Low
C	**HOV LANE** A647 Stanningley Road	Development Department	Increase of CAR Occupancy (ICARO) European project Demonstration project 1997	Project made permanent Year 1999	Low	Low
	The combined effects of the corridor treatments listed in B) and C) above could reduce commuting traffic by up to 5%					Moderate / High
D	**FISCAL RESTRAINTS** Implement parking zones / discourage long stay parking	Development Department	LTP	On going	Low	Low
E	**PROMOTE CYCLING AND WALKING** i) Cycling Strategy	Development Department	LTP Cycle Action Plan	Approved 2002	Moderate	Low
	ii) Pedestrian Strategy	Development Department	LTP Pedestrian Action Plan	2001	Moderate	Low
	iii) Access Strategy	Development Department	LTP Action Plans in place to implement DDA (part 3)	2004	Moderate	Low

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
	iv) The Council will form a new City Services Department which will bring all streetscene issues together in one department. This will ensure the highest possible streetscene standards which will encourage walking and cycling	City Services Department	April 2003	April 2003		Low
	The UDP contains car parking maximum guidelines, including the discouragement of long stay parking in the City Centre and the encouragement of cycle parking provision. Maximum guidelines offer the opportunity for no parking to be provided where appropriate	Development Department	Ongoing		Low	Low
OBJECTIVE 2 REDUCE NEED TO TRAVEL						
A	**TRAVEL PLANS** i) Workplace / Travel Plans Through ongoing work with private sector business and public sector organisations	Development Department	LTP / Travelwise 37 Plans introduced by 2001/02	Proposed 6 further Plans during 2002/03	Low	Low individually Low / Moderate collectively
	ii) Development / Travel Plans Travel Plans are sought in association with new development that has significant trip generation	Development Department	LTP / Travelwise 33 Travel Plans attached to Planning Applications by 2001/02	Proposed 20 further Plans attached to Planning Applications 2002/03	Low	Low individually Low / Moderate collectively
	iii) School Travel Plans	Development Department	LTP / Travelwise, 38 School Travel Plans introduced 2001/02	Proposed 20 further Plans during 2002/03	Low	Low individually Low / Moderate collectively
	iv) Departmental Travel Plan	Development Department	Departmental Rideshare scheme introduced & Travel audit 2002	Full Travel Plan to be introduced 2002/03	Low	Low

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
	v) European "Toolbox" Travel Plan Resource Kit	Development Department + several European Partners	European funding through the SAVE 2 programme	Toolbox used as a Travel Plan aid 2001/02	Low	Low Used to aid design the individual travel plans listed above
B	**LAND USE PLANNING** The Council will support the development of a safe transport system which achieves the most efficient movement between homes, jobs and facilities, promotes economic development and protects the environment. This aim, which includes (especially in the light of Planning Policy Guidance 13: Transport) reducing reliance on the private car, is implemented throughout the UDP, specifically in the transport, shopping, employment, housing, leisure and access for all chapters	Development Department	Ongoing	Ongoing	Low	Low
	The Council is trialling "Work/Life Balance" in various departments. This scheme includes measures such as homeworking and teleworking etc which will reduce the need for some Council employees to travel	All departments	Current trials in various departments		Low	Low
C	**TRAVELWISE CAMPAIGN** i) Environmental Awareness Campaigns	Development Department	Green Transport Month Events organised by Travelwise	Annual Events	Low	Low
	ii) Green Vehicle Trials	Development Department			Low	Low
	iii) Alternative Fuel Trials	Development Department			Low	Low
D	**LAND-USE PLANNING / UDP** i) EIA Air Quality Assessments	Development Department The Air Quality Management Team (AQMT)	LTP / UDP aid to scheme design EIA Regulations NAQS	Scheme dependant	Low	Low

APPENDIX D
AIR QUALITY AND VEHICLE EMISSIONS

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
	ii) EIA Screening Model	Development Department	Incorporated within a sustainability model, considers EIA for all transportation schemes	Scheme dependant	Low	Low / Moderate Combined effect of all small schemes.
	The current Urban Capacity Study is identifying brownfield housing opportunities within a Priority Area only (defined by its accessibility to public transport)	Development Department	Ongoing		Low	Low
	The UDP allocates land specifically for public transport initiatives e.g. park and ride schemes, Supertram, A65 quality bus initiative	Development Department	Ongoing		Low	Low
	Planning Briefs highlight the need for sustainable design and transport and a reduced reliance on the car	Development Department	Ongoing		Low	Low
	Retail development is required to locate in town centres in accordance with *Planning Policy Guidance 6*: *Town Centres and Retail Development* This is also supported by *Supplementary Planning Guidance No. 2: Leisure Developments and Other Key Town Centre Uses* which takes *Planning Policy Guidance 6: Town Centres and Retail Development* into consideration	Development Department	Ongoing		Low	Low
	Town Centre Action Plans and Market Town Initiative aim to support town centres and amongst other issues support public transport improvement	Development Department	Ongoing		Low	Low
	Supporting the City Centre as *inter alia* a focus for District-wide trip generators: The City Centre is promoted and protected as hub for retail, leisure and employment opportunities	Development Department	Ongoing		Low	Low

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
	The Plan is also supporting the development of major residential development in the City Centre and Town Centres. Holbeck Urban Village seeks to promote live/work and high technology industries in a site which has high public transport accessibility Environmental initiatives around City Station and the Bus Station	Development Department	Ongoing		Low	Low
	It is intended to introduce a more solid base for sustainable development in the Reviewed UDP, to include: - a sustainability appraisal of the Review which may include air quality or reducing the need to travel indicators - more sustainable design policies - a focus on sustainable urban regeneration and brownfield re-use in areas accessible to public transport	Development Department	Ongoing		Low	Low
	The layout of a site is particularly important for movement and transport; individual developments should ensure ease of movement for pedestrians and cyclists as a priority	Development Department	Ongoing		Low	Low
	Rat running in residential areas should actively be avoided. Safe Routes to School schemes should be considered to discourage exacerbating "the school run". Travel Plans are sought in association with major development to facilitate assessment of transport impacts and encourage the reduction in the use of the private car. Car-free development is also encouraged	Development Department	Ongoing		Low	Low

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
OBJECTIVE 3 IMPROVEMENTS TO HIGHWAY NETWORK						
A	**EAST LEEDS LINK ROAD (ELLR)** (Scheme includes HOV/HGV lane)	Development Department	Enabled "indirect" air quality improvements and implementation of East Leeds QBC along A63 / A64	2005	High	Low / Moderate
B	**COMPLETION OF INNER RING ROAD** (stage 7)	Development Department Scheme accepted by DfT	LTP major scheme should reduce congestion in areas close to AQMAs	2007	High	Low / Moderate
C	**A6120 OUTER RING ROAD ROUTE STRATEGY**	Development Department	Development of a long term strategy and investment plan for the A6120, to be implemented through LTP2	2006 – 2011	High	Moderate
D	**UTMC SYSTEM** (PHASE 2 UPGRADE) Improved traffic management at congested junctions and QBC schemes	Development Department	Upgraded UTMC will promote smooth flow, and aid traffic demand management. UTMC area extended, with development of new inter-phase to promote operation of Public Transport & Supertram system	Scheme dependant 2001 onwards	Moderate	Moderate

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
OBJECTIVE 4 ACTIONS TO REDUCE VEHICLE EMISSIONS						
A	**REMOTE SENSING / EMISSION TESTING** Trialing of remote sensing to target gross polluters	Development Department TRL Huddersfield University	Travelwise, working with Vehicle Inspectorate using remote sensing as a screen for gross polluters	1998 - 2001	Low	Low
B	**LOW EMISSION ZONE (LEZ)** Feasibility air quality assessment of LEZ inside Inner Ring Road	Leeds University in collaboration with Development Department	Master of Research (MRes) Student project to be fully evaluated in terms of air quality & AQMAs	2002	Moderate Difficult to enforce	Moderate locally Low overall. Similar benefits are likely to occur with time due to fleet clean-up
C	**BIOGAS PROJECT**	Various Depts AQMT Consultants	EU Target Project / LTP / Travelwise pilot study set up, Biogas refined into Methane	Project failed 2002	Low	
D	**COUNCIL'S OWN FLEET** The Council will reduce vehicle emissions from its diesel fleet by continuing to run their vehicles on Ultra Low Sulphur Diesel (ULSD) fuel and by fitting all new vehicles with Continuously Regenerating Trap (CRT) equipment	Transport Agency, City Services Department	Ongoing	Ongoing		Low/Moderate
	The Council will ensure all new HGV units will comply with Euro III standard	Transport Agency, City Services Department	October 2002	Ongoing		Low/Moderate
	The Council will introduce vehicle safety/driving training initiatives which will contribute to more efficient driving and reduced fuel usage	Transport Agency, City Services Department	Ongoing	Ongoing		Low/Moderate

APPENDIX D
AIR QUALITY AND VEHICLE EMISSIONS

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
	The Council will use electric powered vehicles where possible for uses of less than 30 miles/day and will investigate the use of electric pool cars for out of town offices	Transport Agency, City Services Department	2002/03			Low/Moderate
	The Council will use route planning to reduce HGV vehicle mileage	All Departments	Ongoing	Ongoing		Low/Moderate
	The Council will utilise fuelling points located at strategically located Depot sites across the City to minimise journey time and mileage required for refuelling purposes	Transport Agency, City Services Department	Ongoing	Ongoing		Low/Moderate
E	**COUNCIL CONTRACTORS** The Council will issue all Approved Contractors with the "Passport to the Environment" document and will hold workshops to help raise contractors' awareness of environmental issues	Procurement Unit, Legal and Democratic Services	Ongoing	Ongoing		Low/Moderate
F	**LAND USE PLANNING** UDP Policy encourages freight transfer from road to rail and water	Development Department	Ongoing	Ongoing		Low
	Support for using brownfield sites to aid urban regeneration rather than greenfield sites which tend to be on the edge of the urban area	Development Department	Ongoing	Ongoing		Low
	The UDP supports town centres as hubs of public transport and the most accessible locations for major trip generators	Development Department	Ongoing	Ongoing		Low
	The UDP aims to ensure that a wide range of shops is available in locations to which all sections of the community, including those without access to private cars, have access by a choice of means of transport	Development Department	Ongoing	Ongoing		Low

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
OBJECTIVE 5 ACTIONS TO REDUCE INDUSTRIAL AND DOMESTIC EMISSIONS						
A	**AUTHORISED PROCESSES – PART B AND INTEGRATED POLLUTION PREVENTION AND CONTROL (IPPC) PROCESSES A2** The Council will improve enforcement activities in respect of approximately 250 industrial processes it regulates under the provisions of Part I of the Environmental Protection Act 1990 and of the processes which fall under the provisions of the Pollution Prevention and Control Act 1999. The Council will continue its search for industrial premises which may be operating a prescribed process without an authorisation or permit	Authorisations team in Environmental Health Services, Neighbourhoods and Housing Department	Ongoing	Ongoing		Low/medium
	AUTHORISED PROCESSES – PART A AND IPPC PROCESSES A1 The Council will scrutinise the public register with regard to the enforcement activities of the Environment Agency in respect of the industrial processes it regulates under the provisions of Part I of the Environmental Protection Act 1990 and the Pollution Prevention and Control Act 1999	Authorisations team in Environmental Health Services, Neighbourhoods and Housing Department	Ongoing	Ongoing		Low/medium
B	**EMISSIONS FROM CHIMNEYS** The Council will enforce the provisions of the Clean Air Act 1993 with respect to emissions of smoke from chimneys	Area teams in Environmental Health Services, Neighbourhoods and Housing Department	Ongoing	Ongoing		Low/medium

APPENDIX D
AIR QUALITY AND VEHICLE EMISSIONS

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
	BOILER PLANT AND CHIMNEY HEIGHTS The Council will enforce the provisions of the Clean Air Act 1993 with respect to ensuring new boiler plant can operate smokelessly and approving the heights of chimneys	Area teams in Environmental Health Services, Neighbourhoods and Housing Department	Ongoing	Ongoing		Low/medium
C	**BONFIRES ETC** The Council will enforce the provisions of the Clean Air Act 1993 with respect to emissions of smoke from bonfires anywhere in the city The Council will encourage residents to compost waste rather than burning it in bonfires	Area teams in Environmental Health Services, Neighbourhoods and Housing Department	Ongoing	Ongoing		Low/medium
D	**DUST AND SMOKE NUISANCE** The Council will enforce the provisions of the Environmental Protection Act 1990 with respect to the emissions of dust from construction sites and other sources, and smoke nuisances throughout the city	Area teams in Environmental Health Services, Neighbourhoods and Housing Department	Ongoing	Ongoing		Low/medium
E	**ENERGY EFFICIENCY** The Council will continue to implement its energy efficiency plans for both public and private sector housing to achieve improvements in energy efficiency which will result in improving air quality	Energy Unit Environmental Health Services, Neighbourhoods and Housing Department	Ongoing	Ongoing		Low/medium
	The Council will continue to produce monthly reports on energy usage for Leeds City Council Buildings. Solid fuel and oil-fired plant will be replaced, where feasible, with low NO_x natural gas fired plant to reduce emissions. Condensing boilers will be used unless contra-indicated	Design Services Agency City Services Department	Ongoing	Ongoing		Low/medium
	The Council will encourage Combined Heat and Power (CHP) supporting layouts and designs	Development Department				
	The Council will consider CHP schemes for its housing stock	Neighbourhoods and Housing Department				Low

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
	The Council will provide advice to Small and Medium Sized Enterprises on energy usage to achieve improvements in energy efficiency which will result in improving air quality	Energy Unit Environmental Health Services, Neighbourhoods and Housing Department	Ongoing			Low
F	**DEVELOPMENT CONTROL** *Supplementary Planning Guidance No. 10 Sustainable Development Design Guide* (SDDG) encourages developers to examine the wider context of a site and appraise it with regard to sustainable development. [This encouragement is hopefully soon to be given a stronger Policy basis in the UDP Review where developers will be required to demonstrate by an appraisal of their development how they accord with *inter alia* SDDG principles.] This wider context includes levels of atmospheric pollution	Development Department	Ongoing	Ongoing		Low
	The Development Department will consult with other Departments represented on the AQMT, where it is anticipated that air quality could be an issue (either the effect of development on air quality or the impact of air quality on development). For schemes which could have a significant impact on air quality, applicants will be encouraged to discuss with relevant officers at an early stage, preferably before an application is submitted, the form and content of an Air Quality Assessment report	Development Department	Ongoing		Low	Low

Action		Who	Implementation	Completion date	Cost	Potential Air Quality Improvement
	The Council will have regard to air quality objectives, the results of air quality reviews and assessments and the AQAP when considering planning applications Where the impact of any development is likely to be significant in air quality terms, the planning application may be refused, providing the impact relates to the use and amenity of land, and harm can be clearly demonstrated	Development Department	Ongoing		Low	Low

APPENDIX E
INDICATORS AND MONITORING

INDICATORS AND MONITORING

In order to monitor progress towards achieving the strategies and targets in LTP1 the Partnership developed a comprehensive monitoring programme based on a series of both outcome and output indicators. In order to reflect the new objectives the list of indicators has been modified and our monitoring programme suitably adjusted.

Table E.1 lists the 46 indicators which will be used to monitor LTP2. of these 23 are Core Indicators which will be used to assess the targets summarised in Section 4 and explained in more detail in Appendix F. The remainder are classed as background indicators. Full details of the monitoring programme, together with the latest available data, are given in the Monitoring Document which accompanies the LTP.

Baseline data and trajectories towards LTP targets where applicable are given in Appendix F.

In addition, the Partnership will continue to monitor the impacts of a representative sample of schemes implemented during the plan period using causal chains which show how the scheme supports the wider LTP objectives and how the monitored data measures the effectiveness of the scheme.

In addition to the indicators summarised in the table, the following are also being considered as background indicators and may be introduced in future Progress Reports :

- percentage of the network below agreed threshold speeds during peak periods;
- cycle/pedestrian training coverage;
- deprivation indices;
- development control indicators linked to parking;
- economic background indicators e.g. local GDP; and
- indicators to reduce highway network vulnerability to climate change e.g. frequency of gully clearing, increase use of Sustainable Urban Drainage Systems (SUDS).

Key – Shared Priorities

Delivering accessibility (A)

Tackling Congestion (C)

Safer Roads (S)

Better Air quality (AQ)

Effective Asset Management (AM)

Key – WYLTP Objectives

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. (O1)

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

To reduce delays to the movement of people and goods (O3)

To improve safety for all highway users. (O4)

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

To improve the condition of the transport infrastructure.(O6)

APPENDIX E
INDICATORS AND MONITORING

Table E.1: LTP2 Indicators and links to Objectives and Shared Priorities

Ref	**Mandatory Indicator** ***Key Local Indicator*** Background Indicator (with no associated target) LTP Target Ref .	LTP2 Objective	Additional shared Priorities for targets
ECONOMIC BACKGROUND			
E1	Unemployment Rates	O1	
E2	Local trade levels/vacant premises	O1	
E3	Central Area rental values	O1	
E4	Town centre footfall	O1	
SHARED PRIORITY : DELIVERING ACCESSIBILITY			
A1	**Non car travel times to hospitals M1**	O2	C,AQ
A2	**Bus Service Punctuality M2**	O2,O3	C,AQ
A3	**Satisfaction with bus services (BVPI 104) M3**	O2,O3	C,AQ
A4	**Cycle flows M4**	O3	C,S
A5	***Satisfaction with new LTP funded PT facilities L2***	O2	AQ
A6	AccessBus patronage	O2	
A7	Pedestrian crossings meeting BVPI 165	O2	
A8	Age of Bus Fleet	O2, O3	
SHARED PRIORITY : TACKLING CONGESTION			
C1	**Average journey time per person per mile M5**	O3	A,S,AQ
C2	**Town/city centre AM peak period traffic flows M6**	O3	A,AQ
C3	**Mode split for journeys to school M7**	O3	A,S,AQ
C4	**Public Transport Patronage (BVPI 102) M8**	O3	A,S,AQ
C5	***AM peak cycle trips to centres of Leeds, Wakefield and Halifax L3***	O3	A,S,AQ
C6	***AM peak period modal split to main urban centres L4***	O3	A,S,AQ

Ref	**Mandatory Indicator** ***Key Local Indicator*** Background Indicator (with no associated target) LTP Target Ref .	LTP2 Objective	Additional shared Priorities for targets
C7	***Peak Period Rail Patronage to Leeds L5***	O3	A,S,AQ
C8	***Quality Bus Corridor Patronage L6***	O3	A,S,AQ
C9	Peak period journey time variability on key routes	O3	
C10	% of network below reference speed in peak periods	O3	
C11	Peak spreading Index	O3	
C12	Morning Peak Period car Occupancy	O3	
C13	Mode share for travel to work (census)	O3	
C14	Travel distance to work (Census)	O3	
C15	Generalised costs for private and public transport	O3	
C16	Cost of Travel	O3	
C17	All day commuter parking supply and cost	O3	
SHARED PRIORITY : SAFER ROADS			
S1	**All Road user casualty trends M9**	O4	
S2	**Casualty trends for children M10**	O4	
S3	**Slight casualty rates M11**	O4	
S4	***Casualty trends for different road user groups L7***	O4	
S5	Town Centre car park spaces with CCTV cameras	O4	
S6	Rail/Bus stations with CCTV cameras	O4	
S7	Town and city centre streets with CCTV cameras	O4	
SHARED PRIORITY : BETTER AIR QUALITY			
AQ1	**NO_2 levels in AQMA's M12**	O5	C
AQ2	**Area wide traffic flows M13**	O5	C
AQ3	***Area wide road transport emissions : NO_x , CO_2 L8,L9***	O5	C

APPENDIX E
INDICATORS AND MONITORING

Ref	**Mandatory Indicator** ***Key Local Indicator*** Background Indicator (with no associated target) LTP Target Ref .	LTP2 Objective	Additional shared Priorities for targets
AQ4	Air Quality Monitoring in Town and City Centres	O5	
AQ5	Area wide road transport emissions: PM_{10}	O5	
AQ6	Use of low noise road surfacing	O5	
ASSET MANAGEMENT			
AM1	**Principal, Non-Principal and Unclassified Road Condition (BVPI's 223, 224a and 224b) M14,M15,M16**	O6	C,S
AM2	**Footway Condition (BVPI 187) M17**	O6	C,S
AM3	***Structures with weight/width restrictions L10***	O6	C,S
AM4	***Bus shelters meeting modern standards L11***	O6	A,S

APPENDIX F
BASELINE DATA, TARGETS AND TRAJECTORIES

BASELINE DATA, TARGETS AND TRAJECTORIES

This Appendix provides information on our approach towards setting targets.

We have provided trajectories as required by LTP guidance and provided an explanation for each target in terms of:

- the baseline data;
- why the target is ambitious and realistic (including our approach towards setting the target);
- the actions required by the Partnership to achieve the target;
- the actions required by local partners to achieve the target; and
- the principal risks and how they will be managed.

The targets are grouped to reflect the strategies in Part 2 of our document which, in turn, are grouped according to the DfT's shared priorities as follows:

- targets for 'Delivering Accessibility';
- targets for 'Tackling Congestion';
- targets for 'Safer Roads';
- targets for 'Air Quality'; and
- targets for 'Effective Asset Management'.

Further information on target development, including data sources, is included in the Baseline Data Report which accompanies this LTP.

THE USE OF THE WEST YORKSHIRE STRATEGIC TRANSPORT MODEL (STM) IN SETTING TARGETS

One of the key tasks for STM work has been to provide input into target setting for the final LTP2.

As the model has a restricted range of policy responses it cannot be relied upon, exclusively, to set individual target levels. However, when used in conjunction with other tools – regression analysis techniques for example - it has been used to assist in defining appropriate levels for a range of target areas.

It should be noted that many of the outputs from the STM relate to peak hours whereas many mandatory targets are for peak periods of more than one hour.

The process that was followed is set out below.

Step 1 – Target Identification

The first step of the modelling process has been to identify which targets could be assisted by STM. A full list is set out in Table F.1.

Step 2 – Selection of Outputs

This is essentially a refinement of Step 1 which recognises that the targets and outputs from STM do not match up exactly. Alternative outputs are set out in Table F.2

Step 3 – Analysis of Outcomes of Preferred Scenario in 2011

Outputs for 2011 from the preferred scenario are compared with the do minimum scenario for the same year.

Step 4 – Examination of Risks

There will be areas of the strategy which have greater influence on outcomes than other elements. With this in mind a series of sensitivity tests have been conducted to identify the potential effects of under delivery in parts of the strategy.

APPENDIX F
BASELINE DATA, TARGETS AND TRAJECTORIES

Table F.1 STM: Key Target Areas

Target Type -Code	Target Detail	Usefulness of STM	Outputs
Bus punctuality - M2	Increase bus punctuality to 95% by 2010/11 for all registered services.	Bus travel time outputs.	Average Bus Travel Time (ATT)
Average journey time per person mile on key routes – M5	To be finalised July 2006	Speed and travel time outputs.	Speeds and Average Travel Time for AM Peak
Area Wide Road Traffic – M13	No more than a 5% increase in 16-hour weekday traffic flows at a representative sample of sites.	Trip data extracted from output files.	Trip Ends
Peak period traffic flows to urban centres – M6	Reduce growth across cordons to 3%.	General outputs may assist in defining general levels.	Mode Shares
Bus patronage – M8	A 5% increase in bus patronage by 2010/11, with a 17% increase by 2015/6.	As M6	Mode Shares/Bus Trip Ends
AM peak period mode split to urban centres – L4	Reduce the proportion of car-based trips by 2010/11.	As M6	Car Mode Shares
NO_2 annual average concentration in designated AQMA's – M12	A 10% reduction NO_2 in the Leeds AQMA's.	Some emissions outputs available.	NO_X Outputs for individual zones.
Annual road traffic emissions of NO_X across West Yorkshire principal road network – L9	A 15% reduction in NO_X from 2004/05 to 2010/11.	Some emissions outputs available.	NO_X Outputs

OUTPUTS FROM STM

The first part of this exercise has been to extract data from STM based upon forecasts to 2011. The key areas are summarised in Table F.2.

Table F.2 STM: Targets and Outputs

Target Type	Comment	Output
Bus punctuality - M2	Output from STM shows that preferred scenario will see improved ATT in all the urban bus areas. Although quite modest the greater influence can be seen when compared against the forecast do minimum scenario	ATT for bus decreased from -1.7% to -5%
Average journey time per person mile on key routes – M5	Average vehicle speeds fall in both do minimum and preferred strategy. However the falls in speeds are less with Preferred strategy except in Leeds. ATT for cars increases in both strategies but greater in preferred strategy. ATT for buses is more encouraging as set out above.	ATT - bus as above ATT - car increased from 3% to 4.4% Speeds -2.4% to +0.91%
Area Wide Road Traffic – M13	Analysis of car trips (not vehicles) by district shows 3% to 4% growth overall.	Trips - 3% to 4% growth
Peak period traffic flows to urban centres – M6	Preferred strategy shows reductions of between 2% and 6% in car mode shares. Highest decreases are in Halifax and Bradford. These reflect shifts to rail in the main. This in turn reflects proposals in preferred strategy.	Car mode share decreased between 2% and 6% depending upon centre.
Bus patronage – M8	Mode share analysis, for bus shows growth across cordons being higher than expected in AM peak ranging between 3% and 5%. Examination of bus trips shows 6% growth for combined districts in AM Peak (typical hour)and 10% in Inter Peak (typical hour)	Mode share for bus in peak increase by 3% to 5%. Bus trips grow by 6% (AM hour).Bus Trips grow by 10% (Inter Peak Hour).
AM peak period mode split to urban centres – L4	As M8	As M8
NO_2 annual average concentration in designated AQMA's – M12	Large increases in NO_X across urban areas experienced in all the urban areas. Preferred strategy only marginally better than do minimum. Reflection of technological advances.	30% decrease
Annual road traffic emissions of NO_X across West Yorkshire principal road network – L9	As M12	30% decrease

EXAMINATION OF RISK USING STM

The identification of potential areas of risk for target achievement is an important part of the performance management process. Using STM it has been able to identify where under achievement in parts of the strategy leads to lower target achievement. A full assessment of risk is set out in Part 4 of the main LTP2 document.

Table F.3 Risk Elements

Test	Typical Measures/ Intervention	Effect
Reduced Bus Speeds	Bus priority/Bus Lanes etc	Greatest effect on mode shares. Sees shift to car of up to 7%. Impact on speeds, ATT and emissions marginal.
Reduced Bus services	Reduced frequency brought about by lack of intervention in services (Quality Contracts)	Effects are negative but marginal
Increased bus fares	Increased fares	Effects are negative but marginal
Lack of Bus Quality Improvements	Various and difficult to define	Effects are negative but marginal
No increase in car parking charges.	LA fails to implement increases in parking charges.	Effects are negative but marginal

From the tests carried out the largest effect on target areas would be the failure to deliver genuine reductions in bus speeds. The other areas have negative but marginal effects on outputs. Although not tested as part of this process, the synergistic effect between policy measures is likely to be an important factor in overall success.

TARGET DESCRIPTIONS AND TRAJECTORIES

This part of Appendix F sets out details of all of chosen targets. In particular we deal with:

- the baseline data;
- why the target is ambitious and realistic (including our approach towards setting the target and factors influencing the target);
- the actions required by the Partnership to achieve the target; and
- the actions required by local partners to achieve the target.

Full details of the numerical value of each trajectory are set out in the targets Proforma accompanying the LTP. Information on risk and risk management is dealt with separately at the end. The Baseline Data Report has additional details of data sources, analytical techniques and factors influencing target development.

TARGETS FOR DELIVERING ACCESSIBILITY

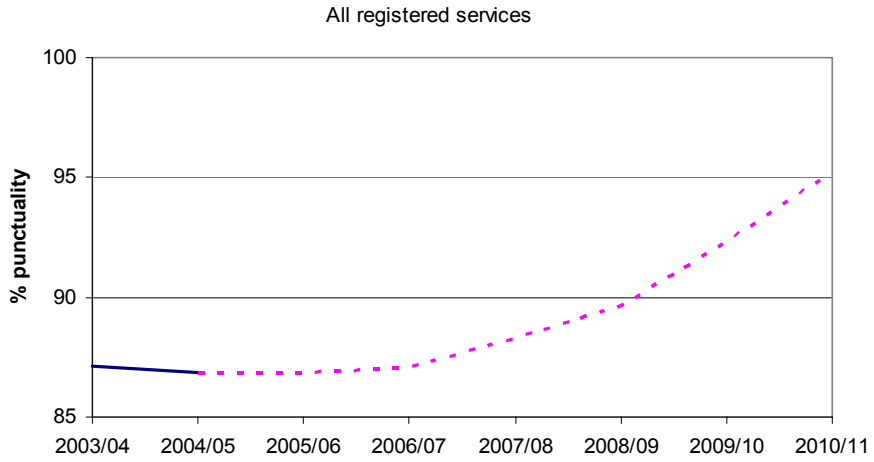
Table F.4 Mandatory Indicator: Accessibility

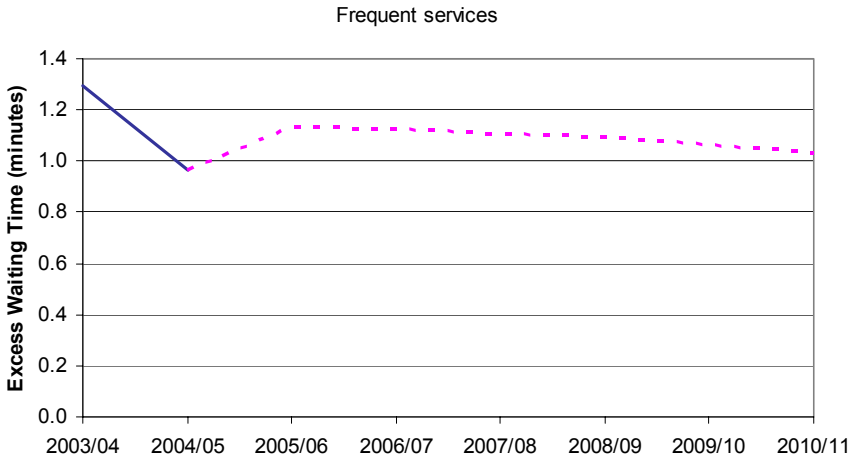
Mandatory Indicator
Accessibility indicator – Access to a hospital within a 30 minute travel time for people without access to a car
Local Target for Mandatory Indicator
M1 – To ensure that 89.5% of households without access to a car are within 30 minutes of a hospital by public transport by 2011
Baseline
2001 Census, 2005 Accession data and 2004 DfT public transport data set Current accessibility level – 89.5% of households without access to a car are within 30 minutes of a hospital by public transport
Trajectory, Ambition and Realism
The approach towards the setting of the accessibility target is described in Part 2 'Delivering Accessibility' and Appendix C. The process for setting this target has been based on a sound understanding of local issues and priorities which has come from a robust evidence base and been informed by stakeholder involvement. Consultation has shown public concerns regarding the accessibility impacts of proposed changes in health service delivery. This is a realistic target given the complexity of the reorganisations involving NHS Trusts who are at various stages in this process.
Actions Required by the Partnership
Key tasks for the Partnership are to continue to engage stakeholders and influence our partners' approach to service delivery to ensure that accessibility is given full consideration. In West Yorkshire this work has already started and is detailed in the Action Plan which is contained in Appendix C. The Partnership is influencing the LDF process to ensure that accessibility criteria are included in emerging planning policy. This should ensure that future location decisions made by the NHS Trusts are required to consider accessibility as part of their planning applications.
Actions Required by Local Partners
• To engage with local highway authorities and Metro on the accessibility implications of reorganisation. • Develop solutions to mitigate the impact of reorganisation on access to services.

Table F.5 Mandatory Indicator: Bus punctuality

Mandatory Indicator
Bus punctuality (percentage of scheduled services less than 1 minute early or five minutes late). Excess Waiting Time for services defined as frequent.
Local Target for Mandatory Indicator
M2 - Increase bus punctuality to 95% by 2010/11 for all registered services, other than those registered as frequent (measured at start of route and intermediate timing points). A year on year reduction in Excess Waiting Time for services registered as frequent (measured at start of route and intermediate timing points).
DfT National Target
Deliver improvements to the accessibility, punctuality and reliability of local and regional transport systems.
DfT Minimum Standard
For timetabled services, the 2010 target to be based on a trajectory towards 90% punctuality in 10 years (satisfactory) or 8 years (stretching) i.e. by 2014-15. For services registered as frequent, a year-on-year reduction in Excess Waiting Time.
Baseline
2003/04 87.1% punctuality on all registered services, other than those registered as frequent 1.29 minutes Excess Waiting Time services registered as frequent (within headway of 0-15 minutes)

Trajectory





Ambitious and Realistic

In addition to the DfT's minimum targets for this indicator the Vehicle and Operator Services Agency (VOSA) *Practice Direction: Bus Standards* sets targets that bus operators are legally required to meet. These are:

- 95% punctuality;
- for frequent services, 6 or more buses to depart within any period of 60 minutes and the interval between consecutive buses not to exceed 15 minutes; and for
- standards to be achieved at timing points at the start and end of routes.

Our trajectory and target have been informed by what we consider to be important factors; which are:

- the need for consistency with standards that operators must already legally meet;
- the public's desire for much higher standards of bus performance (reported through LTP2 consultation and market research).
- the practicality of data collection; and
- the availability of baseline data.

Our targets and method of measurement reflect the VOSA method, with the addition of intermediate timing points. As we indicated in our provisional LTP2, we will not be reporting observations at non-timing points. Our RTPI system will allow us to measure punctuality at timing points across a much bigger sample size in future, which, we believe will be a more accurate proxy for customer experience than additional data from non-timing points. Also, data from non-timing

points requires the calculation of an interpolated time between two timing points which could be inappropriate, depending on road conditions.

Punctuality differs between operators, areas and times, but early running and most causes of late running are within the control of bus operators. The 2005 report *Delivery Chain Analysis for Bus Services in England* states that DfT recognise that currently, much of the bus service delivery chain is in the hands of private sector bus operators and difficult to influence directly.

Actions Required by the Partnership

- Delivery of the LTP2 funded YBI programme of traffic management and bus priority measures, with major schemes funded by DfT;
- the use of Traffic Managers to assist the movement of buses in conjunction with the Police;
- the implementation and enforcement of decriminalised parking, particularly where this obstructs buses; and
- the pursuit of a more radical strategy approach to deliver higher quality bus services.

Actions Required by Bus Operators

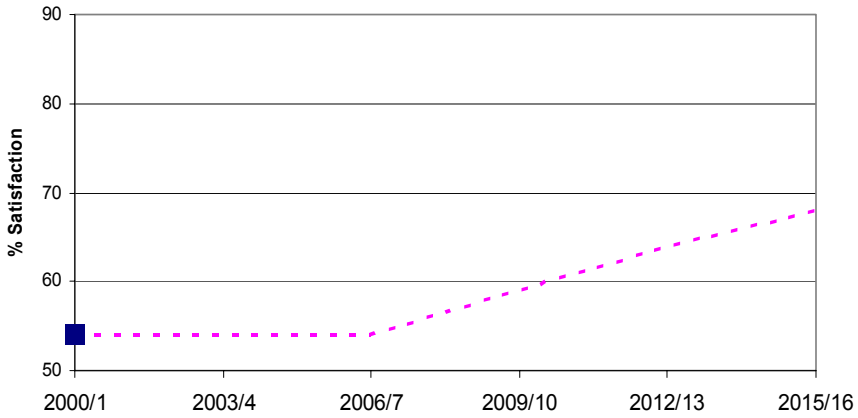
- the commitment of operators to improve performance through the current form of partnership and voluntary agreements;
- the pro-active use of the RTPI system, funded by LTP1, by operators for better bus fleet management;
- participation by operators in WYTESA to improve driver retention, training, and motivation (leading to an 0.2/0.3% improvement in punctuality each year from 2006/07);
- the implementation of PIPS (leading to a 1% improvement in punctuality each year from 2007/08 based upon initial discussions with operators);

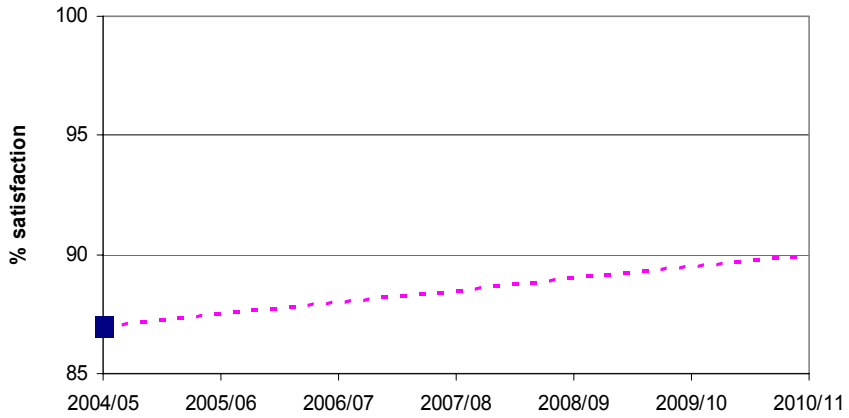
In addition, the Partnership will pursue a more radical strategy approach to deliver higher quality bus services. The additional benefits to punctuality of this approach are estimated as:

- simplified ticketing, fares and routes to reduce boarding time delays (leading to a 1.4% improvement in punctuality each year from 2009/10); and
- additional fleet investment (leading to a 0.2% improvement in punctuality from 2010/11).

Table F.6 Mandatory Indicator: Satisfaction with local bus services

Mandatory Indicator
Satisfaction with local bus services (BVPI104)
Local Targets for Mandatory Indicators
M3 - Increase bus satisfaction to 59% by 2009/10.
L1 - Increase satisfaction with LTP funded public transport facilities to 90% by 2010/1.
DfT Minimum Standard
Maintain bus satisfaction levels to 2009/10 (if level in 2003/04 is greater than 50%) or improve them by at least 6% over 2003/04 level by 2009/10 (if not).
Baseline
2000/01 West Yorkshire bus satisfaction = 54% (BVPI104)
2004/05 Satisfaction with LTP funded public transport facilities = 87%
Trajectory





Ambitious and Realistic

This Mandatory Indicator is measured using BVPI104 methodology by ODPM. ODPM only compile this data once every three years. The most recent available data is for 2000/01. Therefore our baseline year for the LTP is 2000/1. We have concerns about the extent to which BVPI104 is an accurate measure of bus satisfaction, particularly given the inclusion of non-users. We will, therefore, be informing our understanding of bus satisfaction in West Yorkshire through our own six monthly market research programme.

Our trajectory and target have been informed by the use of a bus-specific modelling package (BSEL). Using BSEL, the effect of strategy levers and aspects of the "bus experience" has been matched to perceived product awareness and quality levels. BSEL uses elasticities of demand identified in the TRL report *The Demand for Public Transport: A Practical Guide* and draws from market research, Passenger Transport Executive (PTE) statistics and a literature review including Commission for Integrated Transport (CfIT) work, DfT transport statistics and *The Bus Industry Monitor* from TAS. Product awareness and quality estimates generated by the model are combined to calculate a measure of bus satisfaction.

The 2005 report *Delivery Chain Analysis for Bus Services in England* states that DfT recognise that currently, much of the bus service delivery chain is in the hands of private sector bus operators and difficult to influence directly at the current time. In the future, the effect of additional levers available as part of the more radical strategy approach being pursued by the Partnership become apparent at the last three-yearly reporting date (2009/10). The benefits of the more radical approach, compared to do minimum, will be even more marked beyond the time horizon of LTP2.

We have also set a local target for public satisfaction with new LTP funded public transport facilities. Our monitoring data shows that LTP funded public transport improvements have high satisfaction ratings, but this does not necessarily follow through into changes to the mandatory West Yorkshire wide indicator (given a backdrop of around 215 million public transport trips annually). Perceptions are also strongly influenced by the day to day performance of operators. We have used historic monitoring data for 7 schemes implemented in 2004/5 to develop a baseline. The aim of this target is to ensure that we continue to meet rising passenger expectations, whilst showing that local LTP funded schemes do make a difference 'on the ground'. All schemes subject to 'before and after' monitoring will be included.

Actions Required by the Partnership

- Delivery of the LTP2 funded YBI programme of traffic management, bus priority measures and new facilities (with major schemes funded by DfT);
- use of local satisfaction data to improve the public transport facilities we provide;
- use of Traffic Managers to assist the movement of buses in conjunction with the Police;
- implementation and enforcement of decriminalised parking, particularly where this obstructs buses; and
- pursue a more radical strategy approach to deliver higher quality bus services.

Actions Required by Bus Operators

- Performance and customer services improvements achieved through voluntary agreements; pro-active use of the RTPI System for bus fleet management, participation by operators in WYTESA and implementation of PIPS;

In addition, the Partnership will pursue a more radical strategy approach to deliver higher quality bus services. The impact on the mandatory target of this approach has been modelled using BSEL where possible. This approach includes:

- simplified ticketing, fares and routes to reduce boarding time delays;
- improved networks;

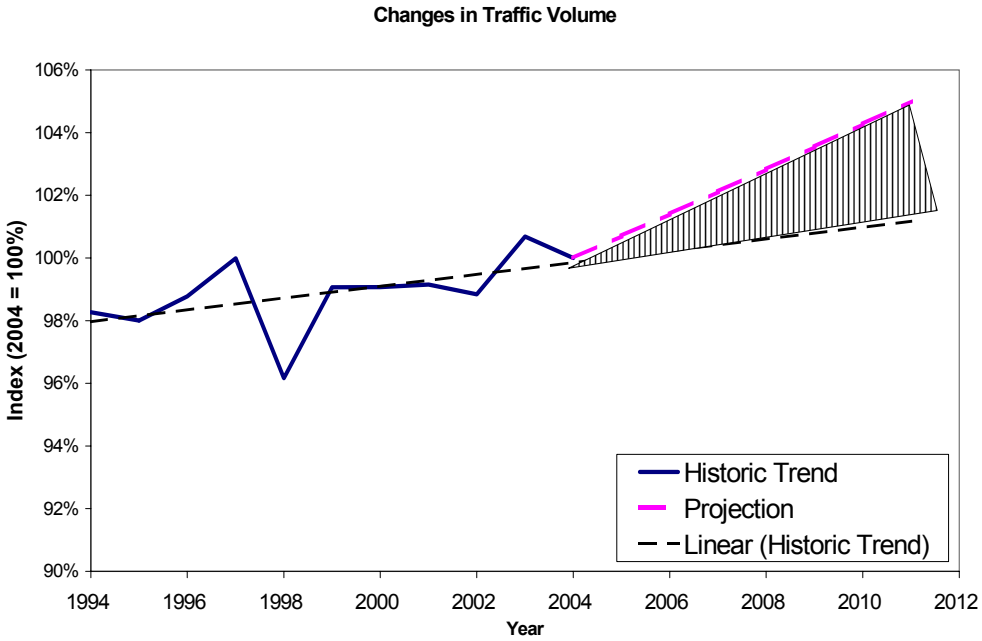
- greater service stability;
- simplified ticketing and fares
- fares capped to inflation; and
- better customer service;
- higher fleet investment and quality standards; and
- common branding and marketing.

TARGETS FOR TACKLING CONGESTION

Table F.7 Mandatory Indicator: Congestion – Average journey time per person mile on key routes

Mandatory Indicator
Average journey time per person mile on key routes in the AM peak period (0730-0930).
Local Target for Mandatory Indicator
M5 - To be finalised by July 2006
Baseline The calculation of this indicator has been the subject of detailed discussion between DfT and local authorities. Data on bus and car occupancies, bus journey times and vehicle flows on 14 key routes was collected in Autumn 2005. A delay in obtaining validated car journey time data, supplied by DfT from the ITIS database, has meant that it has not been possible to calculate a base year figure.
Trajectory Awaiting data from DfT.
Ambitious and Realistic Person journey time is a broader measure of congestion that includes delays to both car users and bus users. This indicator, therefore, reflects the balanced outcomes across all road user groups arising from our LTP strategy. Measures that make the most efficient use of the network, for example benefits to passengers arising from bus priority, should score relatively well using this indicator.
Actions Required by the Partnership • Delivery of LTP2 programme; • planning of the data collection and analysis programme required for this indicator; and • development of a TIF funding proposal during the period of LTP2.
Actions required by Local Partners N/A

Table F.8 Mandatory Indicator: Change in area wide road traffic

Mandatory Indicator
Change in area wide road traffic.
Local Target for Mandatory Indicator
M13 - No more than a 5% increase in 16-hour weekday traffic flows at a representative sample of sites from 2003/04 levels by 2010/11.
Baseline
2003/04 index = 100 During LTP1 traffic growth was measured by comparing annual changes in stratified samples of automatic traffic counts at locations across West Yorkshire. Changes in traffic flow equated to changes in the volume of traffic. In order to better estimate traffic volumes these flows will be weighted by road length in LTP2.
Trajectory

Ambitious and Realistic

Our trajectory suggests growth in a range of between 0% and 5% with a target of 5%. This is still below the national forecast.

Although traffic growth in West Yorkshire during LTP1 has been less than the national average it should be recognised that a target at the lower end of the range in LTP2 is likely to be unrealistic. This is due to:

- the change in our method of measurement;
- future forecasts of high employment growth, particularly in the Leeds district;
- the results of tests on our STM suggesting that traffic growth is most likely to occur in regeneration areas, where it may be less able to be contained by LTP strategy measures (e.g. city centre parking charges, restrictions on parking supply and improvements to public transport on radial routes into city centres); and
- increasing journey lengths (referred to in Part 1 of the LTP2).

In addition, the DfT's method of measurement will be more sensitive to increasing journey lengths in the way that flow data is not. Initial indications are, however, that the DfT data applicable to West Yorkshire had a strong correlation with the flow data previously used by the Partnership. Our revised methodology, incorporating road lengths, improves this correlation. The suggested target of 5% growth is believed to be realistic and deliverable. Where traffic growth occurs in regeneration areas, this may lead to some speed reductions, but is unlikely to exacerbate congestion locally as the areas affected are mostly unaffected by existing congestion.

Actions Required by the Partnership

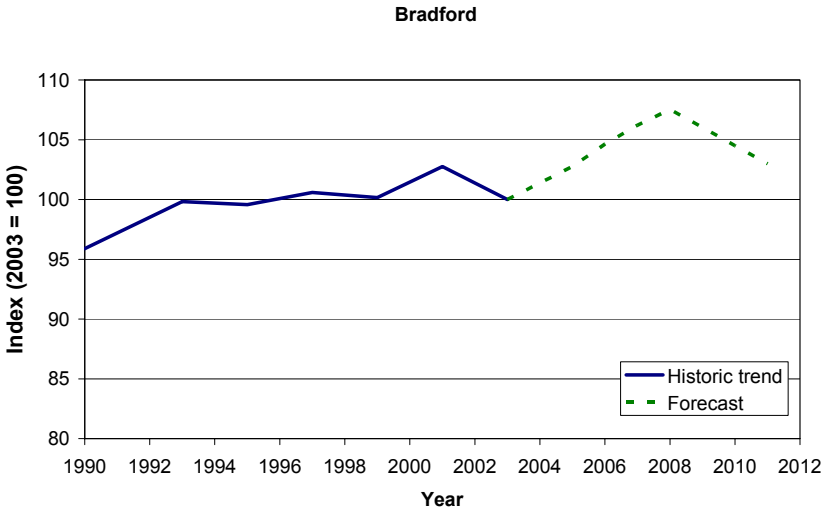
- Delivery of the LTP2 programme
- Ensuring that new development is accessible by sustainable modes with restrictions on car parking spaces.
- Development of a TIF funding proposal during the course of LTP2.

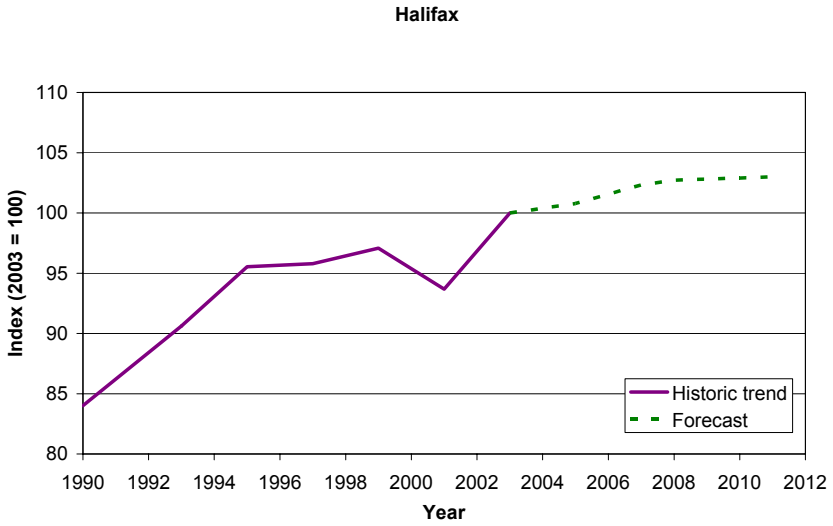
Actions Required by Local Partners

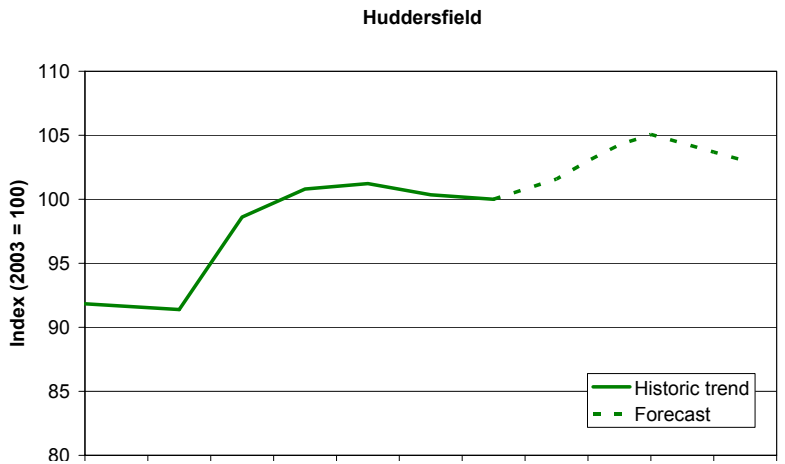
Engagement in the accessibility planning process (Appendix C).

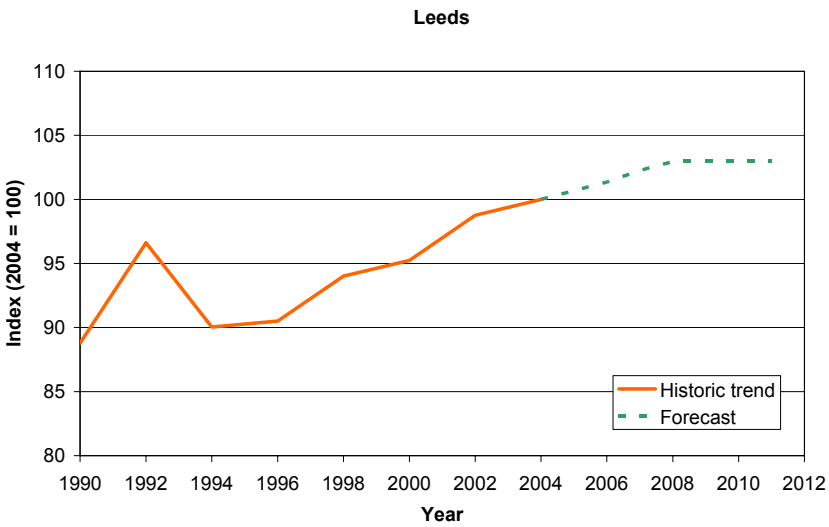
Table F.9 Mandatory Indicator: Change in peak period traffic flows to urban centres

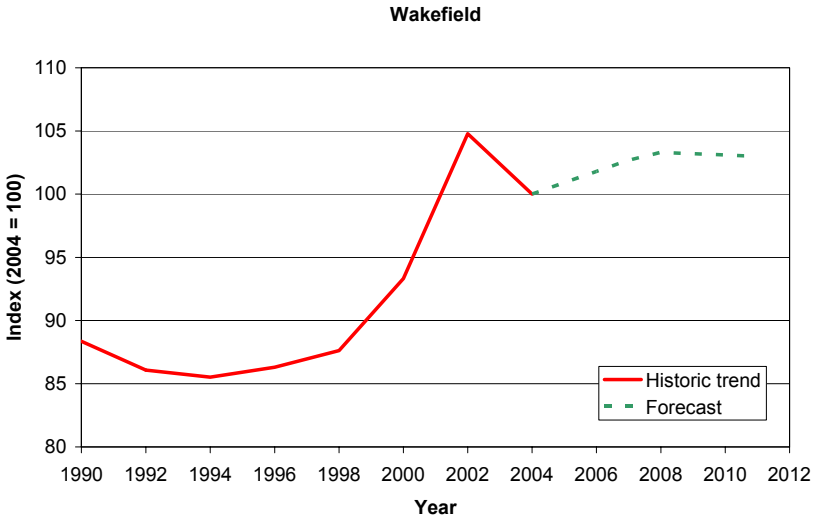
Mandatory Indicator
Change in peak period traffic flows to urban centres
Local Target for Mandatory Indicator
M6 - Limit the increase in morning peak period (0700-1000) traffic flows to 3% in Leeds, Bradford, Halifax, Huddersfield and Wakefield (linked to reductions in car-based mode share in Leeds and stabilisation in other centres (see local target L3).
DfT Minimum Standard
No increase between baseline and 2010/11 (unless there are significant reductions in car mode share).
Baseline
Leeds (2004) Bradford (2003) Halifax (2003) Huddersfield (2003) Wakefield (2004) Index =100
Trajectory











Numerical Trajectory

Forecast index of inbound traffic 2005-2011 (0700-1000)

	2005	2006	2007	2008	2009	2010	2011
Bradford	102.8	104.6	106.2	107.5	106.0	104.5	103.0
Halifax	100.8	101.6	102.3	102.7	102.8	102.9	103.0
Huddersfield	101.6	103.0	104.3	105.1	104.4	103.7	103.0
Leeds	n/a	101.4	102.3	103.0	103.0	103.0	103.0
Wakefield	n/a	101.8	102.7	103.3	103.2	103.1	103.0

Note: currently each cordon is counted biannually

Ambitious and Realistic

Although we expect to meet our targets for **peak hour** traffic growth into urban centres in West Yorkshire for the period of LTP1 (zero growth in Leeds and 3% growth in Halifax, Huddersfield, Bradford and Wakefield), it should be recognised that achieving the DfT satisfactory target for zero growth in the **peak period** is likely to be unrealistic.

The challenge for West Yorkshire is to set ambitious targets while allowing for the effects of continued economic growth. 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. Within West Yorkshire, however, the greatest percentage increase in employment is forecast for Bradford. Successfully 'spreading the benefits' of Leeds as an economic driver for the district centres is likely to add further transport growth pressures in the district centres. The STM suggests that peak period traffic growth into urban centres will mainly be 'neutral' (i.e. less than 5%) with the preferred LTP strategy.

Based on our experience in LTP1 we think that some degree of absolute traffic growth is inevitable, but that ambitious targets would restrict this to less than national road traffic growth forecasts, with a complementary increase in mode share away from private car. We recognise the importance that DfT attaches to this last objective, where traffic growth is forecast. The key evidence of our success in this last respect is via an examination of modal share surveys. These show that the modal share of morning peak trips by car to Leeds city centre has fallen from 61% in 2000 to 57% in 2005 – a statistically significant change. This demonstrates a successful strategy to manage the transport demands placed upon Leeds during a period of economic expansion and underlines the importance of continued investment in public transport within all the district authority centres.

This forms the context for our approach towards setting a target in LTP2. In particular, it suggests that we can have some confidence in delivering DfT's requirement for any increases in traffic to be linked to positive increases in mode share away from private car. The targets for this are set out in Local Indicator L3.

Suppression of traffic growth in future years will require continued investment in public transport, particularly via the West Yorkshire bus strategy and YBI, (Target M8), as well as ensuring that demand management measures are in place to support this investment. Growth in peak rail patronage, principally for journeys to Leeds, (Target L5), will restrict growth. An increase in car sharing is linked to membership of 'Liftshare' where all five Districts are expected to be signed up by early 2006. Significantly increased levels of city centre living, particularly in Leeds and Bradford, are also expected to reduce inbound commuting levels by private car.

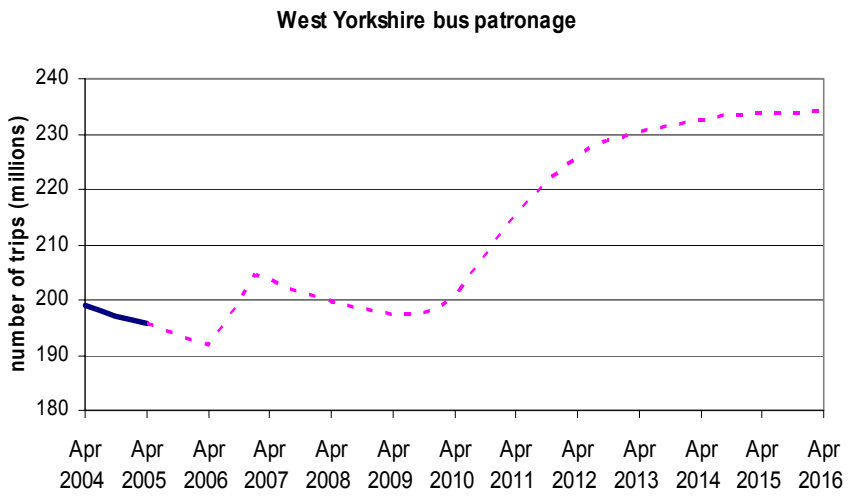
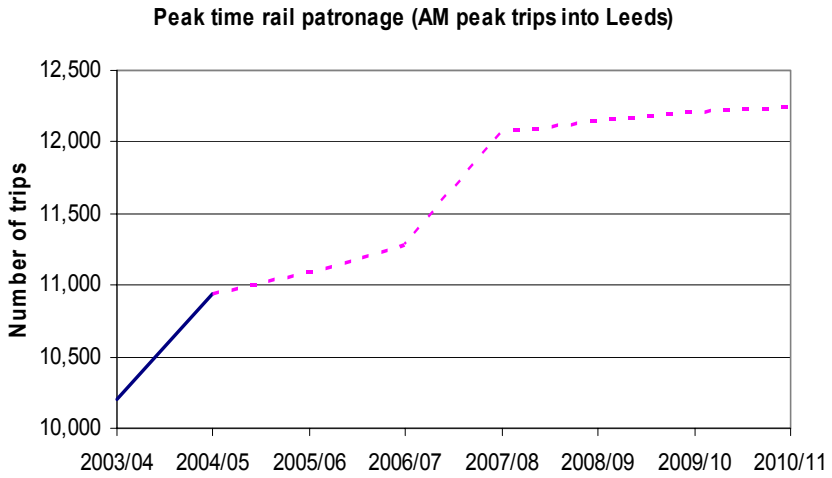
Actions Required by the Partnership

- Delivery of all elements of Bus Strategy
- Delivery of all elements of Rail Plan
- Ensuring that new development is accessible by sustainable modes with restrictions on car parking spaces
- Roll out of Travel Plan Initiatives
- Promotion of 'Liftshare'

Actions Required by Local Partners

- Commitment and investment by bus operators
- Funding of additional rolling stock by Yorkshire Forward
- Engagement in the accessibility planning process (Appendix C).

Table F.10 Mandatory Indicator: Public transport patronage

Mandatory Indicator Public transport patronage (BVPI 102).
Local Targets for Mandatory Indicator M8 - A 5% increase in bus patronage by 2010/11 L5 - Increase in bus patronage above the West Yorkshire baseline on QBC routes. L4 - Increase peak time rail patronage on local train services into Leeds by 20% by 2010/11
DfT National Target By 2010, increase the use of public transport (bus and light rail) by more than 12 per cent in England compared with 2000 levels, with growth in every region.
Baseline 2003/04 West Yorkshire bus patronage: 199.1 million (BVPI102) QBC patronage: West Yorkshire bus patronage change +/- (dependant upon route and year) Peak time rail patronage: 10,209 (AM local peak trips into Leeds)
Trajectory    

Ambitious and Realistic

This Mandatory Indicator is measured according to BVPI102 methodology. Our trajectory and target have been informed by the use of a bus-specific modelling package (BSEL). Using BSEL, the effect of strategy levers and aspects of the "bus experience" has been matched to patronage levels. BSEL uses elasticities of demand identified in the TRL report *The Demand for Public Transport: A Practical Guide* and draws from market research, PTE statistics and a literature review including CfIT work, DfT transport statistics and *The Bus Industry Monitor* from TAS. The model predicted a 3% growth in bus patronage over the LTP2 period. When combined with a number of interventions which were not modelled in detail (for example, Park and Ride, and demand management) and allowing for the potentially variable impact of concessionary fares, a realistic but ambitious target of 5% has been set.

In the bus patronage trajectory modelled by BSEL, initial growth is caused by free bus fares for older and disabled people following the Government's 2005 budget announcement, but the background decline in bus patronage continues. This contrasts with the STM which forecast some increased bus patronage at peak times across city centre cordons. These conflicting trends are not incompatible. Growth occurs on these core routes as they are converted to QBC, but decline continues elsewhere due to:

- product factors including fare rises above inflation, fares complexity, lack of marketing, poor service standards and lack of network stability;
- lower population densities due to household occupancy decline;
- increasing car licence and car ownership particularly amongst traditional bus users; and
- more diverse trip patterns which are harder to service by public transport (e.g. from historic planning consents still being implemented).

The 2005 report *Delivery Chain Analysis for Bus Services in England* states that DfT recognise that currently, much of the bus service delivery chain is in the hands of private sector bus operators and difficult to influence directly. The effect of additional levers on product factors (available as part of the more radical strategy approach being pursued by the Partnership) starts to deliver growth by 2010. The benefits of the more radical approach, compared to do minimum, will be even more marked beyond the time horizon of LTP2. Our target is our forecast of net patronage growth by the end of the LTP2 period, however the precise impact of free concessionary fares on patronage is very difficult to model and our target will need to be reviewed after their implementation.

We have also set a local target for QBC routes. Our monitoring data shows that LTP funded QBC routes increase bus patronage, but this does not necessarily impact on the West Yorkshire wide, Mandatory Indicator. The aim of this target is to show how LTP funded schemes do make a difference 'on the ground'. All schemes subject to 'before and after' monitoring will be included.

We have also set a local target for peak time rail patronage. Rail is an important part of our LTP2 strategy. A significant constraint to continuing rail growth is the capacity of peak time rail services, mostly into Leeds. As our research shows that most rail users have access to a car; this constraint will impact on our ability to meet our traffic growth and future congestion targets. Our target and trajectory relates to trains operated by Northern arriving in Leeds between 0730 and 0930, and takes into account:

- a scheme for 12 additional carriages part funded by Yorkshire Forward to be implemented by December 2006
- matching platform extensions funded by LTP2
- additional Leeds – Sheffield rail services
- greater use of spare capacity in the shoulder peak.

The bus patronage target refers to all-day growth distributed across the West Yorkshire bus network. This translates into a much smaller absolute quantity of new passengers travelling in peak periods, in urban areas and on radial corridors into city centres. As bus mode share is generally much lower than for car, this has a further reducing effect on the impact of increased bus use on congestion. It is therefore difficult to link with certainty the projected growth in all-day

bus patronage with a positive effect on overall peak period congestion levels. However, our local indicator for bus patronage on QBC's will demonstrate how, after LTP investment, bus patronage increases above the West Yorkshire patronage baseline, in addition to delivering benefits for existing users. Furthermore, peak rail patronage will have a demonstrable effect on specific corridors in Leeds. This factor has been incorporated into our analysis of traffic growth, both all day district wide (M13) and urban area morning peak periods (M6).

Actions Required by the Partnership

- Delivery of the LTP2 funded YBI programme of traffic management, bus priority measures and new facilities with major schemes funded by DfT;
- use of Traffic Managers to assist the movement of buses in conjunction with the Police;
- implementation and enforcement of decriminalised parking, particularly where this obstructs buses; and
- pursue a more radical strategy approach to deliver higher quality bus services.

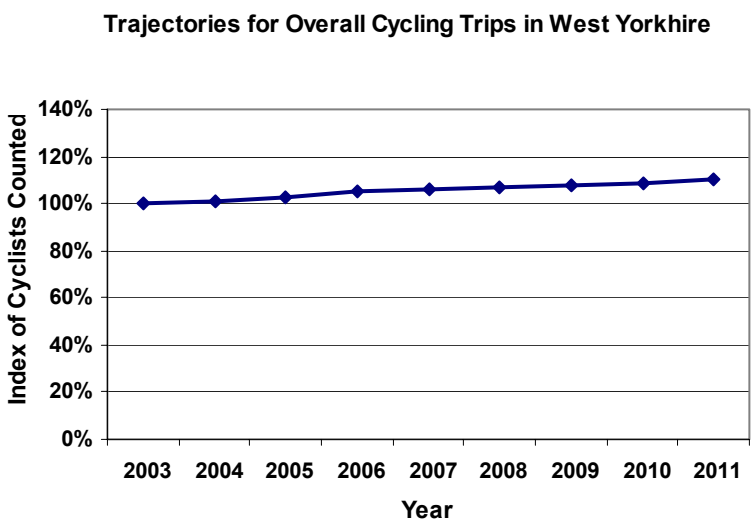
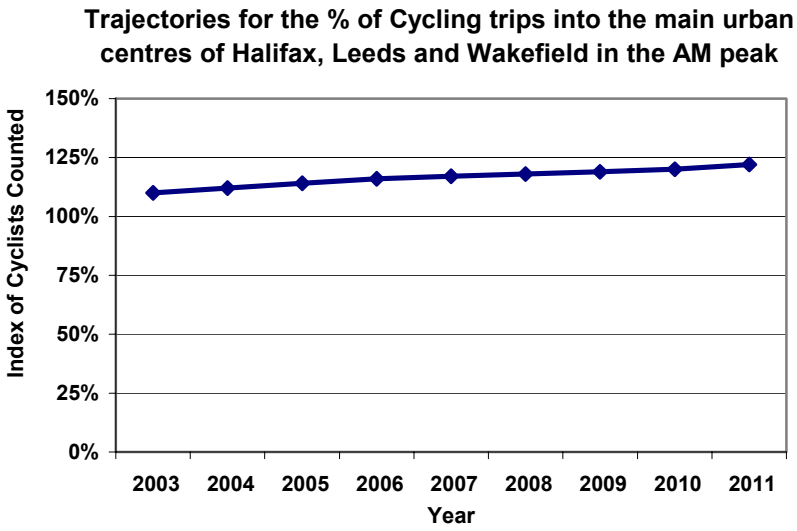
Actions Required by Operators

- Performance and customer services improvements achieved through voluntary agreements; and
- pro-active use of the RTPI System for bus fleet management, participation by operators in WYTESA and implementation of PIPS;

In addition, the Partnership will pursue a more radical strategy approach to deliver higher quality bus services. The impact on the mandatory target of this approach has been modelled using BSEL where possible. The approach includes;

- simplified ticketing, fares and routes to reduce boarding time delays;
- improved networks;
- greater service stability;
- simplified ticketing and fares;
- fares capped to inflation;
- better customer service;
- higher fleet investment and quality standards;
- common branding and marketing;
- correct deployment of additional rail rolling stock on the West Yorkshire rail network at peak times (rail operators); and
- maintaining acceptable performance (rail operators).

Table F.11 Mandatory Indicator: Cycling trips

Mandatory Indicator Cycling trips (annualised index of cycling trips).
Local Targets for Mandatory Indicator M4 - A 10% increase in overall cycling levels by 2010/1. L2 - A 20% increase in cycling trips to Leeds, Wakefield and Halifax centres during the AM peak (0730-0930) by 2010/11.
DfT Minimum Standard No reduction in cycling levels
Baseline 2003/04 – Index 100 Overall cycling levels are estimated from a sample of on and off road survey sites across West Yorkshire. Cycling trips to main urban centres are taken from annual cordon counts taken on three separate days.
Trajectory    

Ambitious and Realistic

We believe that cycling targets for LTP2 should be ambitious enough to demand growth, whilst recognising the topographical and weather-related constraints that exist. We have therefore based our targets on recent areas of monitoring. The key areas are:

- monitoring from 182 on road sites during 2004/05 recorded the largest number of cyclists since 2001/02;
- Sustrans' surveys of the Spen Valley Greenway, an off road route in Kirklees revealed a 50% increase in the number of cyclists using the link midweek;
- the 'Hands Up' school survey conducted across West Yorkshire shows that cycling to school has increased significantly, by 129%, since 2000, within the schools surveyed. For example, at Todmorden High School, where cycle storage has been provided cycle use increased from 1% to 1.8% of all trips; and
- a number of on road urban count sites close to Leeds city centre have shown an increase in cyclists between 1994 and 2004 over and above the general trend across West Yorkshire.

Evidence of local increases in cycling is encouraging and reflects the level of commitment and investment in cycling within West Yorkshire. Each district authority has a dedicated cycle officer who is involved in highway scheme design, ensuring that cyclists are considered from the earliest possible stage. As such the programme of investment in cycle infrastructure, supported by promotion, training and work within schools will continue.

A significant problem during LTP1 has been monitoring cycling levels, with anecdotal evidence of increases in cycling not always being supported by limited data collection. Our monitoring programme for LTP2 will be revised and supplemented with a data from automatic cycle counters and further sites with dedicated manual counts in key urban areas.

Future changes will be shown indexed to the baseline.

Actions Required by the Partnership

- roll-out of Advanced Cycle Training for 11-18 year olds;
- continued support for the Safer Routes to School programme;
- increase the length of the off-road cycle network;
- provide appropriate infrastructure at public transport interchanges;
- make the on-road network safer and more convenient for cyclists;
- provide directional signing;
- promote the benefits of cycling; and
- making the links between walking, cycling and the wider health agenda.

Actions Required by Local Partners

- co-operation from the PCT and Health Authorities;
- guidance and financial support from Sustrans;
- guidance from Cyclist Touring Club (CTC) and other cycling groups on 'best practice'; and
- continued cooperation from School staff in the training and promotion of cycling.

Table F.12 Mandatory Indicator: Mode Share of Journeys to School

Mandatory Indicator Mode share of Journeys to School
Local Target for Mandatory Indicator M7 - To be set following release of Pupil Level Annual School Census (PLASC) survey data in 2006
DfT Minimum Standard No reduction in the ratio between the total number of pupils and the total number of car journeys to school between baseline and 2010/1
Baseline To be confirmed once PLASC data is received.
Trajectory To be confirmed once PLASC data is received.
Ambitious and Realistic This target will be set prior to the first progress report.
Actions Required by the Partnership • continued funding of school travel advisers; • continue development of Safe Routes to School, cycle routes, walking bus etc.; • complimentary promotion of activities; • continue roll out of MyBus project; and • parking controls around schools.
Actions Required by Local Partners • Travel Planning given increasing priority in schools; • healthy schools programme; and • increased government funding for school travel advisers.

Table F.13 Local Indicator: AM peak period mode split to urban centres

Local Indicator

AM peak period mode split to urban centres

Local Targets for Local Indicator

L3 - Reduce the proportion of car-based trips into central Leeds from 57% in 2004/05 to 55% by 2010/11and No increase in car mode share in Bradford, Halifax, Huddersfield and Wakefield

Baseline

Car Mode Shares for 2004/05: Bradford – 73.6% Halifax – 74.4% Huddersfield – 64.9% Leeds – 57.3% Wakefield – 61.7%

Trajectory

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Bradford	73.6%	73.6%	73.6%	73.6%	73.6%	73.6%	73.6%
Halifax	74.4%	74.4%	74.4%	74.4%	74.4%	74.4%	74.4%
Huddersfield	64.9%	64.9%	64.9%	64.9%	64.9%	64.9%	64.9%
Leeds	57.3%	56.9%	56.5%	56.1%	55.7%	55.3%	55%
Wakefield	61.7%	61.7%	61.7%	61.7%	61.7%	61.7%	61.7%

Ambitious and Realistic

Based on our experience in LTP1 as well as predictions and the encouragement of economic growth in West Yorkshire, some absolute traffic growth is likely. To offset this we have examined the prospect of better management of the growth between the modes with an emphasis upon mode shift away from private car. DfT also attaches an importance to this where traffic growth is forecast.

The prospect of pursuing such a target in each of our urban centres has been examined. The key evidence of success is via an examination of modal share surveys. However these need to be placed within a framework of further traffic growth driven by growth in the economy. It has also been important to be realistic about the possibility of growth in non car modes keeping up with the rate of car growth during the plan period.

The key target area is within Leeds where examination of data shows that the modal share of morning peak trips by car to Leeds city centre has fallen from 61% in 2000 to 57% in 2005. This demonstrates a successful strategy to manage the transport demands placed upon Leeds during a period of economic expansion and underlines the importance of continued investment in public transport within all the district authority centres. Given that we are adopting a similar approach in LTP2 we are of the opinion that it is not unrealistic to expect further shifts towards non car modes particularly rail and bus. The focus of our target is therefore to achieve a reduction in car mode share in the AM peak into central Leeds.

In addition, we are also setting a target of stabilising the car mode share in Bradford, Halifax, Huddersfield and Wakefield. For these centres, evidence of modal shift has not been as clear cut over the life of LTP1. Given that each Authority expects some level of traffic growth brought about by economic growth encouraged at the regional level, stabilisation is felt to be a stretching target particularly as trips made by the competing modes will need to grow at a high rate in the peak period to keep up with the growth in car trips.

Actions Required by the Partnership

- Delivery of all elements of Bus Strategy
- Delivery of all elements of Rail Plan
- Ensuring that new development is accessible by sustainable modes with restrictions on car parking spaces
- Roll out of Travel Plan Initiatives

Actions Required by Local Partners

- Commitment and investment by bus operators
- Funding of additional rolling stock by Yorkshire Forward

TARGETS FOR SAFER ROADS

The targets for casualty reductions take into account recent trends, planned initiatives, local developments and demographics, and in particular, the effects of targeting all our efforts at those most in need.

The two baseline figures used are:

- the 1994-98 average; and
- the 2002-2004 average for the stretched element of the local targets that are based on the national targets for casualty reduction.

The 2002-2004 average is considered a robust base for further projections. The use of a single year's figures (2004) does not give this and in accordance with LTP guidance and government seminars the Partnership has used the three-year average.

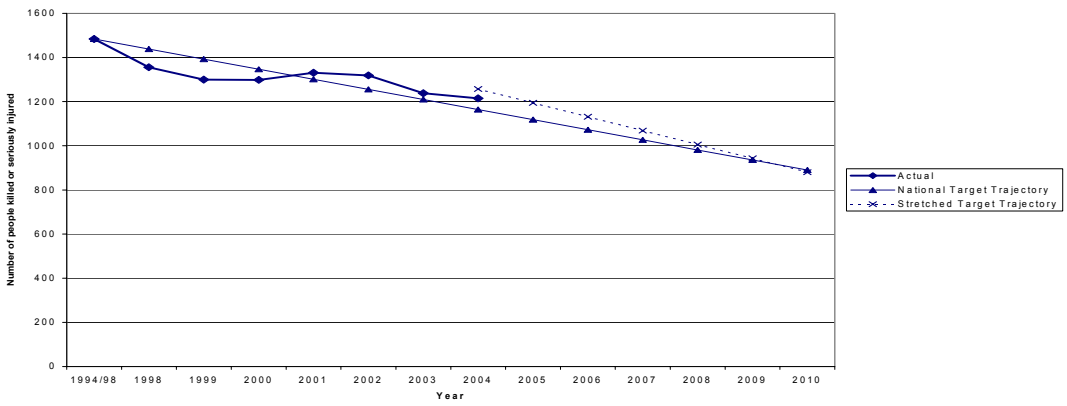
Reaching the target reductions is a partnership initiative between a number of agencies and with local people. Very many factors affect the outcomes including local, national, and EU policymaking and implementation. For example, the improvement to secondary safety in cars to protect pedestrians and cyclists has not progressed as quickly as was initially assumed in government forecasting. In any event this may well not be widely available in areas of high deprivation before the end of the programme period (2010).

The impact of partnership working in West Yorkshire has seen a significant fall in the numbers of people killed and seriously injured, including children during LTP1. The present road safety target reductions for West Yorkshire may need to be evaluated in relation to this fall alongside the implications of the changes in funding for road safety.

An announcement by DfT on the new funding arrangements was still awaited at the time of writing.

Table F.14 Mandatory Indicator: Total killed and seriously injured casualties

Mandatory Indicator
BVPI99a Total killed and seriously injured casualties (*i) Number of people KSI in road traffic collisions. (ii) Percentage change in the number of people KSI in road traffic collisions since the previous year. (iii) Percentage change in the number of people KSI in road traffic collisions since the 1994-1998 average.)*
Local Target for Mandatory Indicator
M9 - 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.
DfT National Target
A 40% reduction in the number of people KSI from the 1994-98 average by 2010.
DfT Minimum Standard
Either a 40% reduction from 1994-98 to 2010, or a 20% reduction from 2004 to 2010
Baseline
1994-1998 average (1,484) and 2002-2004 average (1,257).
Trajectory



Ambitious and Realistic

The targets are 890 and 880 respectively by 2010. The district authorities have stretched the National Target, to the 'minimum standard stretching' target recommended by the DfT.

Although the stretched target only reduces the total number of KSI casualties in 2010 by 10, the stretched target still reflects the district authorities' ambition to reduce the overall number of people KSI, but acknowledges that there are many factors outside our immediate control (e.g. levels of deprivation, and national and European initiatives and legislation). The district authorities have been realistic in projecting forward the current trends but have taken into account developments in speed management and in dealing with the road safety implications of disadvantage, which are at an early stage of development. The key will be in dealing with KSI's on major roads and at major junctions. The stretched target seems appropriate, given the levels of deprivation in West Yorkshire and the extent to which we will be able to manage speeds overall in the next five years.

Actions Required by the Partnership

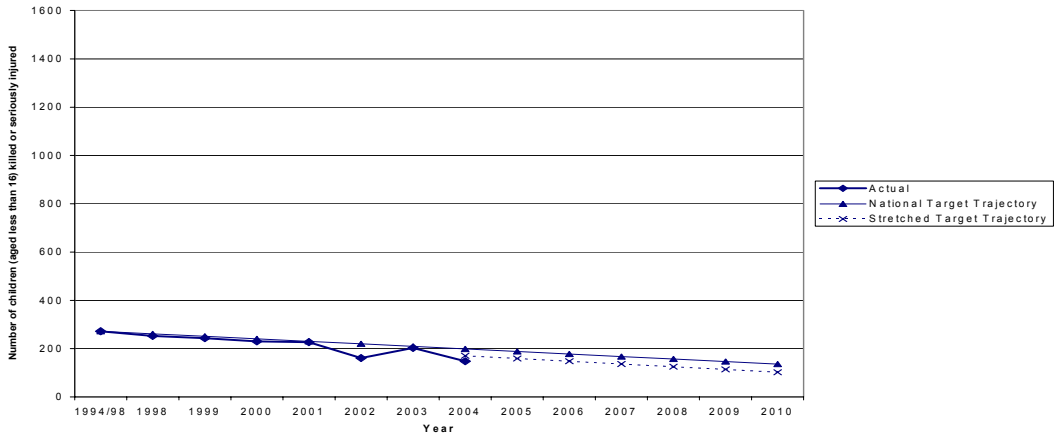
The co-ordination of work to reduce road injuries is the most important role for the Partnership particularly bringing together the agencies and engaging with local people to make safer roads. Proactive actions will be required to maintain reductions in road injuries including Initiatives to provide an appropriate road environment, teaching road safety skills and raising awareness. Speed management, including improved driver training, is important in West Yorkshire.

Actions Required by Local Partners

The Partnership is working and will continue to work in partnership with government departments and agencies, West Yorkshire Police, the NHS and with many other local agencies and representative groups, including LSP's. Actions range from enforcement, personnel promoting road safety in local communities and the provision of research, community facilities and road safety resources. The district authorities will seek to expand joint working and initiatives through the life of LTP2, including the use of new technology. The way in which Safety Cameras are funded will also have to be considered.

Table F.15 Mandatory Indicator: Child killed and seriously injured casualties

Mandatory Indicator
BVPI99b Child KSI casualties. (*(i) Number of children KSI in road traffic collisions. (ii) Percentage change in the number of children KSI in road traffic collisions since the previous year. (iii) Percentage change in the number of children KSI in road traffic collisions since the 1994-1998 average)*
Local Target for Mandatory Indicator
M10 - A 50% reduction in the number of children KSI from the 1994-98 average by 2010 (National Target), stretched to a 40% reduction from the 2002-2004 average by 2010.
DfT National Target
A 50% reduction in the number of children KSI from the 1994-98 average by 2010.
DfT Minimum Standard
Either a 50% reduction from 1994-98 to 2010, or a 25% reduction from 2004 to 2010
Baseline
1994-1998 average (272) and 2002-2004 average (171).
Trajectory



Ambitious and Realistic

The targets are 136 and 102 respectively by 2010. The district authorities have stretched the National Target, in excess of the 'minimum standard stretching' target recommended by the DfT.

Reducing child casualties has been a priority for some years now and the benefits are reflected in the significant reduction in KSI and serious injury to children driven by the reductions in injuries to child pedestrians in residential areas. The district authorities' target reduction is challenging but we are encouraged by the progress to date and the increasing impetus through skills training, the neighbourhood road safety initiative and the implementation of school travel plans – in addition to the work continuing to make residential roads safer.

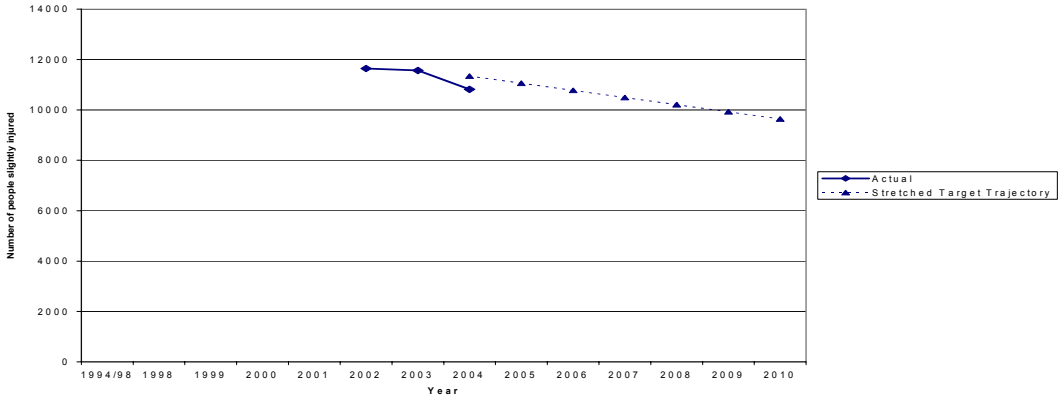
Actions Required by the Partnership

There are many initiatives involving the Partnership from the traditional road safety work and developing initiatives such as LAA's. Co-ordination and leadership is the most important action required by the Partnership supported by initiatives to provide a safe road environment and the necessary skills and awareness. Speed management and pedestrian training are key issues.

Actions Required by Local Partners

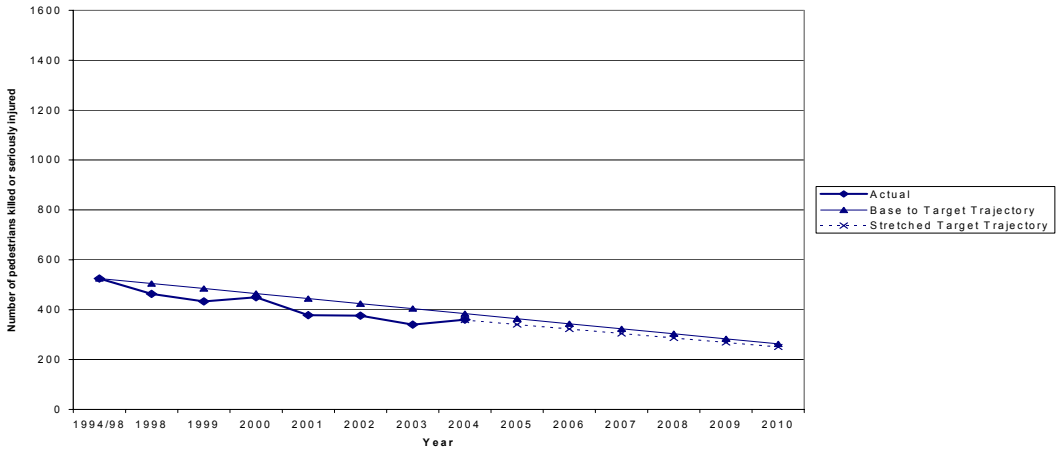
The main requirements are as detailed in the reduction of all KSI's – particular use will need to made of those agencies with specialist skills in dealing with children and dealing with children in local communities. Adequate supervision of younger children is an issue that will need to be promoted in terms of keeping children safe.

Table F.16 Mandatory Indicator: People slightly injured in road traffic collisions

Mandatory Indicator
BVPI99c People slightly injured in road traffic collisions. *(i) Number of people slightly injured in road traffic collisions. (ii) Percentage change in the number of people slightly injured in road traffic collisions since the previous year. (iii) Percentage change in the number of people slightly injured in road traffic collisions since the 1994-1998 average.)*
Local Target for Mandatory Indicator
M11 - A 15% reduction in the number of people slightly injured from the 2002-2004 average by 2010.
DfT Minimum Standard
No increase over recent levels
Baseline
1994-1998 average (82 people per 100 million vehicle kms) and 2002-2004 average (11,343 people).
Trajectory

Ambitious and Realistic
The target is 9,642 by 2010. The National Target has already been met (a 10% reduction in the slight casualty rate from the 1994-98 average by 2010, expressed as the number of people slightly injured per 100 million vehicle km). The stretched LTP2 target is number based, due to a change in BVPI 99 definitions. Given these circumstances the district authorities have adopted a stretched target, in excess of the 'minimum standard stretching' target recommended by the DfT. Continuing attention to speeding and the expansion of the local safety schemes programme to a 100% rate of return will increase the impetus towards the target reduction.

Actions Required by the Partnership
The actions required by the Partnership are as detailed for the local target related to 'all people KSI'. Increasing attention will need to be given to speed management, to local safety schemes and to all initiatives that raise awareness of road safety issues.
Actions Required by Local Partners
Again as detailed in all KSI's. Increased attention needs to be given to promotion and awareness of road safety issues including appropriate enforcement initiatives.

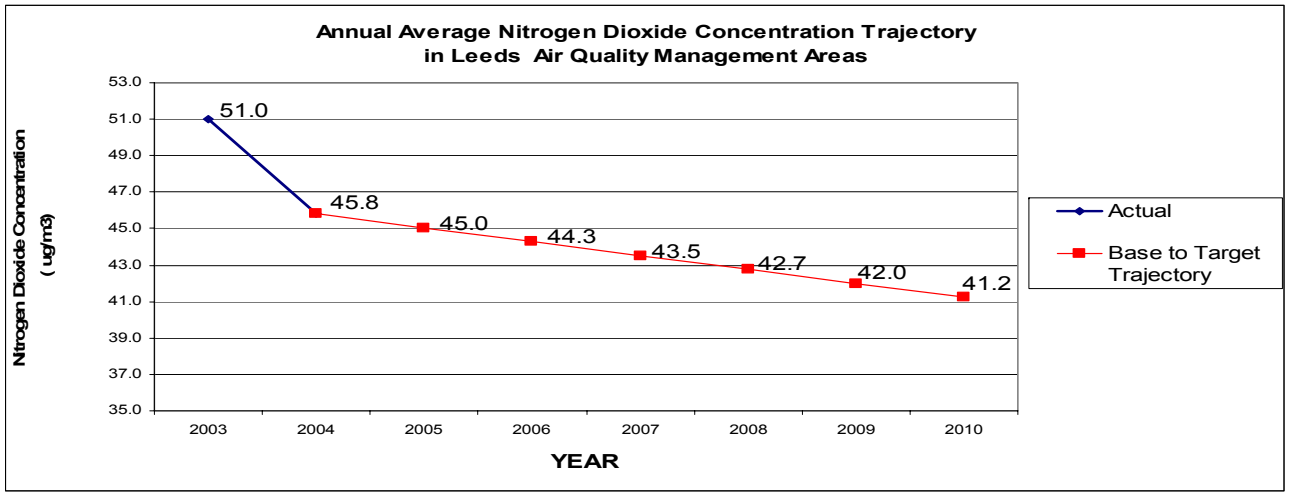
Table F.17 Local Indicator: Number of pedestrians killed or seriously injured in road traffic collisions

Local Indicator
Number of pedestrians KSI in road traffic collisions.
Local Target for Local Indicator
L6 - 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.
Baseline
1994-1998 average (525) and 2002-2004 average (359).
Trajectory

Ambitious and Realistic
The targets are 263 and 251 respectively by 2010. Whilst there have been significant reductions in KSI to child pedestrians, adult pedestrians have not decreased to the same extent. Increasing attention to major roads and, to a certain extent town and city centres, is necessary to achieve the target reduction informed by studies that are currently in progress. We have yet to see a significant reduction in the numbers of adult pedestrians being KSI, and this affects the level to which the target can be stretched. West Yorkshire traditionally has high levels of pedestrian injuries related to demographics, environment and deprivation (car ownership). In terms of community benefits, healthy activity and other such factors the district authorities must improve pedestrian safety. The stretched target is recognition of the particular circumstances in West Yorkshire. Attention to major roads and to town and city centres would be part of the forward strategy.
Actions Required by the Partnership

Attention needs to be given to the identification of pedestrian networks and links and the safety implications where there are deficiencies. Speed management and increased crossing provision in shopping areas are key issues.
Actions Required by Local Partners Actions are as detailed in all KSI's and child KSI's. Information on the needs of pedestrians in local communities is essential for forward programming and that information can be obtained from local partners.

TARGETS FOR BETTER AIR QUALITY

Table F.18 Mandatory Indicator: NO_2 emissions in Air Quality Management Areas (AQMA's)

Mandatory Indicator
NO_2 annual average concentrations in designated AQMA's.
Local Target for Mandatory Indicator
M12 - A 10% reduction in NO_2 annual average concentrations in the Leeds AQMAs from 2004/05 levels by 2010/2011 (related to LPSA) Targets for other AQMA's will be set as the Action Plans are developed during LTP2
Baseline
Annual average NO_2 concentration of 45.8µg/m^3 for the year 2004, monitored at Haslewood Close in the Ebor Gardens AQMA. This AQMA represents the worst affected AQMA in Leeds. The real time monitoring station within the Ebor Gardens AQMA is located close to York Road, the major road traffic source of NO_2.
Trajectory

Ambitious and Realistic
Using the DEFRA Technical Guidance Local Air Quality Management (LAQM). TG (03) box 6.6, correction factors based on Haslewood Close baseline figure for 2004, indicate a trajectory reduction of 15%. However, based on monitored trends of annual average NO_2 at other urban sites within Leeds, 2003 was a

particularly bad year for dispersion whilst 2004 was better than average year for dispersion. Therefore a smaller reduction of around 10% is likely to be more realistic but still ambitious. The trajectory for a 10% reduction in annual average NO_2 over the LTP2 period may still result in an exceedance of the NAQS.
Actions Required by the Partnership Leeds has developed an appropriate AQAP, predominantly based on transport measures to reduce vehicle emissions. The AQAP is integrated into LTP2. Wakefield has declared AQMA's adjacent to both the M1 and A1 and is developing their own suitable AQAP. Calderdale has very recently declared an AQMA but has not had enough time to determine a suitable target or develop a suitable AQAP. All Districts continue to identify AOCs for which more evidence is required before determining whether they should be declared as AQMAs or not. All declared AQMAs and identified AOCs are shown on Figure 2.18 of the LTP. Consultation with the HA will be required for all major strategic road sourced AQMA's.
Actions Required by Local Partners A sub regional transport emissions working group has been established to co-ordinate air quality issues in West Yorkshire. This group will consult with Metro, Local Bus Operators, HA, District Fleet Managers, neighbouring district authorities and other local groups that influence transport.

Table F.19 Local Indicator: Annual road traffic emissions of NO_x on the principal road network

Local Indicator

Annual road traffic emissions of NO_x across the West Yorkshire principal road network.

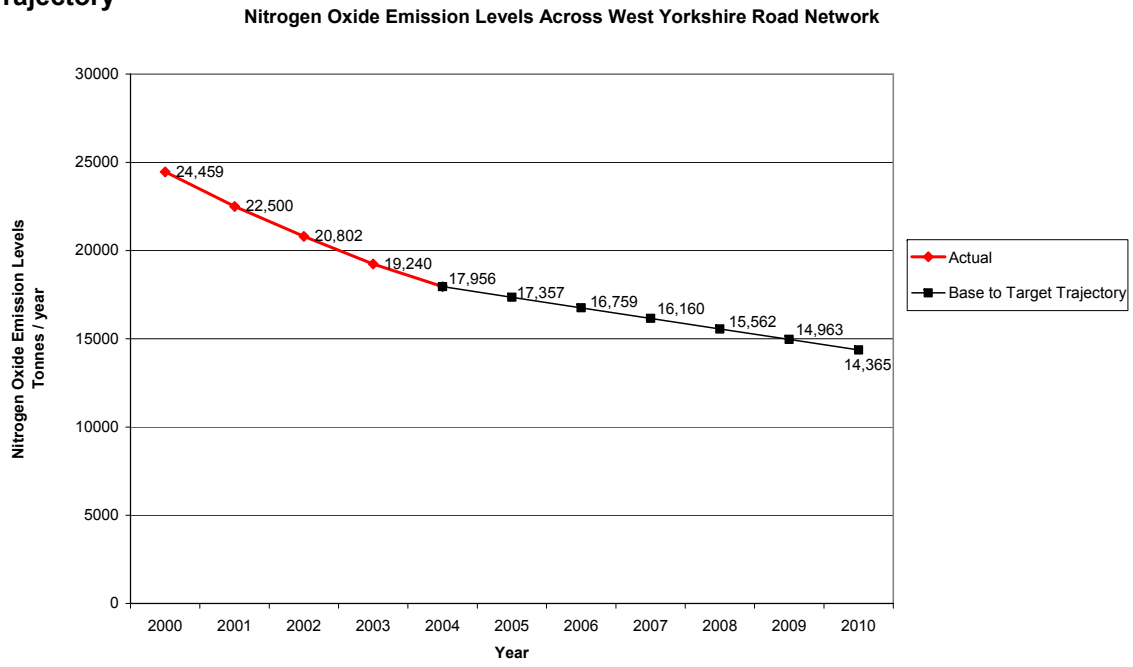
Local Target for Local Indicator

L7 - A 20% reduction in NO_x across the West Yorkshire from 2004/05 to 2010/11.

Baseline

Emissions of NO_x from the West Yorkshire principal road network have been predicted using the Airviro Emission database. Traffic information for non-strategic roads was provided by a local traffic data document 'Information Note 13', based on 'all roads' growth factors for each District. Data for motorways were based on traffic counts. The predicted annual NO_x emission rate for the year 2004 is approximately 18,800 tonnes/ year. At present speed data is based simply on the speed limits of individual roads.

Trajectory



Ambitious and Realistic

It is anticipated that the annual emission rate for NO_x will continue to fall, but at a smaller overall rate than observed between the years 2000-2004. The

benefits of a cleaner West Yorkshire vehicle fleet will continue to make the most significant contribution to reducing emissions of NO_X.

DMRB emission factors indicate the vehicle fleet is likely to clean up at a similar rate of improvement over the LTP2 period as it did for LTP1. However the trend of the modelled emissions over LTP1 also indicates that the rate of improvement is slowing down year by year due to the impact of the increasing number of vehicles and the associated increase in total distance covered by the vehicle fleet.

Actions Required by the Partnership

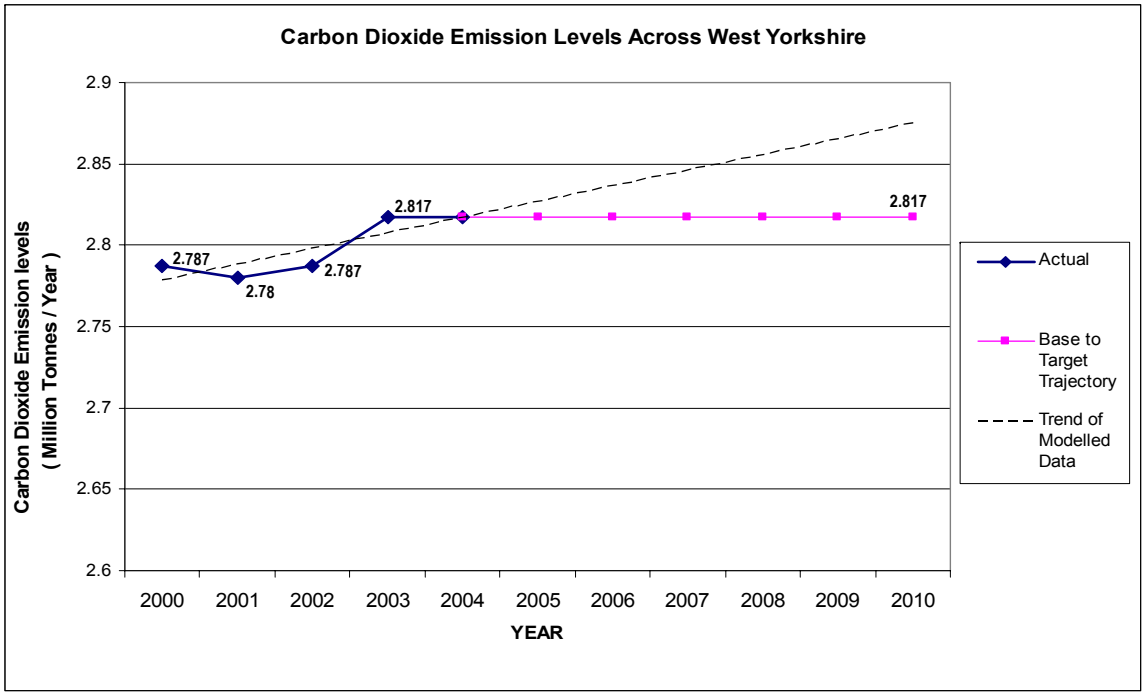
The district authorities have developed, or are in the process of developing transport based AQAP's, aimed at reducing vehicle emissions of NO_x. These AQAP's are integrated into LTP2. Consultation with the HA is required to help develop measures to mitigate motorway emissions of NO_x.

Actions Required by Local Partners

WYTEG will co-ordinate air quality for the Partnership. This group will consult with Metro, Bus Operators, HA, Fleet managers and local groups with interest in transport.

Table F.20 Local Indicator: Annual road traffic emissions of CO_2 on the West Yorkshire principal road network

Local Indicator
Annual road traffic emissions of CO_2 across the West Yorkshire principal road network.
Local Target for Local Indicator
L8 - No Increase in CO_2 emissions from 2004/05 to 2010/11.
Baseline
Emissions of CO_2 from the West Yorkshire principal road network have been predicted using the Airviro Emission database (same assumptions as for prediction of NO_X). The predicted annual CO_2 emission rate for the year 2004 is approximately 2.82 million tonnes/year. At present speed data is based simply on the speed limits of individual roads.
Trajectory



Ambitious and Realistic

Regional trends of transport based CO_2 emissions, published by DEFRA and NETCEN, show a steady increase in road traffic based CO_2 emissions within West Yorkshire. This trend has been mirrored by the Airviro modelling of West Yorkshire's principal road network CO_2 emissions

The modern vehicle fleet is slowly becoming more efficient and with increased diesel content, will lead to small reductions in CO_2 emissions. However it is anticipated that the level of traffic growth associated with economic growth in West Yorkshire will negate the improvements that are predicted to occur through cleaner technology by the end of LTP2.

Actions Required by the Partnership

- WYTEG shall help co-ordinate initiatives to help mitigate vehicle emissions of CO_2;
- many actions similar to those incorporated within the AQAP will reduce CO_2; and
- other initiatives such as promoting renewable fuels, electric, hybrid and modern diesel technology engines together with efficient UTMC will further help mitigate CO_2 emissions.

Actions Required by Local Partners

WYTEG and Travelwise/Smart Choice Units will help co-ordinate the District Climate Change Working Groups and help raise awareness of Climate Change issues. This group will consult with Metro, Bus Operators, HA, Fleet managers and interested transport groups.

Continue partnership working with local universities and involvement with relevant European research projects.

TARGETS FOR EFFECTIVE ASSET MANAGEMENT

Highway maintenance performance is measured against four mandatory BVPI's covering the condition of the major footways and all of the carriageway network. The surveys employed to determine condition are as specified by the ODPM. Where the specified survey method changes during the period of LTP2 reporting, the targets will need to be re-based.

Targets have been calculated based on likely funding through LTP settlements, other capital resources and revenue. Trend analysis has been used to evaluate the impact of funding. This effectively models the net improvement in the condition of the network, taking into account the rate of repair set against the rate of deterioration. Careful consideration of potential savings in the report *Releasing Resources to the Front Line, Independent Review of Public Sector Efficiency* and the way in which budgets are allocated to works ensures that best use is made of available resources. Thus targets have been set which are both ambitious but realistic.

The principle risk is that the network will deteriorate more quickly than has been experienced in recent years. This could be due to abnormal weather conditions, utility activity, increased wear and tear or a combination of factors. Continuity of funding is a further risk with LTP settlements representing less than half of the budget needed to achieve the targets. District authorities are topping up LTP and revenue budgets but overall pressures on local government may require a review of funding strategies. The amount of work which can be delivered with the likely funding could also be a risk as contract prices are heavily influenced by the world oil price and street scene agendas for improving neighbourhoods tend to result in higher maintenance specifications. Finally, with an excess on district authority insurance policies of up to £500,000 there is a risk that liability on a small number of high value claims could impact on the funding available for delivering schemes on the ground. Overall, given four condition indicators representing different parts of the network, there is a danger that focusing on improving performance against one indicator will have a negative impact elsewhere as budgets are moved around.

The greatest risk from network deterioration is on roads which are just beginning to fail. The cost of repairs can increase significantly over a short period. District authorities will manage this risk by including programmes of cost effective preventative maintenance within their overall strategies to minimise the number of additional streets which fall into a state where major work is required. District authorities will continue to lobby to maximise available funding. Actions include working with neighbourhood representatives to provide top up funding for enhancement work so that maintenance budgets can be focused on improving the network condition. Continuous review of contract arrangements for delivering work will help ensure savings in the report *Releasing Resources to the Front Line, Independent Review of Public Sector Efficiency* are achieved while effective claims management combined with regular inspection and safety repairs will help manage the risk from insurance payments. Finally, progress will be monitored across all four indicators and any re-alignment of budgets to address under performance will only be made where this is not detrimental to other targets.

Table F.21 Mandatory Indicator: Percentage of principal road network where maintenance should be considered (BVPI 223)

Mandatory Indicator							
BVPI 223 (formerly BVPI 96).							
Local Target for Mandatory Indicator							
M14 - Reduce the percentage of the principal road carriageway network where maintenance should be considered, from 36% in 2004/05 to 27% by 2011.							
Baseline							
BVPI 96 submission for 2004/05 (re-classified for 2005/06 as BVPI 223).							
Trajectory							
Year	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Weighted Average (%)	36%	35%	33%	32%	30%	29%	27%
Ambitious and Realistic							
The district authorities have invested heavily in maintaining the principal roads in order to generate a continuously improving trend in condition. This network takes the heaviest traffic and is therefore most susceptible to structural deterioration. It needs continuity of investment to address continuous deterioration. A new condition base line has been fixed using Scanner surveys which includes non-structural texture measurement. At the same time the formula approach to highway maintenance indicative settlements has reduced the allocation by 74% between 2003/04 and 2005/06. If spend were to reduce accordingly it is predicted that the network condition would deteriorate. The setting of the above target presumes that the investment in Principal Roads to 2010/11 will be above the 2005/06 indicative settlement level. It also takes account of the opportunity to make quick improvements by surface dressing roads with poor texture where this is an appropriate use of resources.							
Actions Required by the Partnership							
To agree the allocation of funds to principal roads to enable the improving trend in condition to be continued from the new base line.							
Actions Required by Local Partners							
N/A							

Table F.22 Mandatory Indicator: Percentage of non principal road network where maintenance should be considered (BVPI 224a)

Mandatory Indicator

BVPI 224a (formerly BVPI 97a).

Local Target for Mandatory Indicator

M15 - Reduce the length of the non-principal classified carriageway where maintenance work should be considered, from 13% in 2003/04 to 5% by 2011.

Baseline

BVPI 97a submission for 2003/04 (reclassified for 2005-06 as 224a). *It should be noted that a new target will be set, prior to the submission of the first progress report. This will be based upon data collected by the scanner methodology*.

Ambitious and Realistic

This indicator has been hovering around 13% for three years now. It represents the condition of some 1000km of B and C classified roads across the whole of West Yorkshire. Year on year it will be necessary to invest in the maintenance of just 16km over and above current maintenance to achieve 5% by 2010/11. This will require some realignment of funds but is realistic in scale. It will bring West Yorkshire well into the upper quartile of performance when compared with all England which is an ambitious but realistic target and effectively addresses the backlog of work on this part of the network.

Trajectory

Year	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Weighted Average (%)	13	11	10	9	7	6	5	5

Actions Required by the Partnership

Effective programming of work on non-principal classified roads

Actions Required by Local Partners

Not applicable.

Table F.23 Mandatory Indicator: Percentage of unclassified road network where maintenance should be considered (BVPI 224b)

Mandatory Indicator

BVPI 224b (Formerly BVPI 97b).

Local Target for Mandatory Indicator

M16 - Reduce the length of the unclassified carriageway network where structural maintenance should be considered, from 16% in 2003/04 to 9% by 2011.

Baseline

BVPI 97b submission for 2003/04.

Ambitious and Realistic

This indicator represents the condition of the major part of the local road network and the investment in maintenance required for each percentage point improvement in condition is therefore considerable. Hence, although the target may appear cautious, modelling indicates it can be realistically expected with the likely funding.

Trajectory

Year	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Weighted Average (%)	16	15	14	13	12	11	10	9

Actions Required by the Partnership

Nearly all the work on this part of the network is funded through non-LTP sources and therefore needs continued commitment from the Partnership to achieve the targeted improvement.

Actions Required by Local Partners

Much of the unclassified road network impacts on the quality of life in local communities and maintenance specifications which add value to the quality of the area need to be implemented in consultation with local communities with partner funding where ever this is forthcoming.

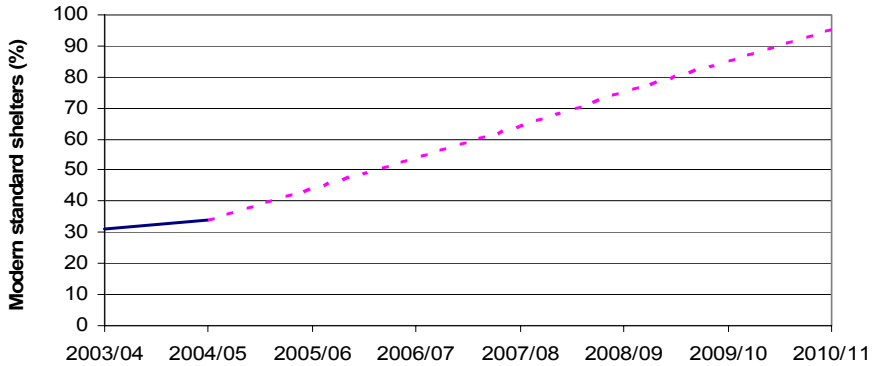
Table F.24 Mandatory Indicator: Percentage of footways where structural maintenance should be considered (BVPI87)

Mandatory Indicator								
BVPI 187								
Local Target for Mandatory Indicator								
M17 - 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.								
Baseline								
BVPI 187 submission for 2003/04.								
Trajectory								
Year	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Weighted Average (%)	24	24	24	22	19	17	15	14
Ambitious and Realistic								
This indicator represents the condition of the busiest 700km of footway within West Yorkshire. It is therefore appropriate that work should be carried out for the benefit and safety of pedestrians. This can be realised at a relatively low cost. Hence while the targeted improvements are ambitious, they are also realistic.								
Actions Required by the Partnership								
Effective programming of works on prestige, primary and secondary footways.								
Actions Required by Local Partners								
N/A								

Table F.25 Local Indicator: Structures with weight and/or width restrictions

Local Indicator							
Structures with weight and/or width restrictions.							
Local Target for Local Indicator							
L9 - To reduce temporary restrictions on council owned bridges to 1.5% by 2011 from a base of 4.3% in 2004/5.							
Baseline							
Background indicator C6b from LTP1 stated at March 2004 that 2.3% of Council owned bridges had width or weight restrictions							
Trajectory							
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
West Yorkshire	4.3%	3.9%	3.5%	3.0%	2.5%	2.0%	1.5%
Ambitious and Realistic							
The number of temporarily restricted bridges has steadily fallen as the strengthening programme has been implemented. The current target is a realistic level based on current proposed funding levels and costs associated with such work.							
Actions Required by the Partnership							
Implementation of strengthening schemes and programmes to budget and timescale							
Actions Required by Local Partners							
N/A							

Table F.26 Local Indicator: Bus shelters that meet modern standards

Local Indicator
The percentage of bus shelters that meet modern standards.
Local Target for Local Indicator
L10- 95% of bus shelters to meet modern standards by 2010/1.
Baseline 2003/04 31% of shelters in West Yorkshire meet modern standards
Trajectory 
Ambitious and Realistic Metro's market research shows that the part of a public transport journey that has the most influence on people's opinion of the journey is waiting for a service, but that West Yorkshire stops performed poorly with respect to weather protection and information provision. LTP2 funding includes a programme of bus shelter replacement which our target and trajectory reflects. Our aim is for all bus shelters into meet modern standards (except where replacement is not possible for conservation or practical reasons) by the end of LTP2. Where possible, raised kerbs will also be provided at the same time as the shelter upgrade
Actions Required by the Partnership Delivery of the works including raised kerbs where possible. Secure developer funding where possible

RISK MANAGEMENT AND ASSESSMENT

Details of our approach to risk assessment and management is set out in Part 4 of the main document. Table F. 27 sets out the details.

Table F.27 Risk Assessment Management

Risk Register						Risk Evaluation				Risk Treatment			
Target Reference/Description		Cause	Description of Risk	Consequence(s)	Status	Likelihood	Impact	PI Score	Risk Index	Risk Group	Risk Management Action(s)	Action owner(s)	Notes
Mandatory M1	Accessibility target	Reorganisation of health care facilities	Centralisation of key services	Worsened accessibility could affect target	Live	3	4	12		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	This type of initiative is already in the pipeline. However the effects of moving services may not be found in the lifetime of this LTP. As such likelihood has been marked mid range.
		Cooperation from key partners poorer than anticipated	Services located in areas poorly served by P/T	Worsened accessibility could affect target	Live	2	3	6		Partnership	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	Likely that PCT's would co-operate on most sites particularly if it meant that more patients would be able to access sites. Also felt that given other policy agenda's there would be an element of guilt involved.
		Bus operators reorganisation/reduced commercial bus services.	Areas become isolated from key services and facilities	Worsened accessibility could affect target	Live	5	2	10		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target If accessibility mapping reveals problems, potential extension of tendered network (if affordable)	All partners	unlikely services will be axed from main destination as hospital. Frequency may however be affected
		Reduction in tendered bus services	Areas become isolated from key services and facilities	Worsened accessibility could affect target	Live	3	1	3		Partnership	1.Review programme priority 2. Review scheme effectiveness 3. Review target 3/5 yearly tendered service reviews informed by	All partners	
Mandatory M2	Bus punctuality	Unable to deliver LTP2 P/T improvement schemes to programme timescale	Bus services less attractive to existing and potential new users	Late and cancelled services - could affect progress towards target and patronage	Live	3	2	6		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	Bus priority often affected by political process. However in isolation BP will only cover small part of the whole West Yorkshire network. Impact is higher locally
		Bus operator performance + involvement + commitment poorer than anticipated	Bus services less attractive to existing and potential new users	Late and cancelled services - could affect progress towards target and patronage	Live	4	4	16		External/ partnership	1.Review programme priority 2. Review scheme effectiveness 3. Review target Bus priority, WYTESA, PIPs, RTPI for operators, Radical strategy approach (bus strat.)	All partners	Bus performance is not meeting current VOSA performance standards
		Radical strategy undelivered (bus strategy)	Bus services less attractive to existing and potential new users	Late and cancelled services - could affect progress towards target and patronage	Live	4	2	8		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	Short term impact limited due to implementation late in the plan period.
Mandatory M3	Satisfaction with local bus services (BVPI 104)	Unable to deliver LTP2 P/T improvement schemes to programme timescale	Bus services less attractive to existing and potential new users	Customer dissatisfied affects target and lowers patronage	Live	3	2	6		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	Bus priority often affected by political process. However in isolation BP will only cover small part of network . Non delivery unlikely to impact on overall 5yr target Impact is high locally - for QBCs in the LTP2 programme (Local target L5)
		Bus operator performance + involvement + commitment poorer than anticipated	Bus services less attractive to existing and potential new users	Customer dissatisfied affects target and lowers patronage	Live	4	4	16		External/ partnership	1.Review programme priority 2. Review scheme effectiveness 3. Review target Bus priority, WYTESA, PIPs, RTPI for operators, Radical strategy approach (bus strat.)	All partners	Bus performance is not meeting current VOSA performance standards
		Bus operators increase fares above inflation	Bus services less attractive to existing and potential new users	Customer dissatisfied affects target and lowers patronage	Live	5	2	10		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	Impact reduced by inclusion of non-users in surveys for the mandatory indicator
		Radical strategy undelivered	Bus services less attractive to existing and potential new users	Customer dissatisfied affects target and lowers patronage	Live	4	2	8		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	Short term impact limited due to implementation late in the plan period.
		Rising expectations from customers	Bus services less attractive to existing and potential new users	Customer dissatisfied affects target and lowers patronage	Live	4	2	8		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target 4. Continuously improve LTP funded facilities	All partners	
Mandatory M4	Cycling (annualised index of cycling trips)	Cycle infrastructure improvements not delivered on time	No growth cycle network or facilities and failure to attract new cycle trips	No growth in cycling target	Live	2	4	8		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	Cycling measures occupy small part of budget. Already have reasonable history of delivery
		Monitoring methods unsuitable	Unable to count new cycle trips	No growth in cycling target	Live	3	4	12		Monitoring	1. Review target	Individual authority	Monitoring cycle trips difficult. Although methods have been changed still an element of uncertainty.
		Costs of alternative modes declines	Unlikely to make modal shift a reality	No growth in cycling target	Live	3	4	12		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	Difficult to predict with certainty. Recent trends show car declining and bus increasing may therefore be transfer from bus and loss to car. Transfer from other modes crucial. If no transfer it will be difficult to meet target.

APPENDIX F
BASELINE DATA, TARGETS AND TRAJECTORIES

Risk Register						Risk Evaluation				Risk Treatment			
Target Reference/Description		Cause	Description of Risk	Consequence(s)	Status	Likelihood	Impact	PI Score	Risk Index	Risk Group	Risk Management Action(s)	Action owner(s)	Notes
Mandatory M5	Average journey time per person mile on key routes	Economic and traffic growth exceed forecasts	Greater number of trips being made by car	adds to delay and restricts growth in non car modes - target fails	Live	2	5	10		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	Current forecasts reasonably robust. Expect some growth and this has been factored in. If we see surge in Economic growth then predictions not OK. Given short plan life this may not be as noticeable. EG/TG would have the biggest effect on this and all LTP
		P/T patronage does not grow at expected rate	Greater number of trips being made by car	adds to delay and restricts growth in non car modes - target fails	Live	4	3	12		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target 4. Radical strategy approach (bus strat.)	All partners	Modelling is confident that there will be some growth - particularly concessions. Growth in target relies on P/T growth.
		Bus operators increase fares above inflation	Bus services less attractive to existing and potential new users	adds to delay and restricts growth in non car modes - target fails	Live	5	3	15		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	Generally uncertain not expecting massive surge within the next five years. Target relies on bus being competitive if this happens then risk is high.
		Car ownership and operating costs decline more than anticipated	Unlikely to make modal shift a reality	adds to delay and restricts growth in non car modes - target fails	Live	3	4	12		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	As above comment. Generally uncertain not expecting massive surge within the next five years. Target relies on bus being competitive if this happens then risk is high.
		Unable to deliver congestion elements of programme to timescale	Journey times affected	adds to delay and restricts growth in non car modes - target fails	Live	2	4	8		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	Congestion measures often aligned with monitored routes. Measures however likely to be implemented. Without intervention target will fail.
		Monitoring methods unsuitable	Unable to quantify problem/improvement	Achievements under estimated or undetected - target fails	Live	2	4	8		Monitoring	1. Review target	Individual authority	Monitoring robust statistically. Not expecting problems. If monitoring is flawed then target will be missed
Mandatory M6	Change in peak period traffic flows to urban centres	As M5 above	As M5 above	As M5 above	As M5 above								
Mandatory M7	Mode share of journeys to school	No target set to date	No target set to date	No target set to date	No target set to date								
Mandatory M8	Public transport patronage (BVPI 102).	Unable to deliver LTP2 P/T improvement schemes to programme timescale	Bus services less attractive to existing and potential new users	No/lower growth in bus patronage - affects target	Live	3	2	6		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	Bus priority often affected by political process. However in isolation bus priority will only cover small part of network . Impact is higher locally - for QBCs in the LTP2 programme (Local target L5)
		Bus operator performance + involvement + commitment poorer than anticipated	Bus services less attractive to existing and potential new users	No/lower growth in bus patronage - affects target	Live	4	4	16		External/ partnership	1. Review programme priority 2. Review scheme effectiveness 3. Review target,Bus priority, WYTESA, PIPs, RTPI for operators, Radical strategy	All partners	Bus performance is not meeting current VOSA performance standards
		Bus operators increase fares above inflation	Bus services less attractive to existing and potential new users	No/lower growth in bus patronage - affects target	Live	5	4	20		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target, Radical strategy approach	All partners	
		Radical strategy undelivered (bus strategy)	Bus services unattractive to existing and potential new users	No/lower growth in bus patronage - affects target	Live	4	3	12		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	Short term impact limited due to implementation late in the plan period.
		Car ownership and operating costs decline more than anticipated	Car use abstracts from bus patronage	No/lower growth in bus patronage - affects target	Live	3	4	12		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
		Effect of free concessionary fares less than anticipated	Less bus patronage from concessionary fare holders	No/lower growth in bus patronage - affects target	Live	3	4	12		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
Mandatory M9	Total KSI casualties (BVPI 99).	Existing policy, initiatives and implementation less effective than anticipated	Lower rate of accident reduction on remaining sites	Fail to meet target	Live	3	3	9		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	
		Relaxation on efforts to control speed especially in residential areas.	Lower rate of accident reduction in residential areas	Fail to meet target	Live	2	4	8		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
		Insufficient funding for speed cameras	Increased accidents	Fail to meet target	Live	3	3	9		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target		
		Increase in drink/drugged driving	Increased accidents	Fail to meet target	Live	3	3	9		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
Mandatory M10	Child KSI casualties (BVPI 99).	As M9 above	As M9 above	As M9 above	As M9 above								
Mandatory M11	Total slight casualties (BVPI 99).	As M9 above plus the added risk of increased car ownership	growth in traffic affects calculation of target	Fail to meet target	As M9 above								

Risk Register						Risk Evaluation				Risk Treatment			
Target Reference/Description		Cause	Description of Risk	Consequence(s)	Status	Likelihood	Impact	PI Score	Risk Index	Risk Group	Risk Management Action(s)	Action owner(s)	Notes
Mandatory M12	NO2 annual average concentration in designated Air Quality Management Areas (AQMA's)	Unanticipated Increases in traffic growth in urban areas and motorways	Greater level of emmissions	Fail to meet target	Live	2	4	**8**		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
		Unpredictable weather patterns.	No dispersion or concentration of emmissions		Live	3	3	**9**		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
Mandatory M13	Change in area wide road traffic	Economic and traffic growth exceeds recent trends	Greater number of trips being made by car	Worsening road condition/Fail to meet target	Live	2	5	**10**		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	As per M5 comment
Mandatory M14	Principal road network where maintenance work should be considered (BVPI 223, formerly BVPI 96).	Enhancement of LTP funding by local resources below anticipated levels.	Reduce ability to roll out maintenance programme as planned	Worsening road condition/Fail to meet target	Live	3	4	**12**		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	
Mandatory M15	Non principal road network where maintenance work should be considered (BVPI 224a, formerly BVPI 97a).	As above plus changes in condition survey methods	As above plus survey techniques may change base and trajectory.	Worsening road condition/Fail to meet target	Live	3	3	**9**		Programme/ Monitoring	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives 4. Review target	Individual authority	
Mandatory M16	Unclassified road network where structural maintenance should be considered (BVPI 224b, formerly BVPI97b).	As above	As above	Worsening road condition/Fail to meet target	Live	4	3	**12**		Programme/ Monitoring	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives 4. Review target	Individual authority	
Mandatory M17	Footways where structural maintenance should be considered (BVPI 187).	As above	As above	Worsening road condition/Fail to meet target	Live	2	3	**6**		Programme/ Monitoring	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives 4. Review target	Individual authority	

APPENDIX F
BASELINE DATA, TARGETS AND TRAJECTORIES

Risk Register						Risk Evaluation				Risk Treatment			
Target Reference/Description		Cause	Description of Risk	Consequence(s)	Status	Likelihood	Impact	PI Score	Risk Index	Risk Group	Risk Management Action(s)	Action owner(s)	Notes
Local L1	Satisfaction with LTP funded public transport facilities.	Bus operator performance affects satisfaction with facilities	Facilities less attractive to existing and potential new users	Customer dissatisfied affects target and lowers patronage	Live	3	1	3		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target Bus priority, WYTESA, PIPs, RTPI for operators, Radical strategy approach (bus strat.)	All partners	Bus priority often affected by political process. However in isolation BP will only cover small part of network . Non delivery unlikely to impact on overall 5yr target. Impact higher locally than for West Yorkshire wide targets
		Rising expectations	Facilities less attractive to existing and potential new users	Customer dissatisfied affects target and lowers patronage	Live	4	2	8		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target Continuously improve LTP funded facilities	All partners	
Local L2	Cycling trips to urban centres during the morning peak.	As per M4	As per M4	As per M4	As per M4								
Local L3	AM peak period mode split to urban centres.	As per M5	As per M5	As per M5	As per M4								
Local L4	Peak period rail patronage.	Economic decline	Rail patronage is closely related to economic performance	Reduces rail patronage - target fails	Live	2	4	8		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
		New rolling stock not provided	Continuation of overcrowding and lower capacity	Increases customer dissatisfaction - reduces patronage - target fails	Live	2	4	8		External/ Programme	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
		Widespread service disruption	Network wide problems e.g. safety issues, industrial actions, severe weather	Increases customer dissatisfaction - reduces patronage - target fails	Live	2	4	8		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
Local L5	Patronage on QBC's.	Unable to deliver LTP2 P/T improvement schemes to programme timescale	Bus services less attractive to existing and potential new users	No/lower growth in bus patronage - affects target	Live	3	5	15		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	All partners	Bus priority often affected by political process. However in isolation BP will only cover small part of network . Non delivery unlikely to impact on overall 5yr target. Impact higher locally than for West Yorkshire wide targets
		Bus operator performance + involvement + commitment poorer than anticipated	Bus services less attractive to existing and potential new users	No/lower growth in bus patronage - affects target	Live	3	4	12		External/ partnership	1. Review programme priority 2. Review scheme effectiveness 3. Review target Bus priority, WYTESA, PIPs, RTPI for operators, Radical strategy approach (bus strat.)	All partners	Bus performance is not meeting current VOSA performance standards
		Bus operators increase fares above inflation	Bus services less attractive to existing and potential new users	No/lower growth in bus patronage - affects target	Live	5	4	20		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target Radical strategy approach	All partners	
		Radical strategy undelivered (bus strategy)	Bus services less attractive to existing and potential new users	No/lower growth in bus patronage - affects target	Live	4	2	8		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	Short term impact limited due to implementation late in the plan period.
		Car ownership and operating costs decline more than anticipated	Car use abstracts from bus patronage	No/lower growth in bus patronage - affects target	Live	3	3	9		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
		Effect of concessionary fares less than anticipated	Less bus patronage from concessionary fare holders	No/lower growth in bus patronage - affects target	Live	3	4	12		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
Local L6	Number of pedestrians KSI in road traffic collisions.	As per M9	As per M9	As per M9									
Local L7	Annual road traffic emissions of NOx across West Yorkshire principal road network.	As per M12	As per M12	As per M12									
Local L8	Annual road traffic emissions of CO2 across West Yorkshire principal road network.	As per M12	As per M12	As per M12									
Local L9	Structures with weight and/or width restrictions.	Faster than anticipated decline in bridge/structure stock	Worsening condition of stock	Fail to meet target	Live	2	4	8		External	1. Review programme priority 2. Review scheme effectiveness 3. Review target	All partners	
		Reduction in anticipated level of spending	Reduce ability to roll out maintenance programme as planned	Fail to meet target	Live	2	4	8		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	All partners	
Local L10	The number of bus shelters that meet modern standards i.e. have seating, lighting and/or heating and are wheelchair accessible	More shelter relocations prove necessary than anticipated	Causes delay to maintenance programme as planned	Fail to meet target also affects bus patronage	Live	1	4	4		External/ Programme	1. Review programme priority 2. Review scheme effectiveness 3. Review target 4. Introduction of dynamic performance management 5. Independent overview of performance 6. Performance incentives	All partners	
		Inability to co-ordinate with other programs	Causes delay to maintenance programme as planned	Fail to meet target also affects bus patronage	Live	2	2	4		Programme	1. Introduction of dynamic performance management 2. Independent overview of performance 3. Performance incentives	Individual authority	

APPENDIX G
TAXI AND PRIVATE HIRE VEHICLES LICENSING POLICY

TAXI AND PHVs LICENSING POLICIES

LTP Guidance requires local policies relating to taxi and PHV services to be explained, including explanations or justifications of any restrictions imposed on numbers of licenses by authorities in the LTP area.

The Department for Transport has recently consulted on draft Best Practice Guidance for local taxi and PHV licensing, in response to the OFT report *"The regulation of licensed taxis and PHV services in the UK".* The Department for Transport has also asked local licensing authorities imposing quantity controls on the number of taxis and PHVs to review their policies, with particular emphasis on consumers.

Table G.1 outlines local policies relating to taxis and PHVs and current positions in relation to policy reviews.

APPENDIX G
TAXI AND PRIVATE HIRE VEHICLES LICENSING POLICIES

Table G.1 Taxis and PHVs – Local Policies

District authority	Position statement (February 2006)	Local policies	Restrictions imposed on numbers of licenses	
			Restriction	Explanation / justification
Bradford	A report will be submitted to the Regulatory Committee to set out the various options for consideration from de-regulation to managed growth. A decision will be taken and subsequently published to comply with central government requirements.	Currently have 224 licences.	Restrictions currently in place.	Last unmet demand survey carried out two years ago established that there was no unmet demand and recommended extra 10 plates issued for wheelchair accessible vehicles only.
Calderdale	No change to existing policy is proposed.	8 zones in Calderdale (Halifax and 7 other zones). Decision taken in 2000 not to issue any more licences in Halifax. In the other 7 zones anyone can apply for a licence as long as the vehicle is wheelchair accessible (purpose built or approved conversion).	No licences issued for the Halifax zone.	
Kirklees	The Council is considering a report from consultants which shows that there is no significant unmet demand for taxis in Kirklees and hence no automatic need to issue further plates. The Council is likely to reach a considered review on the report early in 2006.	224 hackney carriage licences valid across Kirklees. The Council is a first phase authority considering their approach to wheelchair accessibility requirements over the period 2010 to 2020.	Number of plates under consideration (possible outcome that any additional plates would be linked to wheelchair accessibility)	Currently no significant unmet demand – the position will be reviewed in 2008/09.

District authority	Position statement (February 2006)	Local policies	Restrictions imposed on numbers of licenses	
			Restriction	Explanation / justification
Leeds	Existing licensing policies have recently been reviewed by Scrutiny Board and the decision taken that there is to be no change over the next two years. However during this time a survey will be undertaken to establish if there is any unmet demand and will also take account of any impacts of the new licensing reform act. A review of the number and location of taxi ranks is also underway.	537 vehicles currently licensed. No plans to issue any more licences over the next two years.	No plans to issue any more licences over the next two years.	
Wakefield	Consultants have undertaken a survey to investigate potential unmet demand and have provided a number of recommendations. A final decision has yet to be taken by the Council and a report is expected to go to a Committee in February 2006 with a range of options for consideration.	Wakefield continues to impose a taxi numbers control.		

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APPENDIX H
RIGHTS OF WAY IMPROVEMENT PLANS

ROW IMPROVEMENT PLANS (ROWIPs)

The Countryside and Rights of Way (CROW) Act 2000 introduced a duty for all local highway authorities to prepare a ROWIP by November 2007.

POLICY AND OBJECTIVES

The value of public ROWs for walking, cycling and horse riding and as a means of sustainable travel as an alternative to the car is well recognised.

The purpose of the ROWIP is to ensure that ROWs networks meet the needs of all our communities and will continue to do so.

They will take into account the opportunities ROWs provide for exercise and recreation; the role of ROWs, as part of the transport network, in achieving the priorities of the LTP; and the contribution of ROWs to the achievement of the West Yorkshire district authorities' corporate objectives and the Government's Rural Strategy.

The key common objectives of all the ROWIPs will be to:

- protect, improve and extend the ROW networks as an important means of access to the countryside for recreation and for health;
- enhance opportunities for safe and sustainable travel, both for recreation and for access to work, school and services;
- improve accessibility of ROWs for all members of our communities and provide appropriate publicity;
- ensure that the condition of the ROWs network enhances the appearance and amenity of the natural and built environment and our local heritage; and
- ensure that the ROWs network contributes to the enhancement of economic opportunities.

PROGRESS REPORTS

It is a requirement that each district authority has to provide a report on progress made by in developing a ROWIP.

The following pages contain the reports from each of the district authorities.

The progress reports are followed a section on how the ROWs contribute to the shared priorities and LTP objectives.

City of Bradford Metropolitan District Council - Progress Report 31 December 2005

The consultation is now finished. Various mechanisms for consultation have been used:

- 'Speakout Panel' –This is a panel of local people, making up a representative sample of the district, who receive and complete questionnaires sent out by the Council. We asked a series of questions about people's use and priorities for ROWs.
- A simple statement about ROWIPs telling people what it is about and inviting involvement was written. This was produced as a flyer and over 10,000 copies were distributed. The flyer was sent out to an extensive list of people, which included our usual consultees, landowners, horse riding establishments, Parish, Town and Community Councils in the district and approx. 800 special interest groups.
- Copies of this flyer were made available in local libraries, Tourist Information Centres and sent out or made available via the Neighbourhood Forums meetings.
- The flyer was also posted on our website with a postal address and a dedicated email address for submission of initial responses and ideas. A link to this was put on the main Council homepage as 'news'. We also set up an electronic questionnaire using the same questions as were posed by the 'Speak Out' panel.
- An all user email was sent out to all employees of Bradford Council (who have access to email) and also to all Ward Councillors.
- We held a stand at Bingley and Keighley Agricultural Fairs and asked people to fill in paper copies of the questionnaire and make any other comments they wished to make.
- We also asked for volunteers for Focus Groups. These groups were run at the end of February/beginning of March. Despite poor weather they were well attended and provided a lively exchange of ideas and suggestions which will be most useful.
- One aspect of research we still need to do is some analysis relating to missing links and other map based work and how the backlog of Definitive Map Modification Orders (DMMOs) claims and outstanding map anomalies could contribute.
- We are intending on having a draft ROWIP written later this year and intend to have it ready for the first round of consultation by the autumn.

From these various exercises, certain key themes have emerged:

- The most important issues for our consultees seems to be the maintenance and improvement of existing local ROWs, there is a requirement for paths close to where people live to be clean, open and signposted and way-marked. People want good, helpful information about where they can go and what they can do.
- Overall, the interlinked nature of ROWs and issues like health, transport and the environment was recognised and it was felt that more could be achieved by working in partnership with other agencies and with local people and activists.
- Key 'missing links' and major problems with the network such as poor road crossings and lack of river crossings were mentioned, but overall there was less focus on creating new routes and more interest in using and protecting existing ones.

There is a significant amount of latent demand for ROWs that could be unlocked and met with the right approach and resources.

An initial draft ROWIP has been prepared and gone out to the West Yorkshire Pennine Local Access Forum (LAF) and our own Rights of Way Forum. The draft plan should be ready to go out for widespread consultation in March 2006.

Calderdale Metropolitan Borough Council - Progress Report 31 December 2005

Reference has been made to many existing national, regional and local strategic documents. These indicate the importance of ROWs as part of our heritage, the environment, transport routes and a major recreational resource, making a contribution to the prosperity of the local economy through tourism. ROWs are important to the health of the nation in terms of road safety, congestion and pollution, providing a facility for exercise and its associated benefits for heart disease, obesity and mental health.

The importance as a means of transport is highlighted by the creation of the ROWs Task Group, during the preparation of LTP2, resulting in a joint strategic statement for all five West Yorkshire district authorities.

The existing level of provision for access to the countryside, including parks, open spaces, access land, ROWs and other paths available to the public across the borough has been researched and proven to be extensive.

Wide consultation has taken place based primarily on a paper or email questionnaire.

This was sent out to an extensive list of people, which included our usual consultees on ROWs matters, parish and town councils, landowners, horse riding establishments and other tourism and recreation-based businesses and many special interest groups.

Copies were made available in local libraries and tourist information centres and were sent out or made available to a large number of interested individuals. Copies were also available at our stand at Halifax and Todmorden Agricultural Shows, which raised awareness of the ROWIP as well as open access. Talks have been given to community groups, equestrian and farmers' groups.

Returned questionnaires are now being quantitatively analysed. These will be used alongside the results from a series of questions to the "Talk Back" panel, a representative group of local people that the council uses for consultation on a whole range of issues. The findings will indicate present level and type of existing use, likely areas of demand and needs of the public, along with specific ideas, recommendations for improvements and existing examples of good practice.

From the initial analysis, it has been identified that the response from the South Asian ethnic minorities is lower than we would like in order for it to provide a representative sample. Other methods of contact are being initiated, such as the use of specific focus groups formed from various community groups.

Some quick wins are underway, including additional signage and way marking. Work with "Safer Routes to School" on permissive cycleways at three schools across the borough is being part funded by Sustrans. Up-grading of a footpath to a cycletrack under the Cycle Tracks Act 1984, will help completion of the HebbleTrail Cycleway.

Work is in progress on other community projects, for example, the control of motor bikes on the bridleway and other open spaces around the housing estate in Mixenden. The suggestion of an "adopt a path" scheme for local user and community groups has solicited wide interest.

Kirklees Metropolitan Council - Progress Report 31 December 2005

Consultation on the Plan

We have decided to adopt a two-stage process of consultation in producing our ROWIP:

- Stage 1 - We have undertaken consultation on the Outline Strategy for the ROWIP, and this initial process has finished. The results of this consultation will provide the framework for the work that we undertake at Stage 2.
- Stage 2 – We will produce a more detailed action and implementation plan by November 2007, which will reflect the needs of localities within Kirklees. We will work with existing bodies and organisations during this process, although it may be necessary to establish separate focus groups on specific issues. We will utilise the good links that we already have with a range of organisations, many of whom attend the Kirklees Public ROWs Forum. We will also involve West Yorkshire Pennine LAF, Area Committees and Town and Parish Councils.

We will also ensure that this work links to other Council Strategies.

Progress to date

Our consultation process so far has involved the following:

- Officers have attended a range of meetings of user and interest groups, representative bodies, and colleagues within the Council, to establish what issues they see as important in the improvement and development of the ROWs network.
- We have also utilised the Kirklees Talkback Panel, which is made up of a representative group of local people, who receive and complete questionnaires sent out by the Council. We asked a set of focused questions to establish current levels of usage, and what people see as key priorities for improvement.

Future Work

We aim to publish the Outline Strategy by the end of March 2006 and we will circulate this for comment to interested parties.

Work will then commence on assessing how the key issues identified affect the network as whole, as well as how they relate to particular localities.

Leeds City Council - Progress Report 31 December 2005

1) The ROWs Development Officer had already been actively working on strategic improvements to the ROWs network in Leeds since originally appointed in 1988. In March 2005 the new duty imposed by section 60 of the CROW Act, 2000 to prepare and publish a ROWIP, was formally included in the Development Officer's job description.

2) The Development Officer has attended several ROWIP training courses and workshops.

3) An informal assessment of the adequacy of the Definitive Path network in Leeds in order to identify any gaps, inconsistencies or opportunities has previously been carried out by the Development Officer but will be updated and formalised during 2005/6 as part of the ongoing ROWIP investigation work.

4) Regular reports on the progress of the ROWIP in Leeds have been given to the Leeds LAF and constructive comments received have been used to guide the work of the Development Officer.

5) A draft timetable for investigating and compiling the ROWIP in Leeds has been prepared and approved by the Leeds LAF.

6) A questionnaire survey has been devised with the assistance of the Leeds LAF which has been carried out in the form of face to face interviews with the public during 2005. A second round of questionnaire surveys will be distributed to 'Path User' and 'Friends of' Group representatives during early 2006 with analysis of the results of both surveys being carried out during spring 2006. The responses received will then be used to formulate much of the assessment of Public ROW use and demand in Leeds as required by the CROW Act, 2000.

7) Leeds has actively contributed to and agreed a joint West Yorkshire LTP high level policy and objective statement for improving the ROWs network and this has also been reported to the Leeds LAF.

City of Wakefield Metropolitan District Council - Progress Report 31 December 2005

Include a high level statement of policy and objectives for improving the ROW network

- An LTP policy statement has been agreed with partner West Yorkshire district authorities (Kirklees, Calderdale, Leeds, and Bradford).

Identify the stage that the authority has reached in preparing their ROWIP

- In September 2003 the ROW Development Officer was appointed to coordinate work on the preparation of the plan, with ongoing work on the ROWIP is in line with the guidance and ongoing good practice.
- The ROW Development Officer has attended the ROWIP Officer Regional Workshops.
- Work to collate information and develop links with the users, the Wakefield LAF and groups has been on-going, including some preliminary pilot work in the Stanley parish and a strategic cycle network through the Wakefield District Cycle Forum.
- The ROWIP timetable has been established to enable progress to be monitored.
- Established a project steering group (strategic) - to drive the development of the plan.
- Established officer working group (delivery) - collate path network information and deliver improvements.
- Confirmed the scope of the ROWIP and terms of reference for the steering and working group.
- Use and demand studies completed in May - The use and demand studies have been guided by Corporate Communications and have involved consultation with Wakefield LAF. This was completed through a variety of techniques including focus groups and interviews which were specific to the relevant target audience and a questionnaire on the web site. The study included walkers, horse riders, cyclists, people with mobility problems and non users. The use and demand study identified that paths are used for leisure, exercise, dog walking and utility , including journeys to work.
- Final report of use and demand study completed for approval.
- Although the Action Plan for the ROWIP is not yet developed, key areas for funding within LTP2 have been identified which address the findings of the use and demand study.

Provide, where possible, an initial audit and assessment of the key issues to be addressed locally in the ROWIP

The key recommendations from the use and demand study to make the rights of way network better, safer, and more convenient for people to use are:

- Provision of information: more information and publicity to allow people, including those with sight and mobility impairment to use paths with confidence.
- Signing enhancements: including, where appropriate, information on destination, distance, and points of interest on the path.
- Maintenance: the rights of way network needs to be fit for purpose, including clearance of undergrowth and overhanging vegetation and provision of surfacing appropriate to the anticipated use. Improvements to allow greater access, for example the removal of obstructions and path furniture which restrict users.
- Extending the network: there are opportunities to improve access to the existing path network, by providing additional routes to fill gaps in the network and increasing the ability for other users to access existing paths.

- Antisocial behaviour: problems such as motorcycle misuse, litter, fly tipping and dog fouling which deter use of the rights of way network need to be addressed through cooperation with the appropriate agencies.
- Enhancements: identification of suitable locations and provision of seating, rest and viewing areas.
- Addressing inequalities: some groups use the network less than other groups for example young people and black minority ethnic groups. Some groups have fewer opportunities to enjoy the path network, for example, people with mobility problems and horse riders.

The assessment of the network itself is underway to be completed by February 2006. Once all the information is gathered then the prioritisation of improvements and identification of wider revenue and capital funding resources to deliver the improvements will be undertaken within the action plan.

Identify how the authority is proposing to ensure the integration of ROWIPs in to the LTP process at the local level

- Effective working of the steering group to drive the development of the plan and its implementation.
- Effective working of the officer working group to provide information and deliver improvements.

Identify how any ROW improvement proposals in the main body of the LTP would deliver transport shared objectives and wider quality of life issues

- This is covered in the Strategies Chapter and high level policy statement.

CONTRIBUTION TO THE LTP STRATEGIES

Delivering Accessibility

ROWs for walking and cycling are important to everybody and especially people without cars - elderly, children, people on lower incomes and disabled people. They provide important links between communities and workplaces, shops, schools and other facilities. ROWs can help to join up communities.

If routes are improved so that they can be accessed by people with mobility problems and visual impairments this will improve access for everyone and make ROWs more attractive to all users.

Measures to improve accessibility are:

- improve surfaces and drainage;
- where appropriate, work with landowners to replace or augment stiles with gates and ensure that gates and other furniture are in good condition and easy to use;
- introduce lighting on appropriate utility type paths, particularly in urban areas;
- provide better signposting to indicate start of paths and destinations;
- promote and encourage the use of improved paths;
- integrate improvements to the ROWs network as part of 'safer routes to school' and neighbourhood path schemes;
- identify opportunities to eliminate 'missing links' in the network;
- ensure that the ROWs and public transport networks are integrated and not severed by difficult/dangerous road crossings;
- ensure that ROWs development and enhancement is integrated into rural and urban planning;
- secure improvements from developers through the planning process to facilitate improvements to existing routes and secure new routes; and
- ensure that routes are maintained to appropriate standards for their likely use.

Tackling Congestion

ROWs offer opportunities to reduce vehicle use to work, school, local facilities and local recreation/tourism sites, etc. ROWs can sometimes provide shorter or quicker journeys than using the car.

Measures to reduce congestion are:

- improve routes to bus and train stations to encourage people to use public transport;
- improve links into centres of work and schools - i.e. where traffic is going at congested periods;
- make appropriate routes suitable for commuter use by improving surfacing so ordinary shoes can be worn, removal of unnecessary obstacles and introduction of lighting;
- improve routes which can be used by cyclists and where appropriate create new routes;
- encourage the provision of facilities in workplaces for washing and changing for those who walk or cycle; and
- promote the use of ROWs as a viable alternative for short journeys.

Safer Roads

ROWs can segregate users from road traffic, providing safer routes for walkers, cyclists and horse riders. Further benefits can be gained by:

- seek to improve sightlines and road crossings where ROWs cross roads;

- pavement provision or improvement to verges where ROWs emerge onto roads with no or limited pavements;
- new paths to avoid busy roads or to avoid roads lacking, or deficient, in pavements;
- improving verges alongside roads that link adjacent bridleways;
- removing other hazards for cyclists, walkers and horse riders; and
- integrating improvements to the ROWs network as part of 'safer routes to school' and neighbourhood path schemes.

Better Air Quality

Air quality can be improved if we can reduce reliance on vehicles by providing attractive alternatives such as a quality path network and encouraging more walking and cycling.

The measures to be used are the same as for Accessibility and Congestion.

Other Quality of Life Issues

Quality ROWs can contribute to community pride, access to local facilities, and neighbourhood links as well as access to the countryside. They can assist in making somewhere a 'Good place to live,' and also attractive to businesses and visitors in tourism areas.

Quality of public spaces and better streetscapes

An attractive, well maintained path network will contribute to improved quality of public space and streetscape. This can be achieved by:

- wide, open paths through estates with mown grassy verges (not close boarded) as policy;
- surfacing, drainage and lighting of paths in urban areas where appropriate to reduce mud on paths and to ensure 'all weather' availability;
- good quality paths with good surfaces and width, lighting where appropriate and well maintained furniture and signage; and
- litter and dog faeces removal.

Community safety, personal safety and crime

Crime and fear of crime can be reduced by creating improved and safer routes:

- good quality paths with good surfaces and width, lighting where appropriate and well maintained furniture and signage;
- open paths through estates with mown grassy verges;
- in liaison with police and anti-social behaviour teams, modify paths that have known anti-social behaviour problems;
- make paths feel more secure by creating and maintaining an attractive path environment; and
- encouraging developers to provide or alter paths to good design standards and practices.

Healthy communities

Increasing use of path network for walking, cycling and riding has physical and mental health benefits from increased exercise, reduced traffic noise and pollution. Quality ROWs will encourage more use of the network.

The ability to confidently travel around the local community on foot could help ensure interaction between people and reduce the isolation of travelling in individual cars.

We need to:

- ensure that paths are connected into the other transport networks in the area and go to places people want to get to;
- ensure that people have access to clean, well built paths near to their homes; and
- ensure that safe, attractive paths are available to access places of interest and the countryside.

Sustainable and Prosperous Communities

A realistic approach to modify the ROWs network as part of neighbourhood renewal schemes will ensure that the local network meets local needs and is an asset to the area.

We need to provide open paths through estates with mown grassy verges (not close boarded) as policy; and ensure that paths are well maintained and cleaned

Attractive and promoted ROWs in rural communities can support local businesses e.g. tourism, equestrian facilities, cycle shops, etc. ROWs need to be promoted as tourist attractions not just as access to other attractions

Noise

ROWs can help to reduce the overall number of cars on the road and thus reduce vehicular noise. Tree planted buffer zones to reduce noise effects could incorporate existing/newly created paths making it possible for more people to choose to walk or cycle, or to get more easily to public transport.

Noise buffer zones should be considered for all ROWs (not just for housing areas) to make using paths near major roads more attractive.

Climate change and greenhouse gases

ROWs both encourage and allow more walking and cycling thereby encouraging less use of motorised vehicles. These activities are 'carbon neutral' and do not contribute to global warming.

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APPENDIX I
TRANSPORT ASSET MANAGEMENT PLANS

TRANSPORT ASSET MANAGEMENT PLANS

INTRODUCTION

Over the last five years transport asset management has been guided by LTP1, supported by various local transport and maintenance policies.

In June 2004 the *Framework for Highways Asset Management* was published. This encouraged highway authorities to develop a strategic approach to highways asset management. The five West Yorkshire highway authorities are using this framework to build upon earlier work to develop Highways Asset Management Plans (HAMPSs.

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

The TAMPs will address the condition of the highway asset and public transport infrastructure assets and need to have strong linkage with maintenance programmes funded through the LTP.

They will also cover demand aspirations and will challenge whether the right asset is being provided to enable the public to travel on the transport network which has capacity, is safe and available to use and matches aspirations. The TAMPs will have strong linkages with the integrated transport programmes funded through the LTP.

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;
- explicit consideration of customer expectation; and documentation of levels of service.

The development of LTP2 and the TAMPs are running in parallel but to different time scales. Although the process of producing LTP2 will help inform the TAMPs, the scope and the public consultation for the TAMPs will be different and the results may impact on 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.

TAMPs cover all of the transportation assets, including many services which are not funded through the LTP. To ensure proper consideration is given to developing comprehensive TAMPs, the 'stages' of effective asset management have been used to analyse the issues to inform the LTP2 programme.

PROGRESS

Table I.1 provides an overview of current position in relation to asset management. It has been prepared using the headings in the *Framework for Highways Asset Management*. It includes consideration of all elements of asset management including highway maintenance, structures, street lighting, UTMC, traffic management, integrated transport and public transport.

The planned state for 2011 and the gap analysis indicates how LTP and HAMP/TAMP implementation will interact to achieve the shared objectives and priorities.

Table I.2 gives the scoring system being used and tables I.3 to I.7 show the progress that has been made by individual district authorities.

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Table I.1 Overview of Current Position

Area for Consideration	Current State 2005	Planned 2011	Gap Analysis
Goals, Objectives & Policies	• Informed by BVPI reviews and National best practice including legislative requirements, codes of practice, user group guidelines, DfT design notes and traffic signs directions & advice notes • Inform service and organisational improvement plans • Generates uniform but largely annual / responsive management of the asset • Lifecycle planning aspirations only partially met	• HAMP/TAMP developed by district authorities • User aspirations more clearly absorbed • Co-ordinated, holistic approach to all elements of the asset • Life cycle planning issues fully addressed • Opportunities for demand and performance management better facilitated • Clear progress monitoring with target dates • Overall SMART (Specific, Measurable, Achievable, Relevant and Timed) Management of the asset	• Use of *Framework for Asset Management* • Document and adapt current procedures • Respond to on-going changes in codes of best practice and legislation • Development of Traffic Management Act duties • Maximise potential for new and emerging technologies

Area for Consideration	Current State 2005	Planned 2011	Gap Analysis
Inventory	• Good data on road lengths, generally with widths, NRSWA criteria, surface type etc • Comprehensive list of structures other than walls • Good traffic signal databases, regularly checked and updated • Complete Metro street furniture asset register • Street Lighting data collected, of varying quality • Some good illuminated sign data but poor non illuminated sign data • Minimum data on highway drainage, trees, street furniture etc • Quality and accuracy of measured data varied • Storage and retrieval systems varied	• Complete data for elements and features of the asset where such information gives real benefit to effective asset management • High confidence in accuracy data stored • Improved storage and retrieval system for certain elements of the asset • Greater use of Geographical Information Systems (GIS) • Regular data audits • Data shared on all elements of the asset • Regular asset valuation	• Full evaluation of gaps in inventory availability and quality • Cost benefit analysis of collecting missing data • Prioritised and funded inventory collection programme • Review of storage and retrieval systems • Consistent criteria for measuring data quality and accuracy • Consistent standards of inventory and recording systems within and between district authorities • Adapt and expand current systems to accommodate new data, eg Metro system to include grade 1 bus stations

APPENDIX I
TRANSPORT ASSET MANAGEMENT PLANS

Area for Consideration	Current State 2005	Planned 2011	Gap Analysis
Condition Assessment	• Some customer information on their perspective of condition • Asset fault reports • Extensive historic records on carriageway and footway condition to national and local standards, including machine surveys and safety surveys • BVPI condition data trends • General and principal inspection data for structures, also assessment for 40tonne loads • Periodic inspection of traffic signals, street lights etc. in conjunction with routine maintenance • Some good fault and condition logging systems in place	• Continuity in method of data collection for BVPIs for trend analysis • Adequate condition data to asses maintenance needs and priorities for all elements of the asset • Customer driven serviceability condition data • Analysis methods which enable full lifecycle planning and whole life costing • Strategic approach to all safety inspections to promote safety and assist defence of claims • Consistency of output	• Develop experience, continuity and consistency in analysis of scanner data for roads • Full implementation of Bridge Condition Indicator (BCI) for all structures • Review of condition assessment processes generally • Streamline processes for collection, retrieval and interrogation of data • Introduce effective cyclical assessments for elements such as trees, retaining walls and non illuminated signs • Improve use of new technology for managing data and displaying output, including GIS
Demand Aspirations	• Information exists from focus groups, Elected Member input, public meetings, consultations and questionnaires • Some service standards well established Key known demand aspirations are: • To travel over network safely and in comfort • To use streets without fear of crime • Good accessibility with no congestion or delays • Clean green spaces • Parking provision	• Provision of infrastructure which is fit for purpose • Informed decision making with customer input sensitive to community requirements • Levels of service for all elements of the asset • Customer charters which match demand aspirations to resources • Regular customer input and review of demand aspirations	• Expand upon current understanding of public demand aspirations • Systematic and transparent mechanism to listen and include customer aspirations within decision making and service provision • Rigorous monitoring, review and feedback system

Area for Consideration	Current State 2005	Planned 2011	Gap Analysis
Performance Gaps	• Condition of roads and paths fail to meet customer aspirations • Current assets needs extensive maintenance, improvement or replacement in some areas, eg bridges, street lighting • Insufficient evidence in other areas to identify performance gaps	• Improvement in many elements of asset condition, especially roads, paths, structures and street lighting • Improvement in reliability and effectiveness of the asset • Better meeting of customers demand aspirations	• Need better analysis of condition assessments and demand aspirations to strategically identify performance gaps for all elements of asset
Lifecycle Planning	• Metro asset management system facilitates lifecycle planning • Elsewhere informal processes in place • Street lighting PFIs give full lifecycle planning for street lighting and illuminated signs • Removal/rationalisation of assets to minimise street clutter • Risk managed reactive replacement of ageing assets	• Lifecycle models (eg UK Pavement Management System - UKPMS module) to be developed and applied • Planned replacement of ageing or non compliant assets • Systematic approach to up-grading assets to new technologies, eg UTMC	• Review options for lifecycle planning • Review existing processes to ensure assets continue to be fit for purpose • Develop new processes as required • Formalise, document and fund strategy for implementation
Optimisation & Budget Consideration	• Prioritisation of works based on existing inspection regime and informal lifecycle processes • Safety work takes precedence , eg signal faults, street lights out etc • Some budget allocated to preventative maintenance eg bulk lamp change, bridge painting and road surface dressing • Predictable annual spend with minimum transfer of budget between elements of asset • Informal cost benefit analyses	• Identified intervention levels from lifecycle model to be actioned in line with available funds • Rigorous process of optimisation. • Significant progress in reducing the effect of un-programmed reactive / emergency events • Maintenance management co-ordinated with optimisation in the use of the asset, eg UTMC asset facilitating increased traffic or pedestrian flows	• Adapt current practise and document. • Build lifecycle models for different elements of the asset

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TRANSPORT ASSET MANAGEMENT PLANS

Area for Consideration	Current State 2005	Planned 2011	Gap Analysis
Risk Assessment	• Risk and insurance policies are individual to each district authority • Risk identification and analysis processes generally in place • Accident claims viewed as major risk and is focus of action plans	• Update risk identification, analysis and documentation • Risk reduction through effective risk management • Continuous monitoring and evaluation of risk	• Prepare full risk registers, including for impacts of climate change • Develop maintenance strategies to mitigate risk • Determine how unavoidable risk is to be managed • Align resources to needs taking account of risks
Forward Work Programme	• Medium term works planning in place, eg carriageway resurfacing, upgrading of pedestrian crossings, strategic route signing • Focus is on ensuring assets receive appropriate maintenance • Volume of emergency and reactive /short term work can impact on ability to deliver planned works programmes	• SMART responsive programme with inherent flexibility • 10 year plan • Financial allocation for emergency and reactive maintenance to match needs • Cross cutting programmes covering all elements of the asset, eg interface of traffic control systems with other data / control technologies	• Review works programmes in line with priorities as determined from development of HAMPs and TAMPs • Develop SMART 10 year rolling programme with built in flexibility to account for un-programmable / emergency events
Service Delivery	• Efficient delivery of allocated funds • Utilising opportunities to strengthen supply chains and identify economies by electronic tendering, joint district authority tendering and purchasing • Partnering with contractors and consultants	• Gershon efficiency improvements realised	• Review procurement procedures • Identify further opportunities for co-ordination and partnering to reduce costs

Area for Consideration	Current State 2005	Planned 2011	Gap Analysis
Reporting and Monitoring	• LTP1 indicators • Other local and national indicators • Benchmarking data • Management reporting with internal indicators • Specific arrangements for PFI performance monitoring linked to payment mechanisms	• Effective performance management regime which is easy to manage • Measurement of progress against strategic goals • Minimum number of key Performance Indicators which adopt National recommendations	• Adopt proposed national indicators, including new bridges and street lighting indicators • Review all local indicators to ensure fit for purpose • Consider adoption of local indicators in national codes of practice • Develop indicators for key areas for improvement, eg non-illuminated signs • Develop performance management regime for HAMPs and TAMPs around strategic goals • Eliminate unnecessary local indicators
Improvement Actions	• Annual service improvement plans • Some longer term improvement goals in key areas and within LTP	• Improvement plans arising out of HAMP and TAMP development	• Need to work through stages of HAMP and TAMP development to maximise opportunities for service improvement which this process is designed to generate

PROGRESS REPORTS

Progress made by each of the district authorities in inventory and condition data collection, the reliability of that data and summary of the action plans is given in the tables on the following pages.

The scoring regime used by all the district authorities is shown in Table I.2.

Table I.2 Asset Management Progress Reports Scoring Criteria

Extent of Data Collection						
Extent	**Definition**					
Nil	No data stored in electronic or hard copy storage/retrieval system					
Initial	Up to 10% of asset has data in either electronic or hard copy system					
Partial	10-30% of asset data is stored in either electronic or hard copy system					
Average	30-70% of asset data is stored in electronic or hard copy system					
Above Average	70-95% of asset data is stored in electronic or hard copy system					
Complete	>95% of asset data is stored in electronic or hard copy system					
Reliability of Data Stored						
Reliability	**Definition**					
Very poor	Stored data is hardly ever correct					
Poor	Stored data is sometimes correct					
Good	Stored data is normally correct half the time					
Very Good	Stored data is correct most of the time					
Excellent	Stored data is very seldom incorrect					
Confidence Level for Data – Doubles Table						
Confidence Level is the combination of the two above						
Reliability/Extent	**Nil**	**Initial**	**Partial**	**Average**	**Above Average**	**Complete**
Very Poor	None	Low	Low	Low	Low	Low
Poor	None	Low	Low	Low	Low	Low
Good	None	Low	Low	Med	Med	Med
Very Good	None	Low	Low	Med	High	High
Excellent	None	Low	Low	Med	High	High

Table I.3 Bradford Metropolitan District Council's Position Statement May 2005

Asset Strategy Element		CSS Fig. 2 Position	Paper	Comp	Extent of Data Coverage	Information Reliability	Confidence Level	Action Plan
M1	Road	Inventory Condition		♦ ♦	Complete Complete	Very Good Excellent	High High	Set up GIS and digitised network and work towards verification of full inventory and high quality condition assessments
M1	Footways	Inventory Condition		♦ ♦	Above Ave Above Ave	Good Poor	Medium Low	Utilise safety inspection regimes to verify footway inventory and rationalise to single data base. Develop high quality condition assessments
M1	Verges	Inventory Condition		♦	Above Ave Nil	Good Very Poor	Medium None	Set up GIS linked to highway network and work towards verification of full inventory. Consider need for condition data
M1	Gullies	Inventory Condition		♦	Average	Good	Medium	Inventory and condition assessment to be developed/improved. Set up GIS linked to highway network and work towards verification of full inventory. Assess integrity of drainage system
M1	Highway Drains	Inventory Condition			Nil	Very Poor	None	
M1	Land Drains	Inventory Condition		♦	Above Ave	Very Good	High	Work in conjunction with Bradford District Water Maintenance Group (BDWMG) on flood research and planning
M1	Road Markings	Inventory Condition		♦	Initial	Very Good	Low	Consider developing systematic prioritised data collection for inventory and condition information to be linked to highway GIS
M1	Safety Fencing	Inventory Condition			Nil	Very Poor	None	Consider development of GIS linked inventory and condition data and prioritise collection
M2	Highway Bridges	Inventory Condition	♦ ♦	♦ ♦	Above Ave Above Ave	Very Good Very Good	Medium Medium	Ongoing development of BCI Inspections for all structures and improve prioritisation systems using condition data collected. All new data to be in electronic format
M2	Highway Walls	Inventory Condition	♦	♦ ♦	Partial Initial	Very Good Very Good	Low Low	Collect inventory and condition data for all routes expanding ongoing work with new technology

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Asset Strategy Element		CSS Fig. 2 Position	Paper	Comp	Extent of Data Coverage	Information Reliability	Confidence Level	Action Plan
M2	Highway Structures	Inventory Condition	♦ ♦	♦	Initial Initial	Good Good	Low Low	Utilise BCI inspection data for all structures to develop prioritisation of maintenance works
M3	UTMC	Inventory Condition	♦ ♦		Complete Complete	Excellent Excellent	High High	Electronic system to be implemented. Utilise inventory to prioritise cost effective upgrading of system and operating resources
M3	CCTV	Inventory Condition	♦ ♦	♦	Above Ave Above Ave	Very Good Very Good	High High	Develop cable route inventory
M4	Traffic and Road Safety Assets	Inventory Condition	♦	♦	Partial Nil	Good Very Poor	Low None	Consider developing GIS linked data collection for inventory and condition. Ensure all new build schemes are included in inventory. Develop Inspection Regime
M4	Street Lighting and Lit Signs	Inventory Condition		♦ ♦	Average Partial	Good Good	Medium Low	Complete inventory and condition assessment in 2005/06 and link to GIS. Integrate new scheme updating and develop inspection regime
M6	Car and Lorry Parks	Inventory Condition	♦ ♦		Above Ave Initial	Very Good Good	High Low	Review inventory for on and off street and develop condition assessment and recording system
M7	ROW	Inventory Condition	♦ ♦	♦ ♦	Complete Average	Good Good	Medium Medium	Develop inspection and condition assessments. Review 1998 survey. Joint working with Structures and review management of asset (ongoing)

The core rationale supporting the work carried out to date is that the process defined in the *Framework for Highways Asset Management* combined with the essential fact that Asset Management is a key link to all the 4 LTP priorities. These priorities are mirrored in the Council's corporate objectives.

The work for LTP2 builds on good practice developed through the life of LTP1 but also broadens that scope moving forward to address the wider needs of the District as a whole. There are many common links between individual asset management fields and the Plan will examine these links and redefine asset management processes where benefits are identified.

In developing the Plan reference will be made to national maintenance Codes of Practice which are due to be published in 2005. Third Party asset owners will be consulted to form an integral part of the Plan.

Effective Asset Management is seen as a key to aiding the ongoing economic regeneration of the City and the District as a whole.

The Director for Transportation Design and Planning and his Management Team have carried out a comprehensive risk assessment based on national indicators, LTP indicators and corporate priorities to prioritise both inventory/condition data collection and current resource allocation. This risk assessment has been the basis for the development of the Action Plan listed above and will form the skeleton on which Bradford's Asset Management Plan is developed. The current programme aims to have prepared an Asset Management Plan for consultation by January 2006.

Table I.4 Calderdale Metropolitan Borough Council's Position Statement May 2005

LTP Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
M1	Road Surfacing	Inventory Condition	♦	♦ ♦	Above Ave Above Ave	Very Good Excellent	High High	Develop the Insight Highway Management Maintenance System to best suit the needs of the service Adopt new Maintenance Code of Practice and review service Review carriageway condition inspections and assessment consistent with UKPMS for forward programming Establish a baseline for length of principal road that doesn't meet required levels of skid resistance
M1	Footways & verges	Inventory Condition	♦	♦ ♦	Above Ave Average	Very Good Very Good	High Medium	Review footway condition, inspections and assessment consistent with UKPMS for forward programming
M1	Highway Drainage	Inventory Condition	♦	♦	Initial Nil	Good Poor	Low None	Review highway drainage service including inventories, inspections and cleansing frequencies
M1	Road Markings	Inventory Condition	♦		Average Nil	Very Good Very Poor	Medium None	Set up full inventory of road markings and integrate with highway and street lighting inspections Review maintenance systems for lead in to decriminalised parking enforcement
M1	Safety Fencing	Inventory Condition	♦		Average Nil	Good Very Poor	Medium None	Inventory to be completed by 2006. Condition Survey to follow

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LTP Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
M2	Highway Bridges	Inventory Condition	 ♦	♦ ♦	Above Ave Above Ave	Very Good Very Good	High High	Adopt new Bridges Code of Practice and implement Bridge Management Expert computer software (BMX) with link to Insight Highway Management Maintenance System. Transfer existing inventory database & GIS link to BMX. All condition inspections including BCIs to be recorded in BMX. BCI data used to produce prioritised schedule of work
M2	Highway Walls	Inventory Condition		♦ ♦	Partial Partial	Very Good Very Good	Low Low	Ongoing prioritised asset inventory and condition survey recorded in BMX. Analyse condition data to produce prioritised schedule of works
M3	UTMC	Inventory Condition		♦ ♦	Complete Complete	Excellent Excellent	High High	Analyse condition survey data to prioritise installation upgrades
M3	CCTV	Inventory Condition	♦	♦	Above Ave Partial	Very Good Very Good	High Low	Review of CCTV service currently ongoing
M4	Street Lighting	Inventory Condition	♦ ♦	♦ ♦	Average Partial	Very Good Very Good	Medium Low	Condition survey analysis to recommend a way forward for the service
M4	Lit Signs	Inventory Condition		♦	Complete Nil	Excellent Very Poor	High None	Condition survey to be carried out and repairs prioritised
M4	Unlit Signs	Inventory Condition		♦	Complete Nil	Excellent Very Poor	High None	Condition survey to be carried out and repairs prioritised

LTP Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
M6	Car Parks	Inventory Condition	♦ ♦	♦ ♦	Complete Above Ave	Excellent Very Good	Excellent Very Good	Annual audit and 3 monthly inspections now in place. Defects/action taken logged through the Highway 1 system 5 Year programme (2004 – 2009) of improvements due to the securing of capital investment (£150,000 pa) Minimum standards for car parks currently being developed.
M7	ROW – Surfacing	Inventory Condition	♦ ♦		Complete Initial	Poor Excellent	Low Low	Introduce Rights of Way Management System similar to Highway Maintenance Insight for all aspects of ROW management and update surfacing and condition data as information becomes available.
M7	ROW - Structures	Inventory Condition	♦ ♦		Initial Initial	Excellent Excellent	Low Low	Introduce Rights of Way Management System similar to Highway Maintenance Insight for all aspects of ROW management and update structures and condition data as information becomes available.

Calderdale Metropolitan Borough Council have used the *Framework for Highway Asset Management*, Hertfordshire's County Council's Asset Management Plan and have held preliminary meetings with specialist consultants to develop their approach to the preparation of an Asset Management Plan for highways and transport.

Much of what the Asset Management approach represents already takes place in current practices and the challenge now is to look at the areas where improvements are required and develop a plan that complements Calderdale's vision and corporate priorities.

Table I.5 Kirklees Metropolitan Council's' Position Statement May 2005

Asset Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
M1	Road Surfacing	Inventory Condition	♦ ♦	♦ ♦	Above Ave Above Ave	Good Good	Medium Medium	Work towards collection of full inventory and condition assessments being incorporated into Authority's GIS
M1	Footways & verges	Inventory Condition	♦ ♦	♦ ♦	Above Ave Above Ave	Poor Good	Low Medium	As above
M1	Gullies	Inventory Condition		♦ ♦	Average Average	Very Good Very Good	Medium Medium	Work towards collection of full inventory and condition assessments being incorporated into Authority's GIS
	Highway Drainage	Inventory Condition	♦ ♦		Initial Initial	Poor Poor	Low Low	Systematic prioritised inventory data collection system to be implemented and linked to Authority's GIS
	Watercourses	Inventory Condition	♦ ♦		Initial Initial	Good Poor	Low Low	Systematic prioritised inventory data collection system to be implemented and linked to Authority's GIS
M1	Road Markings	Inventory Condition	♦	♦ ♦	Initial Initial	Excellent Excellent	Low Low	Systematic prioritised inventory data collection system to be implemented and linked to Authority's GIS
M1	Safety Fencing	Inventory			Nil	Very Poor	None	As above
M2	Highway Bridges	Inventory Condition	♦ ♦	♦ ♦	Above Ave Above Ave	Very Good Very Good	Medium Medium	Ongoing development of BCI Inspection for all structures and improve prioritisation system using condition data collected. All new data to be stored electronically
M2	Highway Walls	Inventory Condition	♦	♦ ♦	Partial Initial	Very good Very Good	Low Low	Ongoing collection of inventory and condition data for all routes and improve prioritisation systems using data collected. All new data to be stored electronically
M3	UTMC	Inventory Condition		♦ ♦	Complete Complete	Excellent Excellent	High High	Existing electronic system to be integrated within Authority's GIS

Asset Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
M3	CCTV	Inventory Condition		♦ ♦	Complete Complete	Excellent Excellent	High High	Existing electronic system to be integrated within Authority's GIS
M4	Street Lighting	Inventory Condition		♦ ♦	Complete Complete	Excellent Excellent	High High	Existing electronic system to be integrated within Authority's GIS
M4	Lit Signs	Inventory Condition		♦ ♦	Complete Complete	Excellent Excellent	High High	Existing electronic system to be integrated within Authority's GIS
M4	Unlit Signs	Inventory	♦		Initial	Very Good	Low	Systematic prioritised inventory data collection system to be implemented and linked to Authority's GIS
M6	Car Parks	Inventory Condition	♦ ♦		Complete Average	Excellent Good	High Medium	
M7	ROW Surfacing	Inventory Condition	♦ ♦		Partial Initial	Very Good Very Good	Low Low	Systematic prioritised inventory data collection system to be implemented and linked to Authority's GIS
M7	ROW - Structures	Inventory Condition	♦ ♦	♦ ♦	Above Ave Above Ave	Very Good Very Good	Medium Medium	Ongoing development of BCI Inspection for all structures and improve prioritisation system using condition data collected. All new data to be stored electronically

Table I.6 Leeds City Council's Position Statement May 2005

LTP Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
M1	Roads	Inventory		♦	Complete	Very Good	High	Continue verification of inventory to increase reliability
		Condition		♦	Complete	Good	Med	Increase reliability by recording refurbishment work as it occurs
M1	Footways & verges	Inventory		♦	Complete	Very Good	High	Continue verification of inventory to increase reliability
		Condition		♦	Complete	Good	Med	Increase reliability by recording refurbishment work as it occurs
M1	Highway Gullies	Inventory			Nil	-	-	Systematic prioritised inventory and condition data collection system to be implemented
		Condition			Nil	-	-	
M1	Highway Drains	Inventory		♦	Partial	Very Good	Low	Prioritised inventory and condition data collection system to be considered concentrating on readily available data and new build first
		Condition		♦	Initial	Very Good	Low	
M1	Road Markings	Inventory			Nil	-	-	Prioritised inventory collection system to be considered concentrating on readily available data and new build first
		Condition		♦	Above average	Good	Med	Increase reliability by recording refurbishment work as it occurs
M1	Safety Fencing	Inventory			Nil	-	-	Systematic prioritised inventory and condition data collection system to be implemented
		Condition			Nil	-	-	
M2	Highway Bridges	Inventory		♦	Above average	Very Good	High	Continue to add structures to database. Upgrade data handling capabilities with a bespoke bridge management system
		Condition		♦	Above average	Very Good	High	Record refurbishment work, as it occurs to increase reliability
M2	Highway Walls	Inventory		♦	Partial	Poor	Low	Continue to collect verified data to increase coverage and reliability

LTP Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
		Condition	♦	♦	Partial	Very Good	Low	Collect verified data to increase coverage and record refurbishment work to maintain reliability
M2	Highway other structures incl high mast lighting	Inventory		♦	Above average	Very Good	High	Continue to collect verified data to increase coverage and reliability
		Condition	♦	♦	Above average	Very Good	High	Record refurbishment work, as it occurs to increase reliability
M3	UTMC	Inventory		♦	Complete	Excellent	High	Verified system is in place. No proposed changes
		Condition	♦	♦	Complete	Excellent	High	Plan to introduce electronic hand held data capture devices to move to fully electronic system
M3	CCTV	Inventory		♦	Complete	Excellent	High	Maintenance and verification of data to continue
		Condition		♦	Complete	Excellent	High	
M4	Street Lighting	Inventory		♦	Complete	Very Good	High	Verified system is in place and will transfer to PFI provider
		Condition			Nil	-	-	Street Lighting PFI provider will implement a full system of condition assessment
M4	Lit Signs	Inventory		♦	Complete	Excellent	High	Verified system is in place and will transfer to PFI provider
		Condition			Nil	-	-	Street Lighting PFI provider will implement a full system of condition assessment
M4	Unlit Signs	Inventory	♦	♦	Initial	Very Good	Low	Some data available but not easily retrievable. Formal database to be introduced
		Condition			Nil			
M6	Car Parks	Inventory		♦	Above average	Very Good	High	System improvements are in place to collect additional data for sign and lighting inventory and condition to upgrade coverage
		Condition		♦	Average	Very Good	Med	
M7	ROW – Surfacing	Inventory	♦		Average	Excellent	Med	Convert definitive map and statement to digital format and extend coverage to previously unsurveyed areas

LTP Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
		Condition	♦	♦	Average	Very good	Med	Increase cyclical inspections to increase data coverage and reliability
M7	ROW - Structures	Inventory	♦		Average	Excellent	Med	Convert inventory to digital format. Carry out a proactive cyclical condition survey and develop processes in line with quality management systems
		Condition	♦		Average	Excellent	Med	

Leeds City Council has an in-house team with the expertise to take a corporate overview on issues relating to asset management. Following the launch of the *Framework for Highways Asset Management* a report on the implications was tabled at the asset management board. The Deputy Chief Executive was subsequently appointed as the project champion for developing a HAMP. This project will build upon current asset management practice as incorporated within the Leeds Highway Maintenance Policy Statement and Plan and the Leeds Highway Structures Policy Statement and Plan but will specifically follow the stages within the guidance document.

The existing bridge asset management system is being reviewed in accordance with the draft Code of Practice for the Management of Highway Structures, which will be published in its final form in September 2005. This system will be upgraded as soon as is practical to a bespoke system, to incorporate all the elements of highway structure management, including BCIs and Performance Measures for Highway Structures (key Performance Indicators for Condition, Availability, Reliability and backlog of work).

Part of the street lighting strategy for Leeds is to implement a street lighting PFI. Procurement of this is well advanced. The PFI provider will address all issues of asset management, inventory, condition and performance.

Table I.7 Wakefield Metropolitan District Council's Position Statement May 2005

Asset Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
M1	Road Surfacing	Inventory Condition	♦	♦ ♦	Average Complete	Good Very Good	Medium High	Work towards collection of full inventory
M1	Footways & verges	Inventory Condition	♦	♦ ♦	Average Complete	Good Very Good	Medium High	Work towards collection of condition info for Types 3 & 4 footways
M1	Drainage: Gullies Sewers Land Drain	 Inventory Inventory Inventory		 ♦	 Average Nil Nil	 Good Very Poor Very Poor	 Medium None None	
M1	Road Markings	Inventory			Nil	Poor	None	Determine prioritisation
M1	Safety Fencing	Inventory		♦	Average	Very Good	Medium	Need inventory update
M2	Highway Bridges	Inventory Condition	♦ ♦	♦ ♦	Above Ave Above Ave	Very Good Very Good	High High	Aim to link with GIS and all new data to be electronic format.
M2	Highway Walls	Inventory Condition	♦	♦ ♦	Initial Initial	Very Good Very Good	Low Low	Systematic prioritised inventory data collection system to be implemented linked to GIS
M3	UTMC	Inventory Condition	♦ ♦		Complete Complete	Excellent Excellent	High High	Electronic system to be implemented
M3	CCTV	Inventory Condition	♦ ♦	♦ ♦	Complete	Excellent	High	
M4	Street Lighting	Inventory Condition	♦ ♦	♦ ♦	Complete Complete	Very Good Very Good	High High	Major revision to inventory as replacement programme proceeds under PFI
M4	Lit Signs	Inventory Condition	♦ ♦	♦ ♦	Complete Complete	Very Good Very Good	High High	Update as replacement programme proceeds under PFI.
M5	Unlit Signs	Inventory		♦	Average	Poor	Low	Need inventory update linked to GIS

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Asset Strategy Element		CSS Fig. 2 Position	Paper System	Electronic System	Extent of Data Coverage	Reliability of Stored Information	Confidence Level	Action Plan
M6	Car Parks							
M7	ROW – Surfacing	Inventory	♦		Average	Poor	Low	Update and link to GIS
M7	ROW - Structures	Inventory Condition	♦ ♦		Average Average	Poor Poor	Low Low	Inventory and condition info to be collected electronically and linked to GIS

Wakefield Metropolitan District Council have appointed Chris Britton Consultants to assist in the HAMP preparation and having undertaken a desk top audit and current position review are preparing a Project Action Plan to meet deadlines. Deadline for draft report is Dec 2005 for HAMP.

APPENDIX J
TRAFFIC MANAGEMENT ACT PROGRESS REPORT

NETWORK MANAGEMENT DUTY

Traffic Managers

Each of the five districts within West Yorkshire has appointed a Traffic Manager in accordance with the Traffic Management Act 2004. The Traffic Managers are currently engaged in defining the Network Management Duty, making whole authorities aware of the duty and extending current strategies and procedures to deliver the Duty within the individual districts.

The Traffic Managers from the five district authorities have established a working relationship within the Yorkshire Traffic Managers Group. The aim of the Yorkshire Group is to share best practice and ensure the consistent implementation of policies and practices at a strategic level across a wide area. The HA and the Yorkshire Joint Authorities Group for street works are also members of the Yorkshire Group and are contributing to the process.

A Network Management Plan Framework for Yorkshire

The members of the Yorkshire Group commissioned Mouchel Parkman to develop a Framework for network management for the whole of Yorkshire. The framework, based on the Duty Guidance issued by the DfT, has built on cross boundary relationships to ensure a strategic approach to network management. The joint approach to the development of the framework has had the benefit of being able to include best practice from across a wide range of local authorities, the HA and other services.

Network Management in West Yorkshire

By working together the West Yorkshire Traffic Managers will be able to deliver efficiencies in terms of developing strategies to tackle congestion together with its partners in Metro and the emergency services. For example work has already begun in understanding the contribution that can be made towards assisting in the PIP initiative.

The West Yorkshire districts together with the Yorkshire Group have highlighted six particular areas of the Traffic Management Act that would benefit from joint working and the sharing of best practice. The projects are:

1 Whole Authority approach

How the Traffic Manager can influence and co-ordinate the activities of anyone within the authority who directly or indirectly affects the highway

2 Criteria for road hierarchy

The process required to configure a road hierarchy system that all authorities could use and how to ensure continuity at boundaries

3 Local key performance indicators

Ways of measuring performance and outcomes through the development of measurable local indicators, in addition to those already prescribed and those proposed by the DfT, to facilitate cross boundary benchmarking.

4 Travel information and incident/event management

Look at how new technology for real time travel information can be used within the area and the scope for a joint approach.

5 Consultation

Approaches to consultation - who should be consulted and how best to obtain stakeholders views.

6 Highway works management

- Issues surrounding parity in the management of highway works
- How to ensure an even approach.
- The role of permit schemes.
- Close links with street works group.

The group has created working sub-groups to concentrate on these issues and agree strategies for best practice.

In addition to the group process there is clearly a need for each traffic authority to work with its own neighbours in more detail and communication networks are being formed between the West Yorkshire district authorities and with the HA, their maintaining agents, Derbyshire, Greater Manchester, Lancashire and South and North Yorkshire.

The five district authorities are now developing the Yorkshire framework with more detailed individual policies and procedures to tailor delivery to their own stakeholder needs and organisational arrangements

The challenges facing individual authorities are widespread. Many of the functions to manage the network are already in place with existing legislation from the Road Traffic Act, Highways Act and NRSWA. However, the Traffic Managers understand that the new powers go beyond this legislation in terms of developing a culture that concentrates on the outcome of a co-ordinated, planned and effective response to minimise disruption and congestion across all areas. Developing this culture will require good communications both internally and in engaging with stakeholders and the community.

Hierarchy

The Network Management Duty encompasses the whole of the highway network and specific actions need to be prioritised to ensure that the outcomes are achieved in the most efficient manner. The Yorkshire group is preparing guidelines on a uniform approach to creating a congestion risk hierarchy. Each district will prepare a user and road/footway hierarchy to determine the most appropriate targeting of resources and to prevent a disproportionate amount of effort being employed to consider anything which has an insignificant effect on the movement of pedestrian or vehicular traffic.

The hierarchy will consider the type of road user and the demand placed on the network at certain times. This will allow the efficient control of the disruption of the network by street works and events and highlight the need to take appropriate action in the event of unplanned incidents.

In addition to the day to day demands placed on the network it is important to have a focus on the potential for proactive measures to ease congestion occurring on a regular basis irrespective of additional events such as road works. Work has already begun in this respect utilising the ITIS Holdings Plc data (described in Part 2 of the LTP2).

Consultation

Traffic Managers are collectively considering the need to engage with road users and how best to gain their views and to some extent their suggestions on the issues of congestion and disruption. There is also a need to manage expectations and everyone involved in the process needs to understand the extent of the challenge. Each district understands that they will have a responsibility to demonstrate that appropriate policies and strategies are in place and that they are working.

Streetworks

Streetworks are seen as a major source of congestion. There were 64,000 road openings from utilities across West Yorkshire in 2004/2005. The West Yorkshire authorities currently operate the systems of noticing, co-ordination and disruption reduction measures such as duration challenges and over-stay charges, included within the current street works legislation.

There is an understandable desire to demonstrate parity between utility and highway authority works in terms of the controls placed upon each of them when operating on the highway. The district authorities support this view and are already putting measures in place to prepare for the revisions to the current legislation, due in Autumn 2006 that will make this a requirement.

Any suggestion of parity between utility works and highway works will need to be demonstrated and measures will be put in place to verify that this is the case and where necessary that corrective action has been taken. Serious consideration is being given to the proposed alternative systems to assist in the control and co-ordination of street works through permit schemes and fixed penalty notices. As part of the DfT's evaluation of permit regulations, the West Yorkshire district authorities have offered to take part in a Yorkshire wide trial of a permit scheme. It is anticipated that either with or without participating in such a trial, a permit scheme will be adopted by most if not all of the five districts in West Yorkshire within a year of the legislation being available.

Service Delivery

Some aspects of the delivery of the Network Management Duty will undoubtedly require changes in service delivery that may impact on resources. There is a need to develop systems and strategies that are mindful of this but also to explore alternative ways of working that will still deliver the desired outcomes but that will reduce any impact on resources.

Effective management of the network includes the need to provide sufficient real time information on the performance of the network to the users to allow informed choices about journey times and routes. A number of initiatives currently exist throughout West Yorkshire utilising the internet and the media. The district authorities are to consider the effectiveness of the methods currently used and look to improve systems. The aim is to provide clarity of available services and increase awareness so that users can find the appropriate and timely information and know what to expect from the service.

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APPENDIX K
STRATEGIC ENVIRONMENTAL ASSESSMENT

STRATEGIC ENVIRONMENTAL ASSESSMENT

BACKGROUND

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. These regulations apply to a number of plans and programmes (including LTPs) that either set a future development consent for projects requiring an EIA or may cause damage to sites designated under the EU Habitats Directive.

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 Environmental Report.

SCOPING

- Identifying other plans/programmes being implemented within/affecting the LTP plan area to ensure conflicting policies are identified and considered and that potential cumulative impacts can be identified.
- Describing the current and likely future environmental baseline for the LTP2 plan area, providing an evidence base against which to assess impacts and set a monitoring framework.
- Identifying any environmental problems and opportunities in the Plan area, and highlighting any uncertainties regarding either data collection or knowledge of the environment in West Yorkshire. As uncertainty is inevitable when dealing with data at a strategic level, it is important that uncertainties are raised throughout the process to make decision-making more robust.
- Development of a set of SEA objectives against which the LTP2 will be assessed. The SEA objectives are listed below, and have been developed to meet the requirements of the SEA Regulations and specific DfT guidance on SEA for LTPs, and to complement objectives identified in other strategic plans effecting West Yorkshire.

The objectives used in the LTP2 SEA were:

1. to reduce transport-related impacts on local/regional noise climate;
2. improve local/regional air quality and mitigate transport-related AQMAs;
3. reduce transport-related emissions of greenhouse gases;
4. improve the ability of transport systems to adapt to climate change;
5. to protect and enhance landscape and townscape diversity;
6. avoid loss or damage to historic buildings, land, structures, Conservation Areas and historical rescues;
7. to help protect and enhance habitats and species of local, European or international importance;
8. reduce the detrimental impact of transport on water quality;
9. to secure improvements to health;
10. reduce the number of vehicular, pedestrian, and other transport-user casualties;
11. reduce the risk and fear of crime for pedestrians and public transport users;
12. reduce community severance and fragmentation to aid community cohesion;
13. improve access to education, jobs, leisure (including sustainable tourism), community services and the countryside;
14. to support employment, economic competitiveness and the revival of priority regeneration areas;
15. to protect and retain soil; and
16. maximise the efficient and effective use of materials and minimise the amount of waste generated.

Scoping Appraisal

This was an appraisal of initial strategic alternative options for the LTP2 against the SEA objectives. The scoping process was based on expert subjective advice, as no specific modified data for the LTP2 alternatives was available. Five alternative LTP2 strategies were developed and are listed below, each composed of a specific group of transport instruments which will achieve LTP2 objectives, each emphasising a different policy area. These transport instruments are categorised within the themes of 'public transport', 'network', road safety' and 'mobility management initiatives', within which they are further sub-divided into elements relating to 'services', 'information' and 'infrastructure'.

Option One: the existing situation that can be treated as a "do-minimum" or background situation. For the purposes of the hypothetical situations that follow, it can be assumed that the development / investment in the policy instruments here would be effectively frozen and simply maintained without being grown any further.

Option Two: an alternative consisting of Option One (existing) plus policy instruments skewed towards constraining the strong demand for car travel.

Option Three: an alternative consisting of Option One (existing) plus policy instruments skewed towards sustainable transport modes.

Option Four: an alternative consisting of Option One (existing) plus policy instruments skewed towards unconstrained demand for car travel.

Option Five: an alternative consisting of Option One (existing) plus policy instruments skewed towards targeted improvements to roads together with improvements for walking, cycling and public transport.

The results of the appraisal of alternatives have been included in the scoping report allowing comparison between the five different possible alternatives and flagging up, where relevant, how negative impacts may be minimised and positive effects enhanced. A matrix was created (an example of which is shown in table K.1. Matrices for each alternative are available in full in the Scoping Report) in which all SEA objectives could be scored against the given transport instruments for each alternative, categorised by theme and element. The scoping appraisal was scored by a small team of multi-disciplinary environmental experts using their subjective judgement of the likely strategic environmental effects - at the scoping stage of a SEA it was found to be neither practicable or feasible to use modified data to aid scoping appraisal.

Option 1 was appraised using past knowledge of the environmental performance of LTP1. In addition, it was assumed that the current momentum in providing alternative solutions and initiatives to reduce car dependency would slowly diminish over time. It was also anticipated that traffic growth and associated congestion would continue to increase at it's current rate in West Yorkshire. Due to the lack of detailed information a simple colour coded scoring system was devised to indicate that the impacts are thought to have either a 'likely beneficial impact', 'possible slight beneficial effect', 'no likely effect', 'possible slight negative effect' or 'likely negative effect'.

The Option 1 matrix was scored using the above assumptions and scoring system. Options 2, 3, 4 and 5 were scored on a consistent basic using Option 1 as the baseline or do-minimum situation. Each LTP2 option was described relative to Option 1, i.e. information provided on the transport instruments in terms of the transport themes and elements would be improved or relaxed relative to Option 1. Using this approach, a consistent but relative comparison of environmental performance could be achieved. Comprehensive tabulation of comments describing the appraisal team's thoughts and reasoning behind the scores given.

Brief summary of scoping results

Table K.2 provides a basic summary of the scoping results in terms of likely strategic environmental effects. This scoping appraisal has not attempted to weigh any of the potential adverse or beneficial effects, or take account of interactions or cumulative effects between different SEA objectives.

Option 4 is clearly illustrated as the worst LTP2 strategy regarding its environmental performance. This would be expected as the strategy promotes car usage and would create significant environmental conflicts. Conversely options 2 and 3 are likely to give the best environmental performance. Both of these strategies have an effect on promoting sustainable modes of transport and generally constrain car demand.

Option 5 gives an intermediate performance, although it provides a more balanced LTP strategy targeting some improvements to the highway network, public transport and sustainable modes of transport. This option performs generally better than the existing LTP strategy described in option 1.

The scoping report also highlights areas for each of the options where negative impacts can be reduced and positive impacts be included or enhanced. Once a decision has been made regarding LTP2 strategy options, a more detailed assessment will be performed and reported in the Environmental Report. At this stage, information will be available from the STM which will provide the basis for assessing the environmental effects of the draft LTP2, together with advice on appropriate mitigation measures.

Table K.1: Example of scoping appraisal matrices

OPTION 2: Existing plus policy instruments skewed towards constrained car demand

SEA OBJECTIVES		Public Transport			Network			Road Safety			Mobility Management Initiatives		
		Services	Information	Infrastructure	Services	Information	Infrastructure	Services	Information	Infrastructure	Services	Information	Infrastructure
1	To reduce transport-related impacts on local/regional noise climate.	O	O	O	O	O	+	O	O	+/O	O	O	+/O
2	Improve local/regional air quality and mitigate transport-related AQMAs.	+	-/O	+/O	+/O	+/O	+	O	O	+	+/O	+/O	+/O
3	Reduce transport-related emissions of greenhouse gases.	+	-/O	+/O	+/O	+/O	+	O	O	+	+/O	+/O	+/O
4	Improve the ability of transport systems to adapt to climate change.	O	O	-/O	O	+	-/O	O	O	-/O	O	O	-/O
5	To protect and enhance landscape and townscape diversity.	+/O	O	O	+/O	-/O	+/O	O	O	-	+/O	O	+*
6	Avoid loss or damage to historic buildings, land, structures, Conservation Areas and historical rescues.	+/O	O	O	O	O	+/O	O	O	-/O	O	O	+/O
7	To help protect and enhance habitats and species of local, European or international importance.	+/O	O	O	O	O	O	O	O	O	O	O	+/O
8	Reduce the detrimental impact of transport on water quality.	O	O	O	O	O	O	O	O	O	O	O	O
9	To secure improvements to health.	+/O	O	O	O	O	+	O	O	O	+/O	O	O
10	Reduce the number of vehicular, pedestrian, and other transport-user casualties.	+/O	O	O	+/O	+/O	+/O	+/O	+/O	+	O	O	+/O
11	Reduce the risk and fear of crime for pedestrians and public transport users.	+/O	O	+/O	O	O	+/O	O	O	O	O	O	+/O
12	Reduce community severance and fragmentation to aid community cohesion.	O	O	O	O	O	+	O	O	+	O	O	+/O
13	Improve access to education, jobs, leisure (including sustainable tourism), community services and the countryside.	+	O	+/O	O	O	+/O	O	O	O	O	O	O

SEA OBJECTIVES		Public Transport			Network			Road Safety			Mobility Management Initiatives		
		Services	Information	Infrastructure	Services	Information	Infrastructure	Services	Information	Infrastructure	Services	Information	Infrastructure
14	To support employment, economic competitiveness and the revival of priority regeneration areas.	**+**	**O**	**+/O**	**+/O**	**+/O**	**+/O**	**O**	**O**	**O**	**O**	**O**	**+/O**
15	To protect and retain soil.	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**
16	Maximise the efficient and effective use of materials and minimise the amount of waste generated.	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**

* = Presuming other measures are introduced to back up this policy.

+	Likely beneficial effect
+/O	Possible slight beneficial effect
-/O	Possible slight negative effect
-	Likely negative effect
O	No likely effect

? = effect still to be determined

Table K.2: Summary of scoping results

	Likely adverse effect	Possible slight adverse effect	No likely effect	Possible slight beneficial effect	Likely beneficial effect	Environmental rating
Option 1	0	15	150	27	0	4th
Option 2	1	8	126	42	15	1st (best performing)
Option 3	0	14	131	35	12	2nd
Option 4	9	30	138	13	2	5th (worst performing)
Option 5	0	12	147	26	7	3rd

THE ENVIRONMENTAL REPORT

An Environmental Report is required by the regulations to provide a detailed account of the SEA process. This has built upon the findings of the Scoping Report and includes:

- Prediction of any significant environmental effects of the chosen Plan and its alternatives, and to evaluate the predicted effects to direct refinement of the Plan to better meet sustainable development principles.
- Mitigation measures for consideration to be included in the Plan.
- A wider consultation (statutory, non-statutory consultees and all other interested parties) of the SEA Environmental Report, to enable relevant comments to be assessed and improvements incorporated within the provisional LTP2.
- A framework to monitor the environmental effects of the Plan's implementation in order to determine whether it's effects are as anticipated, and therefore inform future revisions to the monitoring programme / SEA of future plans.

SEA Assessment Tables.

The Assessment Tables summarise the environmental objective findings and identifying the likely LTP2 environmental effects, associated with:

- relevant legislation and policies;
- environmental constraints and location of proposed schemes;
- STM output;
- use of expert opinion; and
- cumulative or other secondary effects

Based on this information, an independent judgement has been made on the strategic significance of the LTP2 environmental effects and whether appropriate mitigation, or enhancements could be introduced to improve the performance of the LTP2.

SEA Mitigation and Enhancement Tables.

These Tables identify the likely strategic environmental effect of the LTP2 associated with each SEA objective. The environmental effects are assessed using consistent terminology to describe either "Beneficial" or "Adverse" effects. In addition, the opportunities for mitigation and enhancement have been clearly indicated.

Relevant strategic or scheme specific mitigation measures for each SEA objective have been identified to reduce likely significant environmental effects of the LTP2. Appropriate strategic and scheme specific measures to enhance and improve the overall environmental performance of the LTP2 have also been incorporated.

ASSESSMENT TABLES

Table K3: SEA Objective 1: Reduce transport related impacts on Local / regional noise climate

Issue	Assessment
Environmental Constraints	No strategic data for West Yorkshire. Main sources road transport, local aircraft and rail noise. Areas of Tranquillity/ Quiet urban areas e.g. Parks.
Relevant Legislation or Targets	Environmental Noise Directive. Noise Insulation Regulations Quality of Life Indicator Potential Noise Target when noise mapping available.
Location of Potential Schemes	New Highways most relevant. Other Strategy Approaches mainly insignificant effect on noise. Maps of major schemes provided for each District. Improved surface access to Leeds/ Bradford International Airport may have an indirect effect on encouraging additional aircraft movements, with possible adverse effects on local noise climate.
Strategic Transport Model	"Trips through" data provides a general proxy for change in traffic flows across District wards. But, lacks any detail that would be provided from Noise Mapping.
Expert Opinion & General Issues	Agreed that we may need to develop our own Noise Mapping model for West Yorkshire as the latest information from Defra suggests that the proposed noise map for South and West Yorkshire would be very basic. The model would not be available to local authorities to assess the effects of road schemes. Development of an independent West Yorkshire Noise Mapping model would provide a source of strategic noise data for the sub-region. Major noise issues include: • Motorway noise effects • Road Surfacing Policies. • Use of Speed Management • Design of Barriers
Significance of Effects	Strategic Effect of LTP2 is **Minor Beneficial** STM evidence indicates that proposed modal shift & associated change in vehicle flows will create an imperceptible change in noise climate. There will be some local perceptible improvements in noise climate associated with new road schemes, road surfacing and speed management. Cumulative effects may create minor strategic benefits in noise climate. Without the use of noise mapping it will be difficult to determine where, if any, changes will occur in the local/strategic noise climate.

Issue	Assessment
Other Policies and Programmes	Effects of the Regional Spatial Strategy (RSS) Vision: • Airport developments. • ii) Economic growth effects for new housing, jobs and commuting. • Highway Agency Policies.
LTP2 Mitigation	Strategic: Yes
	Scheme Specific: Yes
LTP2 Enhancements	Strategic: Yes
	Scheme Specific: Yes

Table K.4: SEA Objective 2: Improve local/regional air quality and mitigate transport related AQMAs

Issue	Assessment
Environmental Constraints	AQMAs and AOCs. Air Quality considerations for both health & biodiversity.
Relevant Legislation or Targets	EU Air Quality Directives/ NAQS LTP2 Targets: Mandatory LTP2 target: reduce annual average NO_2 in Leeds AQMA by 10%. Local LTP2 target: reduce NO_x emissions by 20% across West Yorkshire. Potential to develop a local particulate matter target when new standards are established
Location of Potential Schemes	Overlay of STM data with Air Quality constraints, using GIS. Consider effects of new highways and motorway network. Consider any highway modifications within contained environment.
Strategic Transport Model	The STM output for LTP2 predicts reductions in NO_x & PM_{10}, (pollutants of concern), across West Yorkshire of between 2 & 5%. The most significant benefits are predicted within the Urban Centres, where several AQMAs and AOCs exist. The STM predicts similar reductions of hydro-carbons and CO, which are photo-chemical pollution pre-cursors, a summertime phenomena likely to increase with climate change.

Issue	Assessment
Expert Opinion & General Issues.	All Districts except Kirklees have declared or will be declaring AQMAs, mainly to help mitigate background levels of NO_2 & occasionally for PM_{10}. Other concerns :- Tackling effects of congestion, Motorway emissions, Heavy Duty Vehicle emissions, Atmospheric Chemistry and Climate Change. Secondary effects associated with climate change may aggravate Photo-chemical & PM_{10} air quality issues. The most significant improvements to air quality will result from reductions of around 35% (PM_{10}) and 30% (NO_x), expected through general improvements in the vehicle fleet between 2006 and 2011. (Based on the Design Manual for Roads and Bridges/STM emissions output, difficult to assess congestion effects). The LTP2 Strategy will help to reduce congestion & associated vehicle emissions by enabling AQAPs, including the combined use of:- Demand Management, Encouraging More Sustainable Travel & by Technical Actions, including UTMC, and supporting the use of Emission Control & Cleaner Fuels. These combined cumulative effect of these actions will help reduce emissions & improve Air Quality across all Districts. Some actions will mitigate AQMAs/AOCs more directly, examples include:- (Leeds Inner Ring Road Stage 7, UTMC for Leeds Inner Ring road & City Centre Loop, A62 Leeds Road Improvements in Kirklees).
Significance of Effects	STM results for the LTP2 indicate **minor beneficial** effects, especially for urban centres, but unlikely to mitigate many AQMAs, without the benefits of a “cleaner vehicle fleet”. Difficult to assess air quality effects of Public Transport priority systems and TravelWise/ Smart Choice Initiatives.
Other Policies and Programmes	Need to integrate District AQAPs into the LTP2. Most Districts will need to amend, or develop their own AQAP’s. This will be co-ordinated by WYTEG. There may be difficulties integrating up to 4 separate AQAPs into one LTP. The Leeds AQAP is incorporated into the LTP2, but has had limited effects on directing the Strategy Approach. Need to ensure greater weighting is given to the new AQAPs and that these actions influence the LTP2 transport schemes. Effects of RSS and resultant development and traffic growth. HARMS and SWYMBUS effects. The Metro Bus Strategy will investigate use of new vehicle technologies & cleaner fuels.
LTP2 Mitigation	Strategic: Yes
	Scheme specific: Yes
LTP2 Enhancements	Strategic: Yes
	Scheme specific: Yes

Table K5: SEA Objective 3: Reduce transport-related emissions of greenhouse gases

Issue	Assessment
Environmental Constraints	Local, regional and Global climate change effects established through net change in CO_2 emissions across West Yorkshire. Other effects such as Air Quality, Biodiversity, Health, Economic Development and Climate Change Adaptation.
Relevant Legislation or Targets	Kyoto: (12% reduction from 1990 to 2010) UK: (20% reduction from 1990 to 2010) Royal Commission on Environmental Pollution (RCEP): (aspirational 60% reduction by 2050) The Institute of Public Policy Research (IPPR) and the International Climate Change Task Group advise the UK should reduce CO_2 emissions relative to 1990, by 40% & 90% for the years 2020 & 2050 respectively, to avoid serious climate change, i.e. a 2°C rise in global surface temperature. LTP2: Local indicator to prevent any further increase (0%) in road transport CO_2 emissions, from the West Yorkshire PRN, between 2004/05-2010/11. The Regional Climate Change Action Plan 2005
Location of Potential Schemes	Not relevant Total strategy emissions most important
Strategic Transport Model	STM output for the LTP2 strategy for 2011 indicates that emissions of CO_2 will reduce by less than 2%, whist STM output for the Do-Minimum 2011 situation, indicates emissions of CO_2 would increase by less than 2%. The overall net reduction in CO_2 emissions across West Yorkshire resulting from the implementation of LTP2 Strategy is expected to be approximately 3% by 2011. The greatest reductions in emissions are predicted across the central urban areas with the least improvements expected across the rural areas.

Issue	Assessment
Expert Opinion & General Issues	There should be a mandatory LTP2 target to reduce road transport CO_2 emissions. The transport sector accounts for approximately 24% of total UK CO_2 emissions, of which road transport accounts for around 22%. The LTP provides a major opportunity to constrain road transport emissions, but the proposed LTP2 does not include sufficient demand management measures to achieve any significant reduction in CO_2 emissions over the Plan period. Other concerns based on evidence involving road transport CO_2 emissions:- • Department for Environment Food and Rural Affairs (DEFRA)/National Environment Technology CENtre (NETCEN) trends project very small annual increases. • Past APR increasing emission trends for West Yorkshire PRN. • Lack of control over Strategic Road Network (approximately 35% of West Yorkshire's road transport CO_2 emissions, based DfT/NRT survey). • Additional "life-style" changes are required for transport & other major sectors, before long term advisory & aspirational goals to reduce CO_2 can be achieved.
Significance of Effects	The STM indicates a **minor beneficial** effect possible compliance with Local target, but that the strategies will not deliver the aspirational targets.
Other Policies and Programmes	RSS for Climate Change policy. But there is little evidence of any dissemination into LTP2. Recent set up of WYTEG considers transport CO_2 & appropriate mitigation measures.
LTP2 Mitigation	Strategic: Yes
	Scheme Specific: No
LTP2 Enhancements	Strategic: Yes
	Scheme Specific: No

Table K.6: SEA Objective 4: Improve the ability of transport systems to adapt to climate change.

Issue	Assessment
Environmental Constraints	Areas of infrastructure vulnerable to climate change, including:- • Flood prone areas (flash floods, winter valley floods) • Drought effects on subsidence, trees and landscaping. • Thermal stress effects on carriageways and structures. • Thermal comfort for travelling public. • Wind stress effects on structures, street furniture & vehicles.

Issue	Assessment
Relevant Legislation or Targets	No present legislation, but advisory information.
Location of Potential Schemes	Identify any proposed new build within :- • Environment Agency flood risk areas. • Clay/Peat soils, prone to shrinkage during drought. • Routes exposed to prevailing winds and valley funnelling.
Strategic Transport Model	Not relevant
Expert Opinion & General Issues	Ensure new highway design of schemes can adapt to climate change (refer to above environmental constraints). Provisional LTP2 makes a commitment to introduce a number of adaptation measures, e.g: • Improve Asset Management procedures, i.e. gully cleaning, maintenance & inspection of • watercourses to reduce risk of flooding.. • Improve foundations of street furniture / lighting to cope with extra wind stress. • Adapt winter maintenance to cater for increased run-off. • Adapt Highway maintenance / verge & landscaping for change/variability in growing season. A cost effectiveness exercise would identify priorities for effective adaptation methods according to budget and other constraints. Highway design now considers effects on flooding and increase in rainfall intensity. Climate change adaptation is generally considered less important than mitigation. The profile of adaptation should be raised to give equal importance. Insufficient actions & resource allocations for adaptation will result in spiralling adverse impacts & associated costs. Links with other SEA objectives include: • Increased summer temperatures and likely heatwaves and drought are likely to: • Increased risk of photochemical pollution (STM output indicates slight reductions in ozone precursors (CO, hydrocarbons and NO_x). • Increase summer $PM_{10/2.5}$ due to periods of drought. • Increase risk of heatstroke and other health problems. • Climate change will affect various aspects of biodiversity. • Increase in flood risk zones will affect various aspects of economic development.

Issue	Assessment
Significance of Effects	Current LTP2 proposals will lead to **minor/moderate benefits**. Increased significance as climate change effects gains momentum. **Major benefits** possible for new schemes. For LTP2 strategy approach, need to raise awareness of increased benefits likely to arise from adaptation measures.
Other Policies and Programmes	RSS Climate Change Policy and some District climate change working groups. Yorkshire & Humberside Climate Change Action Plan RSS – Development and transport within flood prone areas. UKCIP advice on Climate Change adaptation DEFRA Draft climate change Adaptation Policy Framework.
LTP2 Mitigation	Strategic: Yes
	Scheme Specific: Yes
LTP2 Enhancements	Strategic: Yes
	Scheme Specific: Yes

Table K. 7: SEA Objective 5: To protect and enhance landscape and townscape diversity

Issue	Assessment
Environmental Constraints	It is difficult to assess landscape impacts at strategic level, due to highly subjective interpretation of 'landscape quality' and the fact that many impacts are highly localised (e.g. views). Light pollution in West Yorkshire is already a serious concern – currently no 'truly dark' or even 'intermediate' land is evident on the latest satellite images.
Relevant Legislation or Targets	• World Heritage Sites. • National Parks and Access to the Countryside Act. • Listed buildings and Scheduled Ancient Monuments. • Local designations / polices (e.g. Conservation Areas).
Location of Potential Schemes	Identify any proposed schemes likely to affect important sites or their setting, such as Sites of Special Scientific Interest (SSSIs), Sites of Ecological or Geological Importance (SEGIs), Landscape Character Areas, Conservation Areas etc.
Strategic Transport Model	Not relevant.

Issue	Assessment	
Expert Opinion & General Issues	Light pollution is an issue of concern, and the maintenance programme could address this issue through replacement of old highway lighting with improved directional high pressure sodium lights. Lighting can be beneficial to improving townscape character, highlighting attractive features and enhancing perceptions of safety. However, particularly in rural areas, the lack of dark skies is considered by many to be detrimental to the landscape character. Increased signage, parking controls and meters could create 'visual clutter' in urban areas. Cross links with conservation areas and historical environment, where many of the effects and issues will be similar. Increased use of low noise surfacing will help improve landscape quality by reducing background noise levels. Improving accessibility for pedestrians and cyclists would reduce conflict with cars and lorries making the environment of urban areas more attractive. Measures to encourage modal shift away from private vehicles and, in particular, to reduce congestion, will improve the visual appearance of areas and reduce pedestrian/cyclist intimidation. However, this may in reality be offset by the predicted increase in demand for private car use in West Yorkshire over the life of the LTP2. The quality of public space invariably features as a key issue for local communities. The LTP2 should show that proposals would not just minimise any adverse impacts but seek to actively enhance the amenity value.	
Significance of Effects	The LTP2 will have a **minor beneficial** effect across West Yorkshire. Although there may be some negative impacts from inappropriate signage and structures, many of the LTP2 policies should generally improve the appearance of public spaces (e.g. ROWIP, reducing congestion and associated environmental impacts).	
Other Policies and Programmes	UDps/LDFs – in particular designation of Conservation Areas, listed buildings, etc. National Parks' landscape policies. Landscape Character Areas / Countryside Quality Counts. Areas of Tranquillity	
LTP2 Mitigation	Strategic:	Yes
	Scheme Specific:	Yes
LTP2 Enhancements	Strategic:	Yes
	Scheme Specific:	Yes

Table K.8: SEA Objective 6: Avoid loss or damage to historic buildings, land, structures, Conservation Areas and archaeological areas or their setting.

Issue	Assessment
Environmental Constraints	The Yorkshire and Humber region has a higher proportion of grade I and II listed buildings at risk than the national average. Difficulty in determining to what extent transport has attributed to the decline in quality of the historic environment. There is currently no indicator to assess the condition of conservation areas or designated historic landscapes.

Issue	Assessment
Relevant Legislation or Targets	• Scheduled monuments • Listed buildings • Register of Parks and Gardens of Special Historic Interest • Historical Battlefields.
Location of Potential Schemes	Identify any proposed schemes likely to affect designated sites or their setting.
Strategic Transport Model	Not relevant
Expert Opinion & General Issues	The impact of transport policy approaches included in the LTP2 are unlikely to have any significant effect at strategic level. Appropriate professional advice should be taken when schemes are planned which have a potential impact on sites or structures of historical significance. For most locations and in particular Conservation Areas, many of the issues regarding lighting and visual street clutter, etc., discussed in the landscape and townscape assessment table will also be relevant. The Plan could have beneficial as well as negative effects. For example, modal shift towards non-motorised forms of transport and other measures aimed at reducing congestion will help to enhance the amenity of historic areas and make sites more accessible for non-car users. As there are a higher than average number of listed buildings on the region's 'at risk' register, more listed buildings may be more vulnerable to cumulative effects of the LTP2.
Significance of Effects	There are **uncertainties** as to the existence of as yet undiscovered / undesignated features of importance. The extent of any effect on important sites is also dependant upon the implementation of policies or scheme design / location.
Other Policies and Programmes	• World Heritage Sites designation. • Local designations / polices (e.g. Conservation Areas). • Listed buildings and scheduled monuments.. • UDPs/LDFs
LTP2 Mitigation	Strategic: Yes
	Scheme Specific: No
LTP2 Enhancements	Strategic: Yes
	Scheme Specific: No

Table K.9: SEA Objective 7: To help protect and enhance habitats and species of local, European or international importance.

Issue	Assessment

Issue	Assessment
Environmental Constraints	Biodiversity is particularly vulnerable to the cumulative effects of numerous threats or pressures, and the reaction of natural systems is often difficult to predict. The complexity of ecological systems is still not fully understood. Actions which appear insignificant on their own may contribute to significant and occasionally irreversible impacts on ecosystems. A number of sites and species exist in the plan area that are considered to be of strategic importance – these are detailed in the 'environmental baseline' section of this report.
Relevant Legislation or Targets	Biodiversity is well covered by a range of legislation at all levels, including: • Convention on Biological Diversity. • Bern and Bonn Conventions. • Habitats Directive. • Birds Directive. • Convention on Biological Diversity. • Wildlife and Countryside Act 1981. • CROW Act 2000. • National Parks and Access to the Countryside Act. • Environmental Protection Act. • Conservation (Natural Habitats &c.) Regulations 1994. • Various local level plans and policies.
Location of Potential Schemes	Identify any proposed new build within or very close to designated sites of ecological importance.
Strategic Transport Model	Not relevant
Expert Opinion & General Issues	The LTP2 strategy approaches are considered to have a slight cumulative beneficial effect on biodiversity. Main benefits would come through encouraging modal shift towards public transport and speed restrictions. Opportunities for wildlife improvements could arise through the maintenance programme, (e.g. implementation of SUDS/balancing ponds) and improvements to air quality. Increased low-level lighting can also affect nocturnal animals. However, these benefits may be countered by the expected increase in demand for private travel as a result of other housing and economic development plans in West Yorkshire. The impact of LTP2 schemes could potentially be significant at a strategic level if affecting any sites of strategic biodiversity importance, particularly schemes involving additional landtake. However, most LTP2 schemes are located in less sensitive urban/suburban areas. Impacts will also depend on the cumulative effects of other plans and actions in the areas, the specific area affected, and the timing of works. Impacts may also change throughout the plan lifetime as the biological significance of areas can vary over time. Each scheme should be considered on a case-by-case basis.

Issue	Assessment	
Significance of Effects	Implementation of the LTP2 is likely to have a minor beneficial effect on biodiversity. However, the effect of specific schemes and cumulative effects are uncertain.	
Other Policies and Programmes	Biodiversity Action Plans (local and national). District Councils' Environmental Policy or Management Systems. Unitary Development Plans / Local Development Frameworks.	
LTP2 Mitigation	Strategic:	Yes
	Scheme Specific:	Yes
LTP2 Enhancements	Strategic:	No
	Scheme Specific:	Yes

Table k.10: SEA Objective 8: Reduce the detrimental impact of transport on water quality

Issue	Assessment
Environmental Constraints	Proximity to water-courses (both natural and man-made) Location of land contamination. Designated sites for Biodiversity protection or conservation. Flood risk areas, including Flash floods and winter valley floods.
Relevant Legislation or Targets	The Water Framework Directive require all water courses to reach "good status" by 2015 Close links with Biodiversity Legislation
Location of Potential Schemes	Location of new schemes or corridor treatments relative to above environmental constraints
Strategic Transport Model	Not relevant

Issue	Assessment
Expert Opinion & General Issues	In general the Water Quality in West Yorkshire continues to improve and transport related incidents are reducing. However, road transport is the most likely mode of transport to affect water quality. The following issues should be considered:- • Drainage design and capacity. • Maintenance and cleaning of highway gullys/ adjacent water courses (cross-links with climate change adaptation). • Effects of Winter maintenance and verge management (cross links with climate change adaptation and biodiversity issues) • Routes with high percentage HGV's, or incidence of vehicular casualties/ highway spillage events. • Flooding of the highway due to poor drainage can restrict traffic flow and create localised congestion. • The use of SUDS is well addressed with the TAMP. • Encourage use of SUDS to replace existing drainage systems
Significance of Effects	Generally **minor beneficial** strategic effect on West Yorkshire's water quality. However, **minor** opportunities will exist to further reduce potential impacts and enhance local water quality and other indirect environmental effects.
Other Policies and Programmes	RSS and associated Plans, including the River Basin Management Plan. EMAS/ ISO 14001
LTP2 Mitigation	Strategic: No
	Scheme Specific: No
LTP2 Enhancements	Strategic: Yes
	Scheme Specific: Yes

Table K.11: SEA Objective 9: To secure improvements to health

Issue	Assessment
Environmental Constraints	High levels of private car use contribute towards low levels of physical activity amongst people living in the region. However, people's lifestyles are often complex and it is difficult to apportion the amount of physical inactivity directly related to transport modes. Similarly, transport is known to contribute to mental health problems (noise, road rage/ stress, etc), although again this relationship is difficult to quantify. There are also clear cross-links with accessibility, as there are known issues with people finding transport to healthcare, food shops and sporting activities difficult. This may have indirect effects on personal health.
Relevant Legislation or Targets	• National Air Quality Strategy, includes health based air quality standards.

Issue	Assessment
Location of Potential Schemes	Route alignments and gradients can affect the attractiveness of sustainable modes of transport.
Strategic Transport Model	Possible indications from predicted modal shift to non motorised users and public transport
Expert Opinion & General Issues	Many of the strategy approaches to promote sustainable modes and reduce congestion will help improve local air quality and encourage more physical exercise. Measures aimed at encouraging walking and cycling along strategic routes will have a direct impact on improving health. Measures aimed at discouraging private car use, reducing speeds and encouraging the use of public transport may have an indirect impact on health, by creating a safer and more attractive environment, which will further encourage people to walk or cycle. Although improved facilities can be provided for cyclists and pedestrians they are likely to require further measures, such as suitable promotion, to encourage an increase in their use. Several of the measures aimed at reducing congestion should help reduce driver stress & promote health benefits. The increased use of low noise asphalt will reduce noise induced stress for residents on busy/noisy roads & improve their quality of life. Potentially negative effects may occur through policies to provide additional car parking at rail stations, which may encourage some people currently walking or cycling to the stations to drive. Reference to efforts at improving facilities for cyclists / pedestrians at work places but not at public transport interchanges. Cross links exist between increasing the number of people walking and cycling and risk and fear of crime through 'natural policing'. Potential health problems for vulnerable groups associated with exposure when waiting for public transport in extreme conditions.
Significance of Effects	**Minor beneficial** effect, if policies are carefully implemented and promoted.
Other Policies and Programmes	• DfT's 'Walking and Cycling: an action plan'. • National Cycling Strategy. • West Yorkshire Walking Strategy. • District health improvement plans. • District walking and cycling action plans.
LTP2 Mitigation	Strategic: Yes
	Scheme Specific: No
LTP2 Enhancements	Strategic: Yes

Issue	Assessment
	Scheme Specific: No

Table K.12: SEA Objective 10: Reduce the number of vehicular, pedestrian, and other transport-user casualties

Issue	Assessment
Environmental Constraints	Accommodating the predicted increase in demand for private car use in West Yorkshire may compromise road safety initiatives.
Relevant Legislation or Targets	There are three mandatory targets for the LTP2: • 40% reduction in number of people killed or seriously injured (KSI) from the 1994/98 average by 2010. • 50% reduction in children KSI from the 1994/98 average by 2010. • 15% reduction in number of people slightly injured from the 2002/04 average by 2010. There is also a local target of 50% reduction of pedestrians KSI in road traffic collisions from the 1994/98 average by 2010, and stretched to a 30% reduction from the 2002/04 average by 2010.
Location of Potential Schemes	Schemes will target problem areas identified throughout the period of the Plan.
Strategic Transport Model	Not relevant
Expert Opinion & General Issues	Many of the strategy approaches included in the LTP2 focus on reducing dependency on private car use and providing safer strategic routes for pedestrians and cyclists, which if successful will improve the safety of all transport users. Speed management measures should significantly improve safety for all groups, particularly pedestrians and cyclists. However, increasing the number of pedestrians on the streets will inherently increase the risk of an accident – the walking phase of a journey is more dangerous than using public transport or driving. At current levels, cycling remains a relatively less safe mode of transport and there is a risk that policies intended to encourage cycling could, at least initially, result in an increase of accidents. Measures to encourage cycling should therefore be accompanied by suitable safe provision for cyclists to reduce the actual and perceived risk of travel by this mode. Cross link with objective to use materials effectively and minimise waste. Road stone is in limited supply. Recycling of road materials into highway surfacing works in the maintenance programme indirectly improves skid resistance by freeing up more good quality road stone for the top surface over longer stretches. Low noise surfacing reduces spray and therefore lowers the risk of accidents at speed, however skid resistance is lower when newly laid. Measures to reduce/eliminate this problem are currently under investigation. Proposed investment in raised bus stops will also help to reduce pedestrian casualties. Falls from buses are significant in the West Yorkshire casualty statistics.
Significance of Effects	**Major beneficial** effect. Safer Roads are an LTP2 shared priority and much emphasis placed on improving safety for transport-users). There are only **minor opportunities for enhancement** because this topic is already well covered by LTP2 policies.

Issue	Assessment	
Other Policies and Programmes	• Transport 10-year plan. • DfT's 'Walking and Cycling: an action plan'. • National Cycling Strategy. • West Yorkshire Walking Strategy. • West Yorkshire Road Safety Strategy. • District's walking/cycling action plans (where applicable).	
LTP2 Mitigation	Strategic:	Yes
	Scheme Specific:	Yes
LTP2 Enhancements	Strategic:	Yes
	Scheme Specific:	No

Table K.13: SEA Objective 11: Reduce the risk and fear of crime for pedestrians and public transport users

Issue	Assessment
Environmental Constraints	Causes of the risk and fear of crime are more widely embedded in society than can be tackled through the LTP2. Some opportunities exist however for the LTP2 to improve the perception of risk and to reduce opportunities for crime and anti-social behaviour on the transport network.
Relevant Legislation or Targets	CCTV cameras are included in the LTP2 as a background indicator. No targets are set, but the desired movement is for an increase in cameras at car parks, rail and bus stations and town/centre streets.
Location of Potential Schemes	Not relevant
Strategic Transport Model	Possible use of modal shift data towards public transport and non motorised users.

Issue	Assessment	
Expert Opinion & General Issues	If School buses gain modal shift from pupils that previously walked to school, risk and fear of crime may increase through the reduction of "natural policing" on their previous routes. Measures for restricting parking may lead to concerns for vulnerable groups, e.g. those working unsociable hours. "Stranger danger" particularly with children is over perceived and may act against other measures to encourage more physical activity or use of public transport/school buses. Using vehicle recognition systems to remove illegal vehicles from the network will have direct and indirect benefits as illegal car users are often found to be involved in many other crimes / illegal activity. Research undertaken for DfT showed that bus users felt that CCTV was the most reassuring measure to reduce fear of crime, and that 11.5% more journeys would be made on public transport if passengers felt they were more secure. There is reference within the Bus Strategy to taking action to reduce the fear of crime for public transport users. But there does not appear to be any reference to measures aimed at helping to reduce crime itself. Rights of Way Improvement Plans (ROWIP) will improve lighting and open up paths / bridleways for non-motorised transport users.	
Significance of Effects	The LTP2 will have a **moderate beneficial effect**. (personal safety and fear of crime are being addressed in the LTP2 through CCTV schemes, awareness campaigns and improved public rights of ways) and the METRO bus strategy. There may be **minor opportunities for enhancement.**	
Other Policies and Programmes		
LTP2 Mitigation	Strategic:	No
	Scheme Specific:	No
LTP2 Enhancements	Strategic:	Yes
	Scheme Specific:	Yes

Table K.14: SEA Objective 12: Reduce community severance and fragmentation to aid community cohesion

Issue	Assessment

Issue	Assessment
Environmental Constraints	The LTP2 Accessibility Strategy has identified a number of issues in West Yorkshire that contribute to severance and barriers to travel within communities. These include • rural deprivation and isolation from jobs and services; • limited travel horizons within disadvantaged communities; • cost of public transport; • closure of local services; • inadequacy of pedestrian and cycle access to local services; • concerns over crime and road safety.
Relevant Legislation or Targets	
Location of Potential Schemes	Road safety schemes and crossing facilities may have localised improvements to severance through reduced fear of crossing the road.
Strategic Transport Model	Irrelevant
Expert Opinion & General Issues	Generally positive but insignificant. Some cross linking with improving accessibility and safer roads. Traffic flows would need to reduce by around 30% for a noticeable reduction in severance to occur. Localised improvements through improved crossing facilities. Non-motorised user (NMU) schemes can have a reasonable impact at local level. The experimental trials undertaken by Leeds UTC looking at reducing pedestrian delay at mid-block crossings (described in section 3.1.2 of the Environmental Report) could improve severance if implemented across the sub-region. Promotion of Home Zones and 20mph zones will help to improve community cohesion, but are unlikely to have a strategic-level effect. Most schemes result in better and safer facilities for all non motorised users. Improving provision for non-motorised transport users in both urban and rural areas may reduce severance issues.
Significance of Effects	Localised improvements for new /improved crossing facilities and road safety schemes, but **minor benefits** regionally.
Other Policies and Programmes	West Yorkshire Road Safety Strategy
LTP2 Mitigation	Strategic: No
	Scheme Specific: No
LTP2 Enhancements	Strategic: No

Issue	Assessment
	Scheme Specific: Yes

Table K.15: SEA Objective 13: Improve access to education, jobs, leisure (including sustainable tourism), community services and the countryside

Issue	Assessment
Environmental Constraints	There are difficulties in being able to introduce a feasible public transport system into rural and other less accessible areas – public transport works best where there are large population densities and strong demand to major destinations.
Relevant Legislation or Targets	Countryside and Rights of Way Act. Walking and Cycling Action Plan LTP2 mandatory targets including:- Travel Times, Bus Punctuality, Bus Satisfaction etc.
Location of Potential Schemes	Road safety schemes and crossing facilities may have localised improvements to access through reduced fear of crossing the road. Schemes aimed at reducing fear will improve Access.
Strategic Transport Model	Irrelevant
Expert Opinion & General Issues	Generally positive but small strategically. Some cross links with improving community cohesion. Localised improvements through improved crossing facilities. The Action Plan for the Accessibility Strategy has not yet been produced and therefore information in the LTP2 is limited with regard to how accessibility objectives are to be realised. Enhancements to public transport routes should improve access generally for non-car users. Maintenance can have improvements built in through better specifications such as Bus Station refurbishment schemes. Commuter belt villages such as those in rural West Yorkshire often become dominated by cars as people living there commute into towns/cities. Rural roads are often unsuitable for high volumes of traffic, and problems can arise with regard to pedestrian/cyclist safety, social exclusion of non-car users and the deterioration in the sense of community. Rural public transport provision is an important element of accessibility. It is not clear how the LTP2 intends to improve the provision of public transport for otherwise socially excluded groups, particularly in rural areas. This should however be incorporated into the Accessibility Action Plan when it is produced. LTP2 proposals to improve surface access to Leeds Bradford International Airport
Significance of Effects	**Uncertain benefits**. The Accessibility Action Plan is still not published resulting in a lack of clarity of the measures to be adopted within the LTP2. An improvement on public transport generally increases accessibility for users. But much depends on whether the routes coincide with the desired destinations.

Issue	Assessment	
Other Policies and Programmes	Aviation White Paper – supports better public transport and road links to LBIA. West Yorkshire Access Strategy West Yorkshire Road Safety Strategy Yorkshire and Humber Assembly "Strategic Rural Transport Framework" (November 2005)	
LTP2 Mitigation	Strategic:	No
	Scheme Specific:	No
LTP2 Enhancements	Strategic:	Yes
	Scheme Specific:	Yes

Table K.16: SEA Objective 14: To support employment, economic competitiveness and the revival of priority regeneration areas.

Issue	Assessment
Environmental Constraints	Potential conflicts between the impacts of economic growth and the need to protect the environment.
Relevant Legislation or Targets	No specifically transport-related targets are set for economic growth, although the LTP2 will support such targets set out in other plans included in the regional strategic framework.
Location of Potential Schemes	Increased LTP2 provision targeted at West Yorkshire Regeneration Areas.
Strategic Transport Model	Outputs reflect the general predicted increases in desire to travel including specific targeted for major economic regeneration,
Expert Opinion & General Issues	Strengthening of bridges and other highway constraints can improve access to commercial premises. Some cross links to improving air quality Safer roads and resultant decrease in casualties will reduce costs to employers and to the economy as a whole. Reduced congestion will benefit freight movements to commercial premises and allow people to be economically active As economic growth leads to increased demand for travel, suitable transport planning is required to reduce as much as possible the environmental impact of that demand. Development of Leeds Bradford International Airport could lead to net income to the region through business travel or net outgoing due to increase in holiday/ leisure market.
Significance of Effects	**Uncertain** measurable benefits due to the complex relationship between transport provision and other requirements of businesses. Strategy approaches will not have a significant effect, but specific major schemes likely to play an important role in supporting other housing and commercial developments.

Issue	Assessment	
Other Policies and Programmes	RSS on economic development of West Yorkshire Regional Economic Strategy - emphasises importance of transport to the future success of the region. Aviation White Paper - supports better public transport and road links to LBIA Energy White Paper - promoting sustainable economic growth. West Yorkshire Investment Plan	
LTP2 Mitigation	Strategic:	No
	Scheme Specific:	Yes
LTP2 Enhancements	Strategic:	Yes
	Scheme Specific:	No

Table K.17: SEA Objective 15: To protect and retain soil quality

Issue	Assessment
Environmental Constraints	Agricultural Land Classifications, Grade 2 highest quality in West Yorkshire, restricted to small area in east of West Yorkshire. Potential erosion vulnerability of soils (Pennine Moors most at risk) Location of known land contamination.
Relevant Legislation or Targets	Environmental Protection Act (Part II), refers to waste on land Environment Act (Part II), refers to contaminated land
Location of Potential Schemes	Location of new schemes regarding land-take and effects of constraints above. Asset Management issues for existing network, involving application of salt/grit and pesticides.
Strategic Transport Model	Not relevant
Expert Opinion & General Issues	There are close links with water quality, as any highway flooding or accidental spillage, can contaminate and reduce soil quality. Highway maintenance and verge management issues relating to application and quantity of grit/ salt and pesticides. Possible contamination or acidification of roadside soil, resulting from vehicle emissions. Depending on location of individual schemes there will be scope to treat or remove existing contaminated land Highway design issues relating to construction should:- • Minimise land-take and balance use of soil/ fill material • Avoid soil compaction and site contamination.

Issue	Assessment	
Significance of Effects	Generally a **minor adverse effect** on West Yorkshire's soil quality from new schemes. As for water quality, **minor opportunities for enhancement** exist through improved practices.	
Other Policies and Programmes	RSS and associated Plans, for example the Leeds Countryside Strategy Contaminated Land Regime	
LTP2 Mitigation	Strategic:	Yes
	Scheme Specific:	No
LTP2 Enhancements	Strategic:	Yes
	Scheme Specific:	Yes

Table K.18: SEA Objective 16: Maximise the efficient and effective use of materials and minimise the amount of waste generated

Issue	Assessment
Environmental Constraints	Reduced usage of National Resources e.g. Road stone chippings Limestone hardcore Stone Sets / kerbs Reduced need for quarrying and transport of materials.
Relevant Legislation or Targets	EMAS / ISO 14001 Waste Strategy and need to reduce waste to landfill.
Location of Potential Schemes	Not relevant.
Strategic Transport Model	Not relevant
Expert Opinion & General Issues	Ensure that the recycling of materials is effectively promoted and occurs wherever practicable. • Re-use of road/footway planings for base courses reduces need for high quality wearing course road chippings. Cross links to safer roads objective by allowing higher grade materials to be used as wearing course and use of low noise surfacing. • Additional premium costs of recycling materials should be offset against disposal costs • Quality of final product, regarding safety and durability needs addressing Cross links between re-use and recycling of materials and the protection of soil and water quality through reduced need for landfill and quarrying. Strategy approaches regarding new schemes and maintenance of infrastructure will indicate demand for future use of materials.

Issue	Assessment	
Significance of Effects	Generally **minor beneficial** effect. Further **minor enhancements** can be gained, but need to further promote the benefits of using of recycled highway/footway materials.	
Other Policies and Programmes	RSS on waste. District approach to waste management and recycling. EMAS ISO 14001	
LTP2 Mitigation	Strategic:	No
	Scheme Specific:	No
LTP2 Enhancements	Strategic:	Yes
	Scheme Specific:	Yes

MITIGATION AND ENHANCEMENT TABLES

Table K.19: SEA Objective 1: To reduce transport-related impacts on local/regional noise climate.

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	**Scheme Specific**	**Strategic Measures**	**Scheme specific**
The LTP2 will generally have MINOR BENEFICIAL effect on the noise climate across West Yorkshire. But without the use of regional noise mapping any changes in noise climate are difficult to quantify. There are **MINOR** opportunities to mitigate transport noise impacts and enhance the noise climate. Noise mitigation & enhancement measures will create a perceptible change in local noise climate. The cumulative effects beyond the lifetime of LTP2, may create further beneficial effects on the strategic noise climate.	The Transport Emissions Working Group propose to develop a Noise Mapping model for West Yorkshire. Use noise modelling to highlight the worst affected areas, regarding noise exposure and population density. Develop a Road Surfacing Policy to ensure the most effective use of "low noise" surfacing.	Use of Urban Traffic Management Control (UTMC) to help smooth flows. Use of Speed Management in noise sensitive areas. Appropriate Traffic Calming, or 20mph Zones to restrict "rat-runs" and associated noise nuisance As a last resort, ensure effective Implementation of the Noise Insulation Regulations for new and improved highways, i.e. Provision of acoustic insulation within dwellings.	Use of Noise Mapping model to appraise scheme specific noise mitigation measures, ie. "What If" scenarios and prioritise resurfacing works. Appropriate use road surfacing policy and use of "Low Noise" asphalt for worst affected areas. L10(18hour) noise reductions up to 5dB(A) can be achieved, equivalent to a 70% reduction in traffic flow. Use of UTMC for smoothing traffic flows and speed management in sensitive areas can create a noticeable noise reduction.	Highway Design to consider appropriate use of :- Roadside barriers, earth mounds, living barriers or cuttings as effective noise screening. Use of Variable Message Signs, Speed Reactive Signs, or Speed Cameras to calm traffic flows in noise sensitive areas. Enhance noise planning conditions at Leeds/Bradford International Airport

Table K.20: SEA Objective 2: Improve local/regional air quality and mitigate transport-related AQMA's

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	**Scheme Specific**	**Strategic Measures**	**Scheme specific**
The LTP2 will have a MINOR beneficial effect on reducing emissions of NOx and PM10 across West Yorkshire. **MODERATE** opportunities exist for improvements in air quality. Greater benefits are expected within urban centres, where most of the AQMA/AOC exist. The most significant emission reductions expected between 2006-2011 will result from Vehicle Fleet Improvements. **Caution:** A 27% reduction in NOx emissions between 2000 and 2004 were predicted for West Yorkshire's principal road network. However monitored data indicated that reductions in NO_2 concentrations have been much lower.	LTP2 measures to reduce vehicle emissions and improve local air quality are based on 3 general themes (see appendix D of LTP2):- **Demand Management** **Encourage More Sustainable Travel** **Actions to Reduce Vehicle Emissions** Additional air quality improvements could be gained by developing stronger Demand Management measures. Such measures would help promote further modal shift away from the private car and help restrain & counteract the environmental effects of Economic growth within the West Yorkshire sub-region. Transport planners should try to integrate each District's Air Quality Action Plan (AQAP) into LTP2 as they are published.	Where proposed schemes/Corridor treatments are likely to be located adjacent to AQMA's/AOC, the following mitigation issues should be considered:- Where possible, avoidcongestion, or slow moving traffic that maybe induced by UTMC demand management/ priority measures. Where possible, re-locate queues outside region of air quality constraint. Avoid locating queues in contained locations e.g. Street canyons, where dispersion of traffic emissions is poor.	Transport planners should ensure that they work closely with the district's air quality specialists to secure the most cost effective measures contained within the LTP2 are incorporated where practicable within LTP2 schemes. The Transport Emissions Working Group should develop a much closer working relationship, or partnership with the Highway Agency, to discuss:- • Measures to mitigate Strategic road network AQMA's /AOC. • Work with Highway Agency on their motorway proposals for SWYMBUS and RMS. • Consider effects these proposals may have the West Yorkshire local road network. Continue partnership working with Leeds University, Institute of Transport Studies, to help better understand the effects of atmospheric chemistry and use of "Instrumented Vehicles" for emissions monitoring of UTMC measures. Develop Air Quality initiatives within new Quality Bus Partnerships, especially for sensitive routes. Engage with appropriate UK & EU Air Quality Research projects, e.g Intergaire, LANTERN & FUTURES.	Work with Highway Agency to investigate possible mitigation of specific AQMA's & AOC's, adjacent to a strategic highway.

Table K.21: SEA Objective 3: Reduce transport-related emissions of greenhouse gases

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
The LTP2 will have a MINOR BENEFICIAL effect on helping to reduce greenhouse gas emissions. During LTP2 there are **MAJOR** opportunities for improvement to further reduce transport CO2 emissions. The STM predicts the LTP2 is likely to reduce the net CO_2 emissions by approx. 3% below the do minimum situation in 2011 across West Yorkshire. **Caution**: In order to achieve the more aspirational CO_2 targets and avoid serious climate change, much stronger transport demand management needs to be implemented within the LTP2. Conflict exists between regional / sub regional economic growth & GHG emissions.	The LTP2 strategic measures to reduce West Yorkshire wide vehicle emissions of CO_2, are consistent to those for air quality mitigation. These include:- • Demand management • Encourage sustainable travel • Technical/practical action to reduce emissions (Examples shown in appendix LTP2). The LTP2 should make greater use of potent demand management to encourage significant modal shift away from the private car. However, a balanced strategy approach must provide a substantial improvement in public transport , including alternatives, efficiency and capacity, before introduction of strong demand management, e.g. appropriate use of fiscal / charging mechanisms.	Not relevant to specific schemes, as local CO_2 emissions and associated concentrations do not affect local environment. The important issue for CO_2 / GHG being the cumulative net change in West Yorkshire emissions, and their subsequent affect on regional & global climate change.	Encourage use of renewable fuels for general road transport and district vehicle fleets, including:- • Bio-diesel • Biogas Encourage use of low carbon vehicles: • Hybrids • Use Common Rail • Diesels • Electric, using Green • Electricity • Fuel cell technology Use of UTMC to smooth flows and discourage aggressive driving. Use of both stronger demand management, or greater use of “Smart Choices” to reduce travel demand and promote modal shift. Need for ”lifestyle” changes in personal travel behaviour, for all journeys.	Not relevant, as explained for mitigation by schemes.

Table K.22: SEA Objective 4: Improve the Ability of Transport to Adapt to Climate Change

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
The LTP2 will have a MINOR / MODERATE beneficial effect on Climate Change Adaptation. There are **MODERATE** opportunities for improvement of the LTP2 ability to adapt against Climate Change Despite increasing budget resources, adaptation measures will prove increasingly cost-effective as Climate Change progresses The LTP2 will not be significantly affected by climate change. However, as climate change progresses, it is important that adaptation measures are incorporated.	Ensure Strategy Approaches/ Corridor Treatments are aware of EA Flood Risk Areas. If unavoidable there is a need for inclusion of relevant SUDS. Ensure closer working with Planning Development Control & Environment Agency to reduce risk of flooding on transport infrastructure. Establish the most cost-effective measures from those introduced within the Effective Asset Management section of the LTP2 (see assessment table) and establish priority actions. METRO to encourage Bus & Train operators to improve thermal comfort for passengers in transit. METRO & public transport operators should consider appropriate adaptation for passenger waiting facilities.	Consider vulnerability of each scheme to future climate change effects.	Include provision for on-going dissemination of advice / actions from District climate change working groups throughout LTP2 period. Examples of such may include:- • Adapt horticultural maintenance/ tree or shrub species for longer growing seasons & increased drought resistance. • Emergency Response measures to help mitigate impacts of flooding, e.g. partnership working with WY Fire and Rescue Services & the Environment Agency. • Consider use of Woodland planting for highway shelter belts. • Adapt highway design for increased incidence of summer drought & resultant subsidence.	Consider adaptation opportunities for enhancement for each scheme

Table K.23: SEA Objective 5: To protect and enhance landscape and townscape diversity

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
The policies within the LTP2 will have MINOR BENEFICIAL effects. Potential **MINOR BENEFICIAL** opportunities through further Mitigation and enhancement opportunities Light pollution is an issue of concern in West Yorkshire, and can be improved through LTP policies. Other impacts considered to have little effect, but individual assessment of schemes in important areas may be required.	Some generic mitigation measures could be introduced to reduce potential negative effects, including: • Introduce more low-level directional lighting. • Use of materials that complement the landscape character features of the area. • Avoid over-engineering of schemes such as bus priority/guided bus ways. • Avoid unnecessary signposts for new signs – e.g. consider mounting signs to buildings.	Ensure schemes design in beneficial features that are sympathetic to the local environment and important landscape / townscape features. Reduce unnecessary signage, street furniture and road markings.	Highway lighting and maintenance programmes should address the issue of light pollution and sky glow. Where possible old lighting stock should be replaced with more directional high pressure sodium lighting. Particular importance should be given to urban fringe / rural areas where light pollution is most noticeable.	Look for opportunities to include measures suggested in specific scheme mitigation as part of maintenance programmes.

Table K.24: SEA Objective 6: Avoid loss and damage to historic buildings, land, structures, Conservation Areas and archaeological areas or their setting

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
The effect of the LTP2 is UNCERTAIN There will be **MINOR** opportunities for enhancement	Transport Planners should refer to the English Heritage Policy Statement "Transport and the Historic Environment" (see Appendix 5 of the Environmental Report) early in the feasibility / design process. Impacts will be very site specific – where schemes are planned that may affect important sites, further advice should be sought from the West Yorkshire Archaeological Advisory Service, English Heritage and the relevant District's Conservation Officer.		Any schemes in Conservation Areas or other areas of historical importance should design in beneficial features to be sympathetic to the local environment, or reduce unnecessary signage, street furniture, etc.	

Table K.25: SEA Objective 7: To help protect and enhance habitats and species of local, European or international importance

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
LTP2 policies likely to have a MINOR BENEFICIAL effect on biodiversity. There are **MINOR OPPORTUNITIES** for enhancement. Schemes: Potentially significant if affecting important habitats/species, particularly through cumulative impacts. High levels of uncertainty in assessment of biodiversity effects result from lack of detailed scheme information.	Any proposed LTP2 schemes likely to pass through or close to, designated sites of biodiversity importance should be considered in more detail. Advice should be sought from a relevant biodiversity expert as to how negative effects could be avoided, or mitigated. Specialist advice should also be focused on Local / District Biodiversity Action Plans.	Biodiversity improvements can be incorporated into maintenance schedules and for schemes that may adversely affect wildlife, with little or no extra cost. Transport planners and scheme designers are referred to Appendix 6 of the Environmental Report for examples of how such measures could be incorporated into the LTP2.	If further advice is required, officers from the West Yorkshire Biodiversity Action Forum or District Conservation Officers, should be consulted.	Some enhancement to local habitats can gained by incorporating some of the measures listed in Appendix 6 into maintenance schedules and other schemes again. If further advice is required, officers from the West Yorkshire Biodiversity Action Forum or District biodiversity officers will be able to offer further advice.

Table K.26: SEA Objective 8: Reduce the detrimental impact of transport on water quality

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
The LTP2 will have **MINOR BENEFICIAL** effects. The measures incorporated in the LTP2 are well suited to meet the objective. However the measures are not likely to be sufficent to make widespread improvements. The opportunity for further **MINOR BENEFICIAL** enhancements exist through wider implementation to areas over and above new LTP2 schemes. The scale of the LTP2 schemes and policies will not have a significant effect on West Yorkshire's water quality at a strategic level..			Consider adopting enhanced gritting procedures to ensure more efficient use of salt to reduce contamination of highway runoff. Seek to replace existing drainage with SUDS. District Drainage Sections to advise on most appropriate systems and locations. Research improved verge management practice.	Highway design/ scheme specific mitigation, especially where sited close to environmental constraints, including: • Drainage interceptors/ storm tanks. • Improvements to gully cleaning in areas prone to highway flooding.

Table K.27: SEA Objective 9: To secure improvements to health

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
The LTP2:will have MODERATE BENEFICIAL impacts if the desired outcomes are achieved There are **MINOR** opportunities for enhancement.	Particular efforts should be made to ensure that improvements to walking and cycling routes are linked to a strategic network, ensuring a safe journey for users from start point to destination. Where junction improvements are planned to ease congestion, scheme designers should take account of the road user hierarchy to avoid compromising the safety of pedestrians and cyclists.		Ensure encouragement to use public transport is targeted primarily towards those using private transport and not existing non-motorised transport users. Investigate development of improved facilities for cyclists at rail / bus stations as well as work places. Continue the promotion of the health benefits of cycling and walking through TravelWise and Smarter Travel Choice units.	Use of Low Noise surfacing will help reduce local noise levels & potential stress induced health problems. Improve Public Transport information & waiting facilities, to reduce exposure of vulnerable groups to extreme conditions. Eg. Improved Shelters.

Table K.28: SEA Objective 10: Reduce the number of vehicular, pedestrian and other transport-user casualties

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
There are MAJOR BENEFICIAL effects of the LTP2 The opportunities for enhancement are **MINOR**	Counter the increased risk to the increased numbers of pedestrians on the street by improving pedestrian links to public transport and creating safer routes to school and play for children.	Junction and other highway improvements should take account of the road user hierarchy in their design. Introduce measures to provide pedestrians and cyclists with safe and convenient ways of making journeys. Scheme designers should contact the relevant District's Cycling Officer for further advice.	Measures to encourage more cycling and walking should be accompanied by suitable, safe provision for cyclists to reduce the actual and perceived risk of travelling by these modes.	

Table K.29: SEA Objective 11: Reduce the risk and fear of crime for pedestrians and public transport users

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
There are MODERATE BENEFICIAL effects of the LTP2 The opportunities for enhancement are **MINOR**			Investigate methods of improving conditions for those who work unsociable hours. Partnerships with transport operators, police, community groups, etc. should look to reduce incidence of crime as well as the fear of crime. Benefits may be gained from highlighting the low risk of attacks and the negative physical and social effects of preventing children from interacting through walking and using public transport. Investigate the inclusion of 'stranger danger' in education and awareness campaigns particularly for parents.	Consider increasing CCTV coverage in off-road car parks and on streets where necessary.

Table K.30: SEA Objective 12: Reduce community severance and fragmentation to aid community cohesion

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
There are MINOR BENEFICIAL effects of the LTP2 The opportunities for enhancement are **MINOR**				Ensure that the road user hierarchy is considered when designing new or altered crossing facilities and road safety schemes, to provide easier and safer crossing for pedestrians.

Table K.31: SEA Objective 13: Improve access to education, jobs, leisure, community services and the countryside

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
Although LTP2 measures are generally positive, the degree of benefit will be UNCERTAIN at a strategic level. There appear to be **MODERATE** opportunities			Ensure that improved public transport routes coincide with desired destinations for passengers and aim to synchronise rural services with mainline public transport wherever possible. Investigate the opportunities of Increasing bus services in rural areas at times suitable for working commuters. METRO need to ensure suitable links between the LTP2 and Bus strategies exist with the Rural Transport Partnership.	Investigate the possibility of trialling rural transport initiatives targeted particularly to areas where the need is greatest.e.g. Bookable shared taxis

Table K.32: SEA Objective 14: To support employment, economic competitiveness and the revival of priority regeneration areas

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
The impacts of the LTP2 will be UNCERTAIN but it is likely to be beneficial to some degree. Reducing congestion would lead to less time lost to businesses through traffic jams and delays. There are **MINOR** opportunities for enhancement.		Access issues will need to be considered (e.g. including non motorised user access in development of highways).	Improving non-car options can reduce barriers in accessing job opportunities, particularly for some socially excluded groups without access to a car. Investigate the opportunities of Increasing bus services in rural areas at times suitable for working commuters.	

Table K.33: SEA Objective 15: To protect and retain soil

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
The impact of the LTP2 will be MINOR ADVERSE due to the small amount of new build schemes proposed. There may be **MINOR** opportunities to enhance soil quality across West Yorkshire.	Develop measures to mitigate potential soil impacts caused during highway construction and maintenance activities Encourage use of Sustainable Drainage systems, which will mitigate flooding incidents and associated risk of soil contamination.		Raise awareness of potential effects caused by winter maintenance and use of pesticides and enhance procedures where practicable.	If best practice is followed during scheme construction, any existing contaminated land can be improved or removed.

Table K.34: SEA Objective 16: Maximise the efficient and effective use of materials and minimise the amount of waste generated

ISSUES	MITIGATION		ENHANCEMENT	
	Strategic Measures	Scheme Specific	Strategic Measures	Scheme specific
There will be MINOR BENEFICIAL impacts from the LTP2. There is further **MINOR** opportunities for enhancement			Promote the re-use or recycling of highway materials.	Look for opportunities to contribute to the enhancement of conservation areas through the re-use of stone sets and kerbs etc.

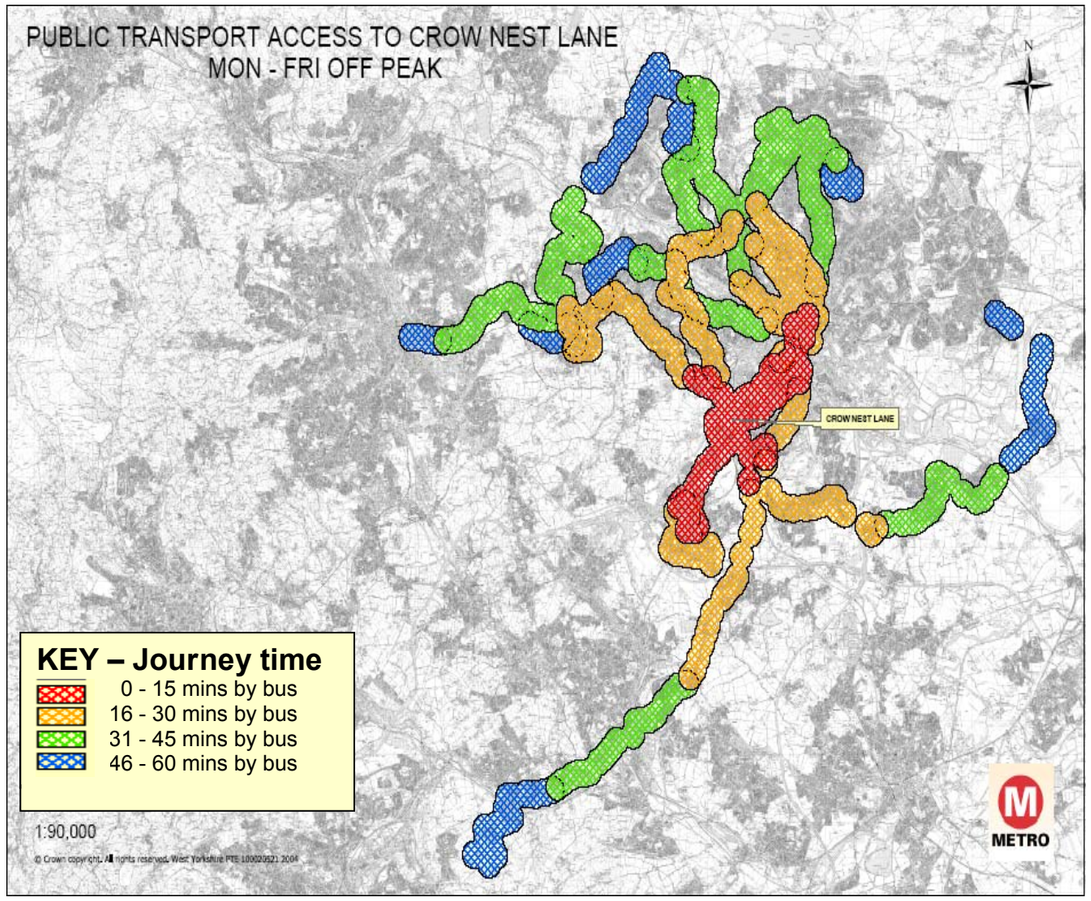
Intentionally blank

APPENDIX L
PUBLIC TRANSPORT REQUIREMENTS FOR DEVELOPERS (LEEDS VERSION)

Accessibility Mapping

Accessibility Mapping has been developed by the Government with local authorities to measure the ability of people to access jobs, health, education and other services by car and public transport.

This tool can be used to enable planning officers and developers to ensure that development sites are well served by public transport. An example of an accessibility map is shown below. It shows which locations can reach the destination by public transport and how long it takes to reach the destination.



If you would like an accessibility map produced for a new development please contact Bob Hepworth on 0113 2517382.

For more general enquiries about developers' public transport requirements please contact Steven Lightfoot on 0113 2517321 or steven.lightfoot@wypte.gov.uk

Leeds - Developers' Public Transport Requirements

National and local Government policies and strategies seek to ensure that;

- the transport impacts of new development on the road network are minimised; and
- sustainable alternatives to private car use are developed and promoted.

This leaflet has been produced by Metro in partnership with Bradford, Calderdale, Kirklees, Leeds and Wakefield district authorities. It shows how;

- **planners** can 'score' the transport sustainability of each new development using Government criteria; and how
- provision by **the developer** of public transport measures supports transport sustainability and is consistent with policies in Planning Policy Guidance, the Regional Spatial Strategy, Leeds Unitary Development Plan and the West Yorkshire Local Transport Plan.

Sustainable Transport Matrix

New developments must be sustainable to meet national & local government policy and so gain planning permission. The Government's criteria for sustainable travel within sustainable development have been used to create the sustainable transport matrix below. This table can be used to assess the sustainability of new development. A scoring mechanism is suggested below;

Score	
3	The development fully meets the criteria
2	The development meets the criteria to a high degree
1	The development meets the criteria to some degree
0	The development does not address the criteria

The Government's Sustainable Transport Criteria	**Apply Score**
Improve public transport facilities	
Provide facilities to encourage safe local walking	
Provide facilities to encourage safe local cycling	
Ensure jobs, key services and facilities are accessible from the development by public transport, walking and cycling	
Reduced noise pollution and dependence on cars	
Minimises impact of congestion in area of development	
Extensive publicity, promotion and marketing of public transport e.g, provide real time information board	
Provide a Travel Plan that addresses the need to provide viable alternatives to car travel	
Improvements that could increase patronage on a route e.g. a more conveniently located bus stop, an alteration to the route of the existing service, increased service frequency, a later bus, discount travel cards etc.	
Sustainable transport matrix score	**/ 27**

The colour coded chart over the page shows national & local government policies and practical measures to help both developers and planning officers work together to produce developments that:

1) Promote and encourage the use of public transport.
2) Ensure a high standard of public transport facilities and provision.
3) Ensure easy access on to public transport.

Planning Applications - Leeds - Developers' Public Transport Requirements

Applies to all proposed developments over min size (Residential 10 units – Commercial 1000sqm)

All applications below this size that require the moving of transport infrastructure should also contact Metro via the details shown

For further details of how to implement the measures below please contact Steven Lightfoot at Metro on 0113 2517321 or steven.lightfoot@wypte.gov.uk

KEY

1 = Promote & encourage use

- Produce green travel plans → Contact Christine Hamshere - email Christine.Hamshere@leeds.gov.uk or phone 0113 395076
- Produce travel pack for all → Development-specific PT info
- Provide Metrocards → Residential development → Provide all households/employees with one appropriate discounted Metro card - 50% off the normal year price in year 1 if the remaining 50% is paid for by the developer, 25% in year 2 and 10% in year 3, full cost - zone 1-5 Metrocard £800, bus only is £525.
- Provide Metrocards → Commercial developments inc schools & healthcare → Company scheme offers employees of participating companies a 15% discount off the full price of annual Metrocard with the facility to pay monthly through their wages.

2 = Ensure high standard of facilities & provision

- Any bus stop/shelter within 400m of development? * → Yes, developer to find out if replacement shelter/new shelter required. → If so, Shelter provided through Metro, developer pays up to £10,000 for each shelter required, this payment also includes maintenance of the shelters.
- Ensure good PT provision to and from development site (The PT provision can be shown by accessibility mapping - see overleaf for an example) → Developer to find out if development has min PT standard of bus every 15 mins to major local centre Monday to Saturday daytime every 30mins evenings and Sundays* → Yes → New 'live' bus information displays to be erected within the development or at one of the bus stops close to the development at a cost of approx £12,500 to the developer, inc maintenance. The display is connected to the West Yorkshire 'real time' system and gives accurate times of when the next bus is due, even if it is delayed.
- Ensure good PT provision to and from development site (The PT provision can be shown by accessibility mapping - see overleaf for an example) → Developer to find out if development has min PT standard of bus every 15 mins to major local centre Monday to Saturday daytime every 30mins evenings and Sundays* → No → If development over 200 residential units / commercial or retail 15,000sqm (exc warehousing) developer should provide pump priming subsidy to reach this standard for 2 years.
- Ensure good PT provision to and from development site (The PT provision can be shown by accessibility mapping - see overleaf for an example) → Investigate possibility of PT access to development site & infrastructure.
- If development within 800m of existing Rail Station → Possible improvements to rail station/service.
- Is development along route of Yorkshire Bus Initiative? → Possible bus priority & infrastructure improvements.

3 = Ensure easy access on to

- Provide direct pedestrian access to nearest bus stop
- Ensure level access to buses so elderly & parents with push chairs can easily get on buses → Hardstanding & Special access kerbs at stops - Metro guideline height of 180mm, with min height of 125mm. Refer to Metro "Bus Stop Infrastructure Guidelines"

LEEDS UDP POLICIES

- SPG5A (Draft) Detailed method of calculating PT contribution required of developer based on size and location of development - See SPG5A (Draft) document for more details
- T1: "Transport investment will be directed towards: i Giving priority to improving PT"
v. Alleviate traffic problems – give priority to the needs of PT & reduce private vehicle peak demand
- T2: "New development should normally: ii. Be capable of being adequately served by PT and should ensure that necessary infrastructure for new services is included in the development"
- T9: "An effective PT service will be encouraged and supported where practicable to give appropriate access to employment, shops, schools, hospitals, recreation and other social and community facilities. PT initiatives which pursue these aims will generally be supported."
- T12: "The introduction of new modern forms of PT - Supertram and guided bus will be supported
- T14: "Other corridors with potential for Supertram and guided bus serving other parts of the district will be investigated and where appropriate, brought forward for implementation"
- T15: "Measures to give priority to bus movements will be supported"
- SP4: "Priority in the introduction of new transport infrastructure is given to supporting PT

Planning for Public Transport In Developments

Institution of Highways & Transportation **(IHT)** guidance document - 1999

- Para 1.34 - Developments within PT corridors and where good PT exists or can be provided
- Para 1.44 - National and local policies now emphasise reducing traffic growth and reliance on the car, and encouraging the use of PT, walking and cycling.
- Para 6.1.7 - Where out of town retail or office developments are economically necessary, their planning must consider existing and possible future PT links.
- Para 6.1 - Development layouts that make PT easy and convenient for passengers to use, and layouts that make it economic and efficient for operators to provide PT.
- Para 5.53 - Government policy makes it clear that developers can expect to pay for PT in relation to their developments. The types of schemes include improvements of PT services, bus priority schemes, shelters, real time information
- Ch 2.28 - For some developments, the cost of providing a PT service will not be covered by achievable revenue, but where support for a high level service may be appropriate to attract car owners until the revenue increases enough to cover the cost of operation, funded by the developer
- Ch 4.20 - For new developments investigate existing PT provision and identify any weaknesses in the PT links between the development and it's catchment area and if existing PT at capacity.

PPG13

- Para 74.5 - Negotiate for improvements to PT as part of development proposals in order to reduce the need to travel by car and the level of parking at such sites.
- Para 74.3 - identify any proposals for improving rail travel or guided bus routes
- Para 74.4 - Identify potential for improved interchange between different transport services and between PT, walking and cycling;
- Para 3 - By shaping the development and influencing the location, planning can help to make it easier to access services by PT, walking, and cycling.
- Para 74.1 - Identify the key routes for bus improvements and priority measures;
- Para 66.2 - Promote safe walking, cycling and PT across the whole journey
- Para 19 - Ensure that jobs, shopping, leisure facilities and services are accessible by PT, walking, and cycling

*Y&H RSS

Government Office for Yorkshire and The Humber

- Policy T1i - Developments that generate a large number of passenger movements should be located at or close to sites which provide, or measures as part of the scheme will provide, ready and convenient access by PT.
- Policy T3iv - Improved timetable and service information available in a variety of media.
- Policy T9c - Improvements to the highway network which arise as a result of development will be achieved by improvement in PT
- Para 7.129 - Local Authorities need to consider PT alternatives to access to development by car

APPENDIX M
SCHEME IMPACT SUMMARY

SCHEME IMPACT SUMMARY

Over the period of LTP1 and before, the West Yorkshire authorities have been monitoring the impact of schemes to try to determine what works well and to try to get some indication of the scale of improvement that could be expected from similar schemes.

Table M.1 summarises those schemes reported in previous Monitoring and APRs which have been completed since 1 January 1997. It shows the contribution of the various schemes to the LTP1 objectives and illustrates what effect the schemes have had on ten key indicators.

The impact of the schemes is measured according to the following notation:

An objective of the scheme	●	
	Measured	**Perceived**
Significant improvement	✓✓	**++**
Improvement	✓	**+**
Neutral effect (where an objective of the scheme)	O	O
Worsening	**x**	**-**
Significant worsening	**xx**	**- -**

APPENDIX M
SCHEME IMPACT SUMMARY

Table M1: Summary of Impact Reports

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring												Comments
	Primary							Subsidiary				Cost	Date	Indicators										
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
Countywide Schemes																								
Target 1 TravelWise Project		●				●		●	●		●		9-01											
Monitored CCTV at Bus Stations		●		●	●	●	●					1,600	3-00											Pre-scheme report – monitoring data to be included in subsequent years
Cycle and Ride Lockers at Rail Stations						●	●	●	●		●	95					+	+		+	+			£110,000 spent 1996-2000
Leeds Travel Blending		●		●		●			●			26	2-98				✓	x	x	✓	✓ ✓			Car use reduced, apparent shift to cycle and train, not bus
Safety Cameras in West Yorkshire		●		●		●	●	●					02/03			✓ ✓						✓ ✓		
Leeds Urban Area Schemes																								
Leeds City Centre Loop & Public Transport Box	●			●	●	●	●	●	●			6,400	01			✓	✓ ✓							

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
The Methleys Homezone				●	●	●	●		●				01-02						✓ ✓			✓ ✓		TRL undertaking monitoring of Homezone pilots for DfT
East Leeds Quality Bus Initiative		●		●	●	●		●	●			9,100	11-01											Interim impact report
Leeds 1st	●	●		●	●	●		●	●			165M	5-02	✓	✓ ✓		✓ ✓	✓ ✓		✓✓		O	✓ ✓	Interim survey results
Cross Green-Colton Cycle Route				●	●	●	●	●				265	1999						+		+		+	Links to main employment areas and with other regeneration schemes
Leeds Liverpool canal Towpath Cycle Route				●	●	●	●	●											+		+		+	
Leeds Category C interchanges		●		●	●	●												✓ ✓		✓			✓ ✓	Shaftsbury junction and Armley
Briggate Pedestrianisation	●	●		●	●	●	●	●				951	8-98	+	+	+			++					

APPENDIX M
SCHEME IMPACT SUMMARY

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
A61 Scott Hall Road Guided Busway (Phases 5 and 6)		●		●	●	●			●				7-98	✓ ✓	+		✓	✓		✓	+			
A647 Stanningley Road HOV Lane		●		●	●	●		●	●			585	5-98	✓ ✓	✓ ✓		✓	✓ ✓			+			Journey time savings for HOVs without extra delay for non-HOVs
A61 Scott Hall Road Guided Busway (Phases 1 to 3)		●		●	●	●			●			3,300	6-97	✓ ✓	+		+	✓ ✓		++			✓ ✓	
Burmantofts Street Bus Lane		●		●	●	●			●			884	6-97	++	+	+		+		+				
M1-A1 Link Road	●	●		●		●		●				DBFO	2-99	+	+	✓ ✓	O							Successful at removing extraneous traffic and reducing accidents
Leeds City Centre Controlled Parking Zone Extension		●				●		●	●			200	6-01				O		O	+			+	Reduced long stay commuter parking, increased short stay parking in the zone. Some evidence of relocation of parking

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
Review of UTMC off-peak plans for City centre loop		●		●									03-02	✓	✓									
Horsforth station refurbishment		●		●	●	●	●	●	●									✓					✓	
Bradford Urban Area Schemes																								
South Bradford Quality Bus Initiative (QBI) – Manchester Road Guided Bus		●		●	●	●		●	●			10,500	1-02											Interim report
Bradford Bus Station		●		●	●	●							2-01					✓ ✓		✓			✓ ✓	
Keighley Bus Station		●		●	●	●							2-02					✓ ✓		✓			✓ ✓	
B6154 Thornton Road Bus, Cycle and Pedestrian Measures		●		●	●	●		●	●			1,765	9-98	✓ ✓	++			✓		+				
Bradford City Centre Pedestrian and Environmental Improvements	●			●	●	●	●	●	●			3,140	1998		✓ ✓									Traffic reduced by 50%

APPENDIX M
SCHEME IMPACT SUMMARY

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
Manningham Lane Bus and Cycle Priority Measures		●		●	●	●	●	●	●	●		478	7-97	○	+		○			+			+	
Safer Routes to School – Heaton Middle School												27	4-97				xx	○	xx	xx		✓		
School travel planning in Ilkley		●		●	●	●	●					150	3-04				✓ ✓	✓ ✓						
Bierley Traffic Calming				●			●					188	8-00									✓		Traffic levels reduced by 12%
South Bradford QBI – Manchester Road Guided Bus		●		●	●	●		●	●			10.5m	01-02											Interim impact report
Traffic Calming - Bradford				●			●					462.2	00									✓ ✓		5 schemes : West Bowling (2), Thornbury , Tong, Buttershaw
Halifax Urban Area Schemes																								
Calder High School 'Bike Train'		●		●	●	●	●	●	●				5-02				✓			✓	✓ ✓			Pilot Scheme
Yellow School Bus Pilot		●		●	●	●	●	●	●			36	2-02			+	++	++	+	++				Pilot Scheme

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
Halifax Town Centre Strategy			●	●	●	●	●	●	●		●	2,900	4-01			○	✓ ✓		✓ ✓				✓ ✓	
Safer Routes to School				●	●		●		●			49	3-01			+	+			✓				Significant proportion of children walking to school – start of a wider roll-out
Halifax Town Centre – Wards End		●		●	●		●				●	801	1-01			+			++		+		++	Improved facilities for pedestrians
Halifax Town Centre – Market Street	●			●	●		●	●				810	12-00	+		+	++		+		+		++	Extraneous traffic removed and new pedestrian facilities provide a better environment
Bull Green Improvement		●		●			●				●	733	1-99	○	○	+		○	++		+		++	First phase of the five year town centre strategy needed to establish the “zones and loops” network
A58 Godley Lane Cycle Lanes, Halifax				●	●		●		●			51	5-98								+			Local cycle groups welcome the outcome

APPENDIX M
SCHEME IMPACT SUMMARY

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
A629 Huddersfield Road Improvements		●		●	●		●		●		●	487	3-98	✓ ✓	+								+	No effect on general traffic speeds
A629/A6026/ B6112 Calder and Hebble Junction Improvements		●			●		●		●		●	289	2-98	✓ ✓	✓ ✓	✓ ✓							+	Significant improvement for buses
Ovenden Way – Bus Accessibility Demonstration Access Corridor Phase 2		●		●	●		●		●		●	137	11-00			+		+				+	++	Improved accessibility to buses
Halifax Town Centre Automated Bollards		●		●			●					163	4-02						++					
King Cross Corridor and Calder Valley		●		●	●		●		●		●	53	3-97	✓ ✓	+									No effect on general traffic journey times
Heavy Woollen Area Schemes																								

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
Spen Valley Greenway				●	●	●	●	●	●			730	3-01						✓ ✓	+	✓ ✓		+	Very successful cycle route scheme with strong community support
Huddersfield Urban Area Schemes																								
A629 Wakefield Road Integrated Corridor, Phase 2		●		●	●	●	●	●	●			1,022	9-99	✓	✓	○		✓ ✓	+	+	+	○	+	Quality bus partnership. Bus patronage has increased by 2-3%
A644/A62 Three Nuns Bus and Cycle Priority Scheme		●		●	●	●	●	●	●			214	1-98	✓ ✓	✓ ✓							✓		
A629 Penistone Road Integrated Corridor Improvements		●		●	●	●	●	●	●			40	12-00	✓ ✓	✓	○		○	○	+	○	✓	+	
Rawthorpe to Lindley Bus Accessibility Measures			●	●	●	●	●	●	●			580								+	○	✓	✓ ✓	Other stages of the scheme to be completed before further monitoring is carried out
Wakefield Urban Area Schemes																								

APPENDIX M
SCHEME IMPACT SUMMARY

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
Route 110 Announce Project				●	●	●	●						3-01					✓					✓	
A61 Intelligent Road Stud Trial				●								35	99			✓ ✓								Trial
Safer Routes to School				●	●		●		●							+	+			✓				Significant proportion of children walking to school – start of a wider roll-out
Pontefract Bus Station		●		●	●	●												✓ ✓		✓			✓ ✓	
A61 Demonstration Access Corridor				●	●	●			●			218	5-98	✓	✓	✓		✓		+			✓ ✓	Positive response to Metro survey of local population.
Sandal and Agbrigg Rail Park and Ride				●			●		●		●	112	5-98					✓ ✓		+			+	
Wakefield UTMC System		●					●					172	3-98	✓	✓					✓				
Aire Valley and Wharfedale Schemes																								
Menston Station Refurbishment		●		●	●	●	●	●	●			556	9-99					✓ ✓		✓✓			+	

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators										
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
Shipley Audible Passenger Information					●				●			5.6	8-99										✓	
Steeton and Silsden Station Improvements		●				●		●	●			209	3-99					✓ ✓		✓✓				
Ilkley Bus Station Access Improvements		●	●	●	●		●		●			108	5-98				+	✓ ✓		+			++	
Shipley Market Square Infopoint		●			●						●	9	3-97					++		++			+	Easier to access information on public transport
Coalfields Area Schemes																								
Hemsworth Cross Hill Transponders	●			●		●		●	●			6	5-99	✓ ✓	✓ ✓	✓								Metro and local bus operators support the scheme
Pontefract Market Place Intelligent Bollards	●			●	●	●	●	●				100	10-98			✓	✓							
Pontefract Town Centre Improvements	●		●	●	●		●	●				100	9-98			✓ ✓			✓				++	Significant reduction in ped/vehicle accidents since introduction

APPENDIX M
SCHEME IMPACT SUMMARY

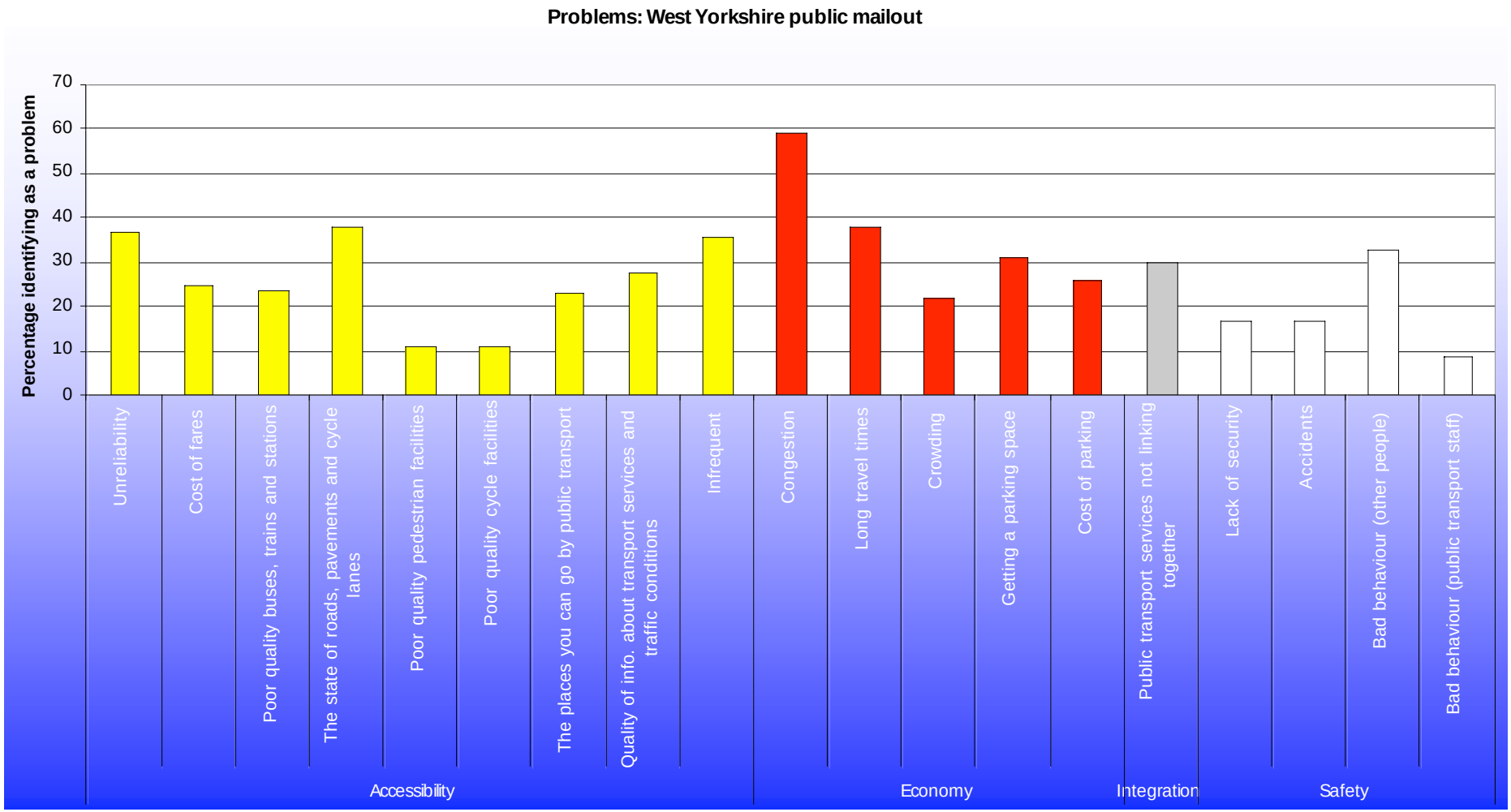
Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
Hemsworth Bus Station Access Improvements			●	●	●		●		●			50	4-98				+	✓ ✓		+			++	Significantly improves bus operations through key junctions in Hemsworth.
Rural Area Schemes																								
Rural Bus Services 903 & 923		●		●	●	●		●	●				12-99		✓			✓ ✓					✓ ✓	
Denby Dale Integrated Transport Initiative		●		●	●	●		●	●			366	7-99				✓	✓ ✓		✓			✓	
Micklefield Rail Park and Ride		●		●	●	●	●	●	●		●	149	6-98					✓ ✓		+			+	
Sowerby Bridge Rail Park and Ride		●		●	●	●	●	●	●		●	142	6-98					✓		+	+		+	
Carriageway Maintenance Schemes																								
A62 Leeds Road, Huddersfield. Thistle St – Whitacre St		●	●	●	●	●		●	●			1,500		+	+	+		+	+		✓ ✓		+	

Scheme	Contribution to LTP1 Objectives											Scheme Monitoring											Comments
	Primary							Subsidiary				Cost	Date	Indicators									
	Sustainable economic growth	Operational efficiency	Maintain infrastructure	Safety, security and health	Social inclusion and equal opportunities	Global environment	Local environment	Reduced traffic growth or reduction	Modal shift from car	Rail/waterway freight	Policy/mode integration	£000	Scheme completion	Improved bus journey times	Improved bus reliability	Accident reduction	Reduced car use	Increased PT use	Increased pedestrian activity	Encourage modal shift away from car	Increased cycle use	Reduced traffic speeds	Improved accessibility	
A647 Bradford Road, Leeds. Dawsons Corner to Galloway Lane		●	●	●	●	●		●	●			960	9-01											
A638 Bradford Road, Cleckheaton			●									1,530	2000											

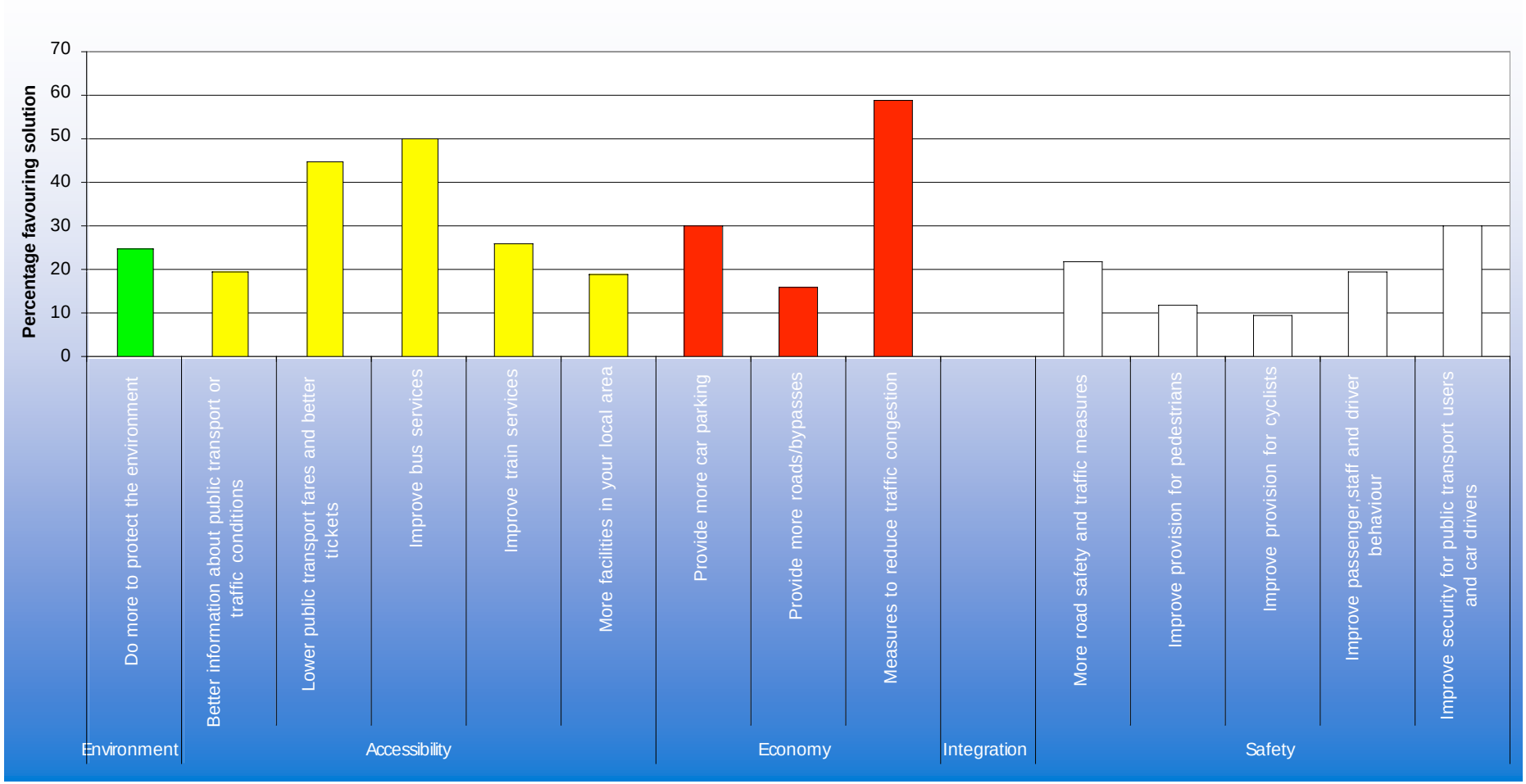
Intentionally blank

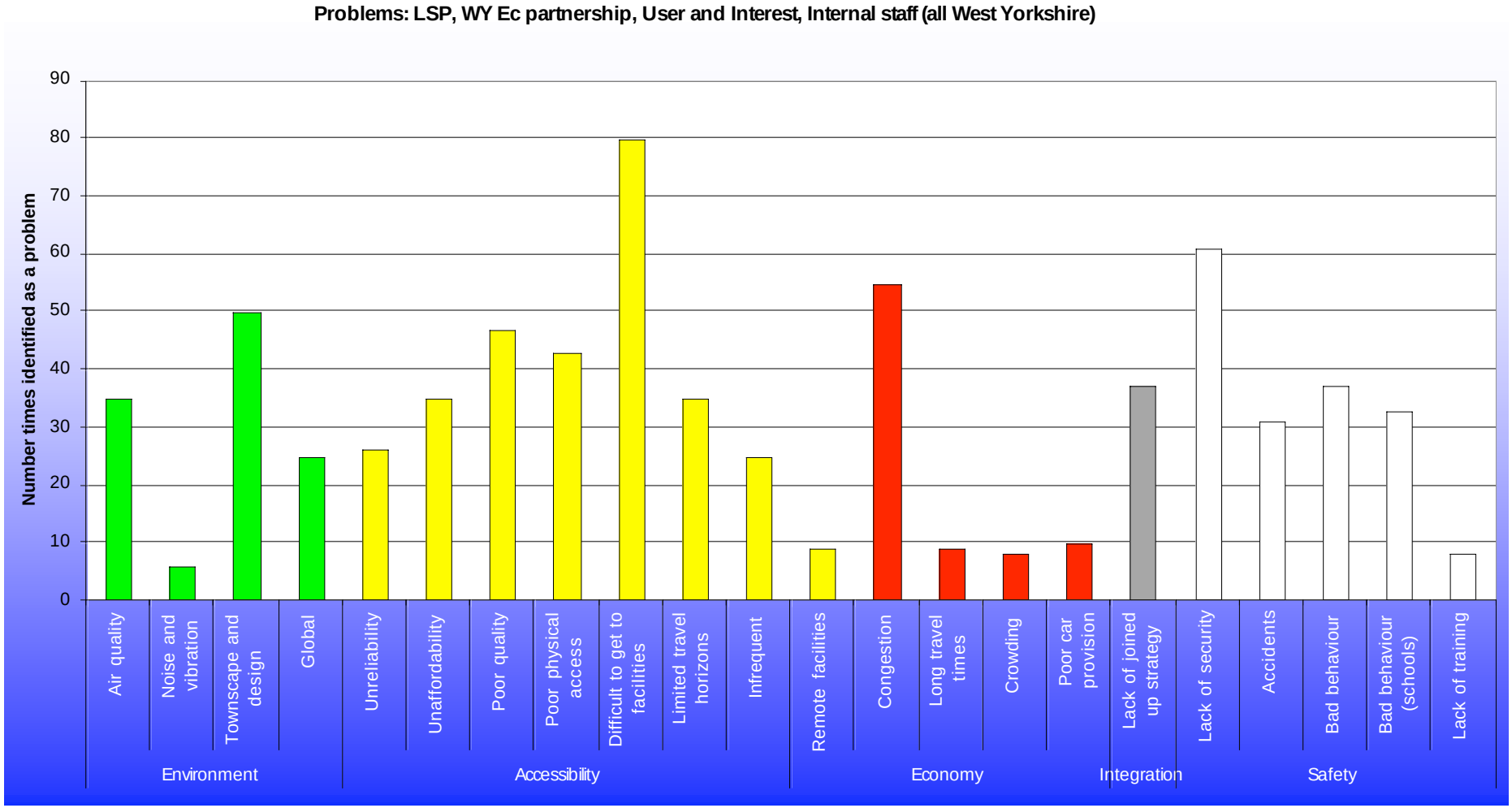
APPENDIX N
EXTRACT OF CONSULTATION RESULTS

EXTRACT OF CONSULTATION RESULTS

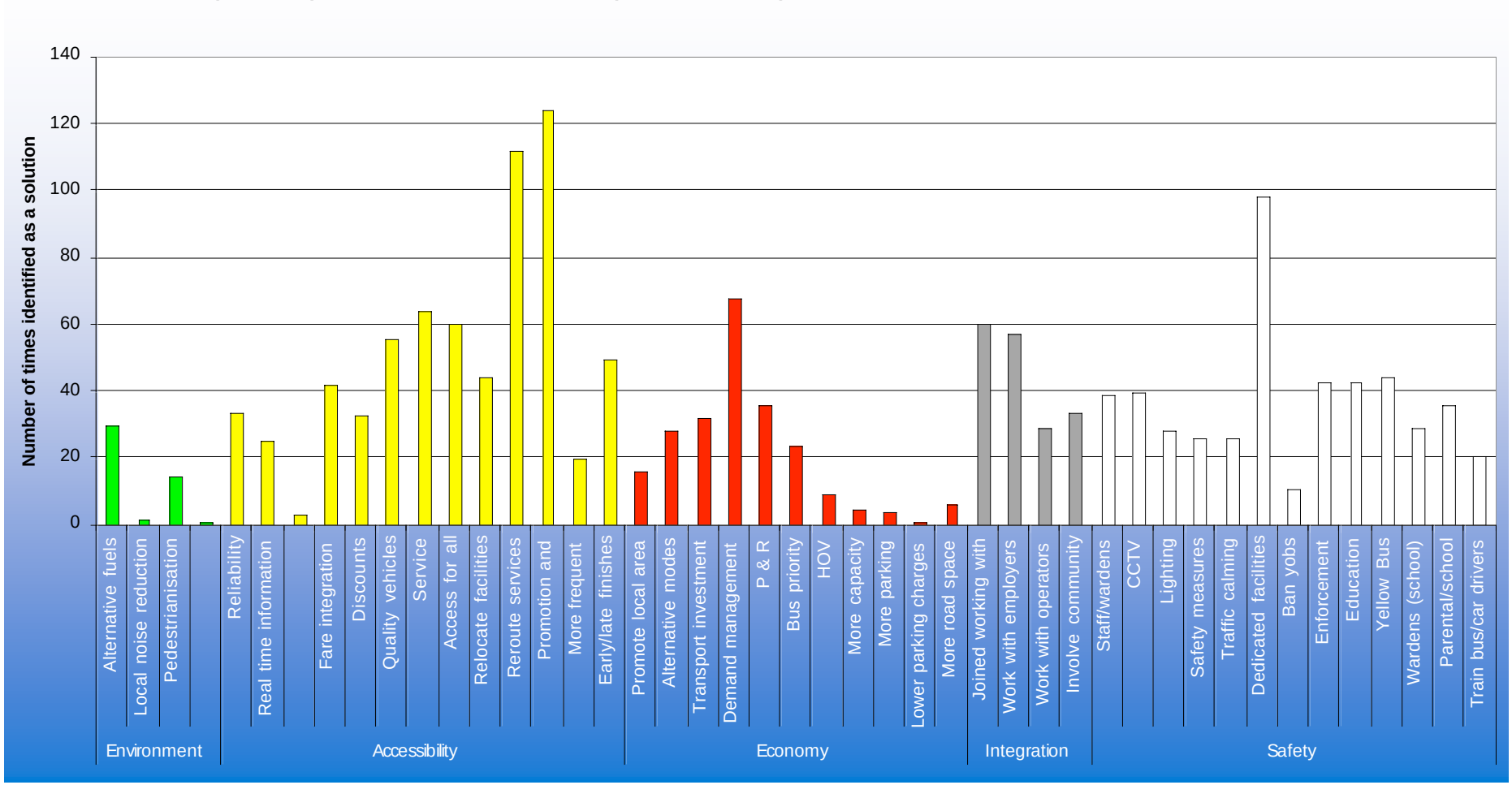


Solutions: West Yorkshire Public mailout




Problems: LSP, WY Ec partnership, User and Interest, Internal staff (all West Yorkshire)
Number times identified as a problem
0
10
20
30
40
50
60
70
80
90
Air quality
Noise and vibration
Townscape and design
Global
Unreliability
Unaffordability
Poor quality
Poor physical access
Difficult to get to facilities
Limited travel horizons
Infrequent
Remote facilities
Congestion
Long travel times
Crowding
Poor car provision
Lack of joined up strategy
Lack of security
Accidents
Bad behaviour
Bad behaviour (schools)
Lack of training
Environment
Accessibility
Economy
Integration
Safety

Solutions: LSP, WY Ec partnership, User and Interest, Internal staff (all West Yorkshire)



APPENDIX O
CASE STUDIES

CASE STUDY AREA DESCRIPTION

The A629 Corridor is a key inter-urban route between the Kirklees and Calderdale Metropolitan Districts. It links the important retail, commercial and economic areas of Huddersfield and Halifax town centres, as well as the smaller settlements of Elland and West Vale.

Land use along the corridor is largely residential although there are industrial developments in Elland, where the Lowfields Industrial Estate is of particular significance employing about 2,300.

Within Calderdale, the A629 is the main route between Halifax and the M62. There is a short section of single carriageway on Salterhebble Hill (see map) which constrains traffic throughput at busy times of the day.

Within Kirklees, the A629 also provides a key route to the M62 from Huddersfield in the Manchester direction, although other routes to Manchester are available via the A62 and the A640.

The Calderdale Royal Hospital, which is the main provider of hospital services in Halifax, is situated within the corridor, at the junctions of Dudwell Lane and Dryclough Lane.

Significant trip generators for students living in Calderdale and Kirklees are the:

- University of Huddersfield
- Huddersfield Technical College
- Calderdale College (situated close to Halifax town centre).

Bus services along the A629 use the Halifax and Huddersfield bus stations. These have:

- direct onward bus connections to other areas of Kirklees, Calderdale and beyond
- walking access to rail stations on the Transpennine and Caldervale rail lines for connections to Leeds, Bradford and Manchester.

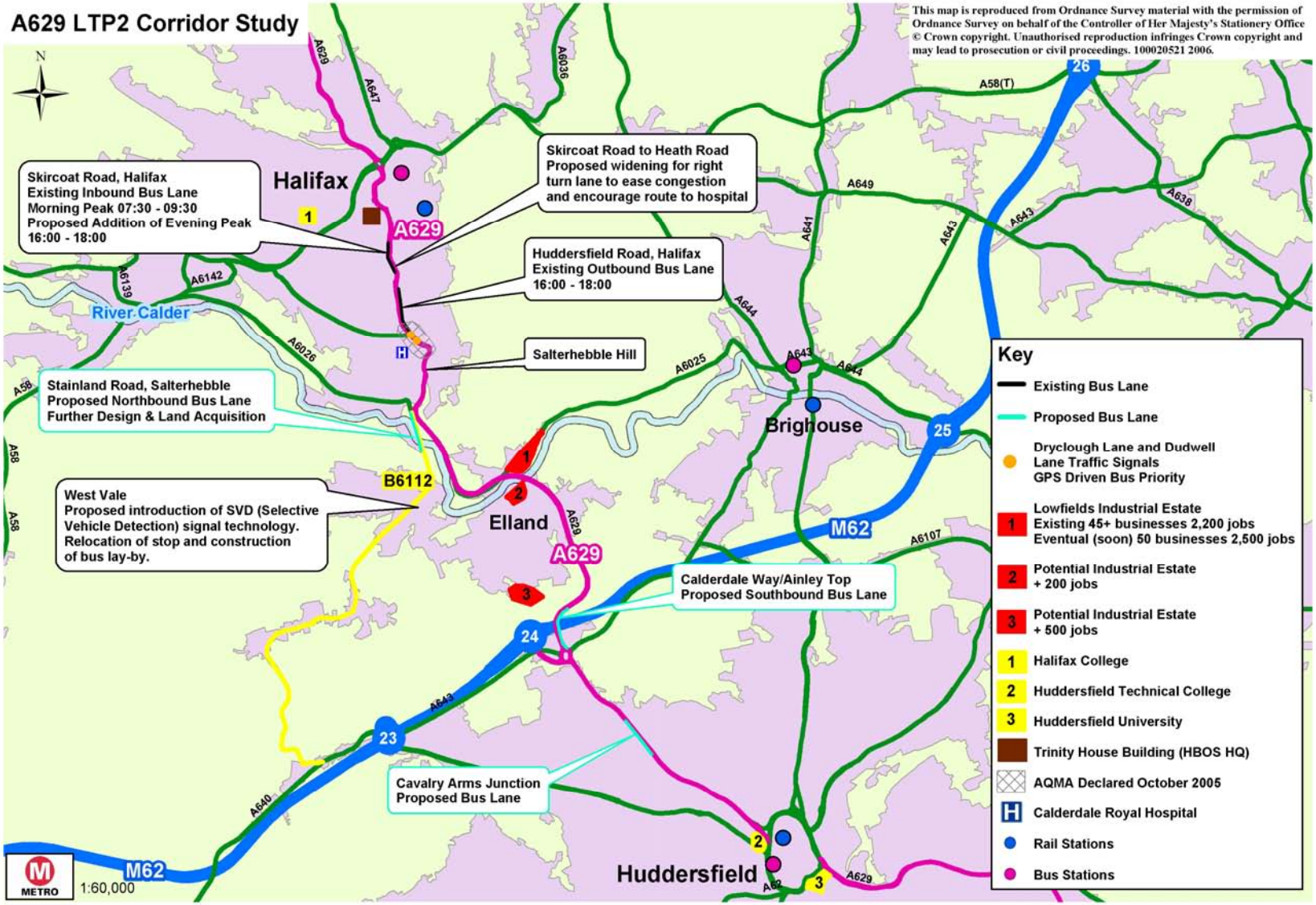
The main bus service along the A629 corridor is Service 503 which runs on a basic 10 minute frequency between Huddersfield, Elland, West Vale and Halifax. Other services join the route at various locations within the corridor. Service 503 is operated by new low floor kneeling buses.

Bus priorities are currently in place within the Calderdale section of the corridor in the form of inbound (morning peak) and outbound (evening peak) bus lanes on Skircoat Road and Huddersfield Road. No bus priorities are currently provided within the Kirklees section of the route.

There is an hourly rail service between Huddersfield and Halifax, generally parallel to the A629 corridor from Halifax to Elland, although the rail line also serves Brighouse which is the only rail station on the route.

The Hebble Trail Cycleway is a gently graded route, parallel to the A629 and linking Salterhebble with Halifax town centre and the railway station, providing sustainable access for cyclists and walkers from the Exley, Siddal and Copley areas as well as Elland. Although the cycle route may not necessarily encourage people to cycle from Huddersfield to Halifax and vice versa, it does provide a traffic free or quiet alternative to A629 for one or two kilometres.

Figure O.1.1 A629 Huddersfield to Halifax Corridor



CURRENT ISSUES

The key issues for this case study area are:

- congestion;
- bus reliability issues;
- a designated Air Quality Management Area (AQMA); and
- accessibility between the two local hospitals.

These issues are generally concentrated in the district of Calderdale, rather than Huddersfield.

Congestion

A recently prepared business case for bus priority on the A629 investigated (through on-street surveys) traffic delays and bus service unreliability at the following reported congestion hotspots in the Calderdale section of route:

- southbound approach to Ainley Top roundabout;
- northbound approach to Salterhebble roundabout on Stainland Road; and
- Skircoat Road inbound during evening peak (when the existing bus lane is not operational).

The surveys, which involved analysis of bus journey time delays, lengths of traffic queues and passenger on-bus loadings, revealed that journey times over the three surveyed sections varied between a minimum of one minute exactly and up to 9 minutes, in one direction and on the other direction between 1 and 8 minutes (on a service with 35 minute journey length).

This clearly demonstrates:

- level of service unreliability (both related to general congestion and incidents); and
- the difficulties experienced by bus operators in establishing an accurate and achievable timetable for affected routes.

Congestion (evidenced by an analysis of link flows which are less than 70% of the speed limit) also occurs at other locations not included in the Business Case analysis e.g. West Vale, Salterhebble Hill, Cavalry Arms junction.

At West Vale the interaction between two sets of traffic signals, parking for local shops and the location of bus stops combine to cause long queues through the centre at morning and evening peak times. A study is underway to rationalise these factors, with a particular emphasis on bus priority.

Between Salterhebble and Dryclough Lane the A629 narrows from a dual carriageway to a single lane in each direction causing traffic to queue on the steep hill inbound to Halifax and for several hundred metres inbound leading to the hill.

Congestion occurs at the Cavalry Arms junction (Halifax Road/Birkby Road, Huddersfield) in both directions in the morning and evening peaks.

Buses also experience delays at the traffic at the Trinity Street/Henry Street signalised junction at the entrance to Huddersfield Bus Station.

Air Quality

The Salterhebble Hill/Dryclough Lane/Dudwell Lane area was declared an AQMA in November 2005.

The pollutant on which the AQMA was declared was nitrogen dioxide. The annual average of nitrogen dioxide is running at 51 micrograms per cubic metre ($\mu g/m^3$) against an air quality target of 40 $\mu g/m^3$. Closer examination has shown that this level could be even higher (indicated by a rising trend). This suggests that LTP2 should aim to at least stabilise current levels.

No assessment of PM_{10} has been made as yet and may need to be undertaken in the future.

There appears to be an increasing trend in the diffusion tube data but detailed statistical analysis has not yet been undertaken. The 'expected' trend of decreasing nitrogen dioxide emissions with improving vehicle technology is not being observed.

Without intervention the forecast is a likely increase. It is very difficult to predict the effect of interventions without sufficient detail to support modelling.

Further assessment needs to be complemented by November 2006 to determine action plan elements.

The congestion noted earlier contributes to the poor air quality conditions at this location.

Accessibility

Consultations are currently taking place on proposals to transfer some hospital functions and medical services from Huddersfield Royal Infirmary to Calderdale Royal Hospital. A number of concerns have been raised by Kirklees residents and other stakeholders with regard to travel and access issues between the two hospitals.

FUTURE ISSUES

Economic Regeneration and Growth

Employment changes

Employment growth in the corridor is forecast for about 1,000 new jobs:

- 700 related to the proposed development of two new industrial sites in Elland; and
- 300 from further development of the Lowfields Industrial Estate.

Housing changes

Regional housing requirements from the Regional Spatial Strategy have been met within Calderdale, however proposed mill conversions in the Elland area could result in up to 400 new dwellings.

Regeneration initiatives

Calderdale Council is investigating a possible regeneration scheme for the east side of Halifax which will incorporate industrial development proposals.

A study into the regeneration of Elland is about to commence which, if successfully implemented, could lead to increased housing and employment. In both cases the potential for an increase in employment in those areas may exacerbate existing traffic problems, particularly at peak times.

Promoting Social Inclusion

The local NHS Trusts are consulting on proposals to transfer some specialist services between Calderdale Royal Hospital and Huddersfield Royal Infirmary.

The consultation document indicates a maximum of some 185 patients per week transferring between sites and presumably additional trips may be incurred through hospital visiting.

The need for travel and the impact upon the A629 corridor is considered to be reduced by the tendency for:

- shorter stays in hospital, thus reducing visitor traffic; and
- the longer-term transfer of currently hospital-based services to local community provision.

A joint Travel Review Group is undertaking more detailed research into transport and travel to the hospital sites.

Conserving and enhancing natural resources

Without interventions to reverse the decline in bus patronage additional demand for car parking spaces in Huddersfield and Halifax would materialise as bus use declines, also increasing congestion, emissions and delays and journey time variability for buses.

MEASURES

Measures corresponding to the LTP2 'Tackling Congestion' strategy approaches summarised in Part 2 were considered to address the issues on this corridor:

Completion of the Hebble Trail Cycleway is forecast by Sustrans to attract 100,000 users per annum, with cycles expecting to comprise an average of 10% of all users per year. Cycle route improvements falling under strategy approach C5: Encourage more cycling and walking are therefore an important element of the strategy to provide a 'sustainable alternative'.

Further works have been identified to provide improved ramp access at Salterhebble canal basin.

Feasibility studies have identified possible alternative route options on minor roads from the Shay to the railway station and into Halifax town centre (see bonus funded schemes). Off-road cycle route options include:

- from West Vale and Elland to Halifax via the Hebble Trail Cycleway; and
- an off-road/minor road Elland to Huddersfield cycle route via Ainley Top.

Proposed Measure: *Capital schemes / groups of schemes costing less than £200,000*

Cycling Schemes

- Improved ramp access at Salterhebble Canal
- Off road cycle routes

In relation to strategy approach C3: Managing the existing highway network, **traffic gating** was considered. This could alleviate air quality issues in the AQMA, but would increase congestion on approach routes and orbital routes. It is not proposed for LTP2.

The potential measures corresponding to strategy approach C2 Manage the demand for travel considered were:

- smarter choices;
- road space re-allocation; and
- car parking policy.

Promoting **smarter choices** through the use of **travel plans** for two new sites in Elland (700 jobs) and at the fully developed Lowfields Industrial Estate, taking the total to around 2,500 jobs, could potentially reduce the level of car based travel demand by up to 10%, i.e. 300 car trips per day.

The travel plans at the Hospital and University both employ the smarter choices approach including a range of measures to promote sustainable, lower impact travel.

Revision of the travel plans established for Huddersfield Royal Infirmary and Calderdale Royal Hospital could help facilitate new travel behaviour for those shifting employment location to Calderdale. A shuttle bus operates between the two hospitals.

HBOS plc. who have major employment sites in Halifax and Copley, just off the corridor, also have a travel plan in place to alleviate the consequences of employee travel to and between the sites. Initiatives have included the provision of two dedicated shuttle buses between the town centre and Copley. Around 20 trips are made on these each day and since October 2004 there appears to have been a 25% increase in use. The use of a travel plan is considered to be very successful with 6% of employees currently travelling to Copley from home by bus, and 2% by train. The target is to increase the combined total to 10% by Spring 2009.

On the corridor, Brooksbank School at Elland has a School Travel Plan, which commenced in March 2005. It has influenced bursary money being used on cycle storage. Monitoring of the impact of the plan is ongoing, and a report is due in March 2006. Although on the fringe, there is the opportunity for this school to benefit from improvement to bus route 503.

Proposed Measure: ***Revenue funded schemes***

- Travel plans for new sites
- Revision of travel plans for the hospitals
- The role of feeder services including the existing Urban Bus Challenge funded Metro Connect service will assist in providing travel choice, particularly for the Elland area

Road space re-allocation such as **High Occupancy Vehicle (HOV) lanes** have been considered, were supported as a measure in the LTP consultation and remain an option to improve performance.

The corridor is suited to **road space re-allocation** using **bus priority lanes** with scope to extend operational times of existing lanes and to introduce new lanes where spare lane/ carriageway exists or can be delivered reasonably quickly and cheaply.

Support for bus priority schemes is evident from strategic consultation.

The use of bus priority measures is being considered for the congestion hotspots identified:

- southbound approach to Ainley Top roundabout;
- northbound approach to Salterhebble roundabout on Stainland Road;
- Skircoat Road northbound during evening peak (when the existing bus lane is not operational);
- West Vale;
- Salterhebble Hill;
- Cavalry Arms junction; and
- the entrance to Huddersfield Bus Station.

The expected impact of implementing bus priority schemes include:

- reduced journey times and delays (i.e. improved reliability); and
- potential for patronage growth (and mode shift).

It is anticipated that the impact of reducing the wide range of bus journey times (identified from the surveys) will be that overall bus reliability will be significantly improved.

The analysis from the Business Case indicates that the individual schemes are also expected to reduce average delays to buses by over two minutes over the three congested sections of corridor surveyed, as well as significant reducing the high variability (up to 25% of

journey time).

Further savings will be achievable through the introduction of the proposed measures for the Cavalry Arms junction with a further three minute savings (evening outbound).

A maximum potential passenger growth of 2.5% for Service 503, which is based on the estimated potential time savings and current TRL assessments of in-vehicle time elasticity, has been calculated. However the reliability improvements could deliver much larger increases by reducing wait time considerably. A further 5% growth could be anticipated.

It is important to note that none of the proposed schemes involve changes to vehicle demands or existing junction capacities. Even in the case of the Ainley Top scheme, which will result in southbound throughput being reduced from three to two general traffic lanes, overall car journey times should not be adversely affected as the two lane approach and capacity of the Ainley Top roundabout remains unaltered.

Proposed Measure: *Schemes costing more than £200,000*

Route 503 Huddersfield to Halifax QBC (A629)

A northbound bus lane is proposed on Huddersfield Road at the Cavalry Arms junction within the Kirklees section of the A629 corridor. Scheme feasibility is currently ongoing.

Proposed Measure: *Capital schemes/groups of schemes costing less than £200,000*

Bus priority (excluding signals)

The Calderdale Bus Priority Business Case report puts forward proposals for:

- the introduction of new with-flow bus lanes on the southbound approach to the Ainley Top roundabout (estimated cost £60,000) and the northbound approach to the Salterhebble roundabout on Stainland Road (estimated cost £190,000).
- extension of the existing morning peak only bus lane to evening peak as well, at a predicted cost of £4,000.

Bus infrastructure (excluding interchanges)

The scheme for a comprehensive review of traffic congestion in West Vale would involve relocation of the main Halifax bound bus stop in the village centre and the creation of a new bus lay-by in order to take buses off the through carriageway at the busy village inter-section. Costs for the full scheme in West Vale are estimated at around £100,000.

In order to manage the demand for travel strengthening **car parking policies** within Huddersfield and Halifax could be considered. There is already:

- a proposal to extend the Halifax Pay and Display parking zone from 280 to 600 spaces by September 2006; and
- in Halifax, the off-street short term (up to 4 hours) parking charges increased in 2005 from 50pence to 60pence.

Long term off-street parking charges increases are currently being considered. Traffic management is an important element of the strategy approach C4: Improve the highway network for this corridor to reduce congestion and to contribute to addressing the air quality issues in the case study area.

Proposed Measure: ***Schemes costing more than £200,000***

Halifax Town Centre

A scheme is being delivered to improve traffic management and pedestrian facilities on Westgate in Halifax Town Centre.

Proposed Measure: Capital schemes/groups of schemes costing less than £200,000

Traffic management

As part of the corridor proposals within Calderdale it is also proposed to investigate the possible widening of Skircoat Road in order to provide a dedicated right turn lane into Heath Road (£40,000).

Similarly, in Kirklees it is proposed to investigate the possibility of improving the operation of the traffic signals at the entrance to Huddersfield Bus Station.

Air Quality

A detailed AQMA action plan for Salterhebble has not been finalised but it is likely to utilise bus priority measures aimed at modal change from car to bus, but also may need an element of queue relocation to smooth traffic flows. If the strategy approach is successful, it is likely that monitoring will continue.

Proposed Measure: ***Metro schemes costing more than £200,000***

Selective Vehicle Detection (SVD)

Signal priority for buses through SVD using GPS technology is proposed along the full extent of the corridor as part of a countywide scheme. The solution to unblocking congestion in West Vale is particularly reliant on SVD implementation. This scheme adds value to the Real Time Passenger Information (RTPI) system which is now delivering real time via mobile/internet

The following measures have been considered in relation to utilising strategy approach C1 Encourage modal switch to public transport*:*

- park and ride;
- ticketing – concessionary travel; and
- on street real time passenger information.

There has been support for **bus based park and ride** in the strategic LTP consultation, however it is considered as a complementary measure to strengthening the case for bus priority in the future. This is because for park and ride:

- capital and revenue funding issues would need to be overcome
- when considered as part of a county wide approach it could fail if bus journey time reliability was not delivered first.

The expected impact of committed free bus fares for disabled and older people is increased patronage. There is a potential for an increase between 10 to 30% based on: the Government ITS toolkit recommendation 13% generation on existing (unknown) levels; and MVA research for Metro (or PTE's) of 20-40% for this specific user group.

Proposed Measure: ***Revenue funded schemes***

- Concessionary travel

This would be supported by revenue funding for promotion.

As part of the West Yorkshire wide initiative, RTPI will also be provided with the case study corridor.

Proposed Measure: ***Metro schemes costing more than £200,000***

RTPI system development

On street real time information will be delivered along the corridor in parallel with bus lane provision, at key stops and at key locations (e.g. within the hospital).

Impact of Do Nothing

The potential impact of doing nothing in this corridor could include:

- economic dis-benefits;
- worsening air quality (given that there is already an AQMA in Halifax);
- congestion spreading outside peak periods; and
- the potential withdrawal of bus services (or frequency reduction).

Maximising Value from Resources

The proposed schemes will, with the exception of the Stainland Road proposal, generally utilise existing infrastructure and be based on achieving the most efficient use of existing road space.

Increased numbers of passengers will benefit from the improved stops and bus priorities delivered along the route.

Specific projects in the Regional Transport Strategy (RTS)

No specific projects in the RTS for delivery during LTP2 have been identified for this corridor. However improved linkages within West Yorkshire centres are identified with Halifax-Huddersfield a named corridor.

Links with LTP Objectives

The proposed schemes will contribute to the LTP objectives in the following way:

Delivering Accessibility

To improve access to jobs, education and other key services for everyone, through:

- no net dis-benefit for other road users.

Tackling Congestion

To reduce delays to the movement of people and goods, through:

- improved bus service reliability; and
- reduced delays to buses.

Better Air Quality

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

- a modal shift to public transport leading to air quality improvements.

Links with the Community Vision

The links to the shared community vision for West Yorkshire (summarised in Part 1) include:

- improving economic activity through managing congestion;
- improving the environment through encouraging a shift from car to public transport; and
- enhancing social cohesion and improving access to health care.

Links with Regional Economic Strategy

Improving access within the corridor supports the identification of the corridor in the RES as a link between two 'principle service centres'.

Consistency with the wider local corporate planning framework

Improved access into Halifax and Huddersfield will:

- strengthen the role of these two centres and provide easier access between the two centres; and
- improve access to the Calderdale Royal Hospital.

The role of on street interchange in Elland and West Vale will strengthen their role as District centres.

Links with other sectors

The proposed measures may help to address the travel issues arising from the proposed relocation of hospital services from Huddersfield Royal Infirmary to Calderdale Royal Hospital.

The Council, in partnership with the Primary Care Trust, promotes activity for health. Modal shift from car to public transport is a component of the strategy since public transport trips generally include a walking trip at either end.

Measures to strengthen the Strategy

Through the use of revenue funding we will use similar marketing and promotion as used on the Huddersfield Bradford corridor introduced under the Yorkshire Bus Initiative. This will include corridor specific information and will be complemented by highly visible on street RTPI.

With extra funding and maintenance red surfaced bus lanes could be implemented. These are shown to be better at self enforcement.

Other complementary measures could include a comprehensive approach to **UTMC** to manage queues and link into demand management initiatives being developed on the M62.

It can be argued that potential modal shift is limited to local trips within the corridor and does not address car users who use the corridor to access the M62. However it has been seen on other corridor improvement schemes that traffic speeds and reliability for general traffic can be improved as a result of improvements to bus journey times and a consequent mode transfer.

There is considered to be scope for increasing modal shift to public transport and addressing trips outside the confines of the corridor (e.g. commuters to Leeds, Bradford, Manchester and beyond via the M62) through the provision of a **rail station** and **Park and Ride** facility on the Huddersfield-Halifax line in the vicinity of **Lowfields**.

The **Hebble Trail Cycleway Phase 2** is an off-route option from the Shay to the railway station via Eureka! 'The Museum for Children' with an estimate of costs of £300,000. With the use of **bonus funding**, this would contribute to achieving the targets set by Sustrans.

The **Yorkshire Bus Initiative** through the use of **major scheme funding** could promote core routes and encourage the development of feeder services at bus interchange locations to improve accessibility. Two such locations would be West Vale and Elland.

Partnership working

The schemes have been developed in partnership with the bus companies, District Council, PCT and Metro.

PERFORMANCE MANAGEMENT

The focus of the proposed measures for the corridor is for a 'whole route' approach to providing priority to public transport, to ensure cumulative, rather than isolated impacts.

Contribution to targets

Overview

Local Target 5: Bus Patronage on Quality Bus Corridors

- *Contribution* – Positive and significant and the local level

Local Target 1: Satisfaction with LTP Funded Facilities

- *Contribution* – Positive

Local Target L10: Percentage of Bus Shelters Meeting Modern Standards

- *Contribution* – Positive and moderate in relation to overall West Yorkshire wide bus shelter provision

Mandatory Target M2: – Bus Punctuality, M3: Satisfaction with local bus services, M7: Public Transport Patronage

- *Contribution* – Positive to overall West Yorkshire wide levels

Experience from LTP1 shows that patronage increases on completed Quality Bus Corridors (QBCs) are above the average West Yorkshire change in baseline bus patronage. The contribution of this scheme and other QBCs to local bus patronage growth will be reflected in the local target L5 – Patronage on QBCs.

Schemes subject to attitudinal monitoring will have satisfaction levels measured in support of local target L1 – Satisfaction with LTP Funded Facilities.

The replacement of bus shelters as part of the corridor work will contribute towards local target L10 – Percentage of Bus Shelters Meeting Modern Standards.

The scheme will contribute towards mandatory targets M2 – Bus Punctuality, M3 – Satisfaction with Local Bus Services and M7 Public Transport Patronage, although the impact in each case will not be quantifiable in the West Yorkshire wide target.

For further explanation of why this is the case, see Appendix F.

Identification and management of risks – target achievement

For an explanation of the key risks and approaches to managing risks to the achievement of the targets in relation to this corridor see Appendix F. These risks and the management of them are common to all schemes of this type.

Alternative actions

Alternative actions that could be pursued for this corridor to ensure the objectives are being addressed during the LTP2 period include:

- prioritisation of bus flows through signals, associated with traffic gating for general traffic;
- Partnership Agreements or Quality Contracts to deliver bus fare stability;
- a variety of demand management tools to encourage the transfer from car to bus (or other sustainable modes). This could include strengthening parking policies within Huddersfield and Halifax, conversion to HOV lanes or traffic gating after the priority lanes have been implemented.

Identification and management of risks – scheme development/implementation

All infrastructure elements are ready to deliver fairly quickly. There appear to be few consultation issues and the whole scheme could be delivered within two years.

The bus lane in Kirklees is contentious and there have been some delivery risks in the past.

Some land acquisition risks exist for a ribbon of land for the Stainland section

Risks of increase in bus fares may affect the delivery of patronage gain. As seen in the past (20% in last two years).

The scheme is raising public interest as an existing section of bus lane was recently removed on the grounds of congestion tailbacks. Those issues have been addressed with the schemes proposed and risks have been minimised, through the application of a whole corridor, rather than isolated treatment approach.

The role of UTMC and Traffic Managers to help achieve the desired outcomes

RTPI data will be available to monitor bus delays and variability to ensure predicted savings are delivered, and to identify any future locations of delay and variability. The RTPI system will allow traffic signals and pedestrian crossings to be retimed if approaching buses are running ahead or behind time.

The PIP team, which is composed of Metro, bus operators, Districts officers, the Police and the Traffic Manager will have access to a wide range of data, issues and tools to identify solutions.

The PIP team has been established and the traffic manager will have scope to promote demand management policies within Districts. Other partners will tackle specific issues associated with their sphere of influence (enforcement, obstructive parking).

There will be a requirement to co-ordinate the work of Calderdale and Kirklees Council PIP Teams.

Approach to budgeting, control of costs, and securing partnership funding from non-LTP sources

Part 4-4 Performance Management shows the individual and collective performance management and monitoring frameworks in use for LTP2. Metro and Kirklees and Calderdale Councils utilise performance management systems for the delivery of capital expenditure and budget control.

Good working relationships exist with bus operators, which have been strengthened through the development of the Yorkshire Bus Initiative. Examples of this include:

- the introduction of new vehicles on this route is part of the investment to this scheme; and
- support from the operators on the Travel Plan initiatives to deliver 15% discounts on Metrocard for travel plan members, which include Calderdale Royal Hospital, the two District Councils and Huddersfield University.

A new approach to developer contributions will be progressed through the emerging Local Development Framework. In the meantime, Calderdale Council has expressed support toward seeking developer funding of the cost of three new bus shelters and three RTPI stop displays in respect of planning applications for mill conversions at Gannex Mill and Marshfield Mill, both situated in Elland.

CASE STUDY AREA DESCRIPTION

The Kirklees Strategic Economic Zone (KSEZ) is located along the A62 between the Huddersfield town centre and the A644. Land use is predominantly industrial, complemented by residential and leisure development.

The main route through the KSEZ is the A62. This is a radial route that connects Huddersfield to the Heavy Woollen area and M62.

Deighton railway station provides an hourly rail services to Leeds, Huddersfield and Wakefield. Regional services run between Leeds and Manchester every 15 minutes along the same line but only stop at Huddersfield and Dewsbury.

On 25 January 2006, Kirklees Metropolitan Council (KMC) Cabinet Committee for Regeneration approved consultation on the KSEZ to begin on 27 January 2006 including its Supplementary Planning Document (SPD) which aims to secure developer contributions to fund transport improvements. The outcomes of the consultation will influence the preliminary design of the proposals within the strategy as well as the SPD.

CURRENT ISSUES

Current issues within the KSEZ are:

- localised congestion/peak time delays on the A62 and A644;
- poor accessibility for nearby areas of deprivation to employment and training opportunities;
- an infrequent rail service; and
- poor air quality.

Congestion

As shown on the congestion maps in Part 2 and indicated by a validated TRANSYT network model, the main delays of concern are:

- at the northern end of the A62 (between Three Nuns junction and the Bradley Road junction) particularly due to a lack of capacity at the Three Nuns junction and Cooper Bridge roundabout;
- at both ends of the corridor (as above and the A62/Huddersfield Ring Road junction); and
- queuing on the A644 from Cooper Bridge roundabout to M62 Junction 25 and onto the westbound slip-road.

Accessibility

Areas of deprivation exist fairly close to the corridor and links to them by bus, walking and cycling are poor.

Three cycle routes run along the corridor through the zone but some links to residential and industrial areas are poor and usage is low.

First operate buses along Keldregate, including a service that has been amended to link communities in that area with the KSEZ and Huddersfield town centre.

Deighton station has frequency of 3 (peak) and 2 (off peak) trains per hour. Improving bus services to the station from the corridor will improve longer distance access to the employment sites along the corridor from areas outside Huddersfield (for example Leeds, Mirfield, Wakefield and Dewsbury).

Air Quality

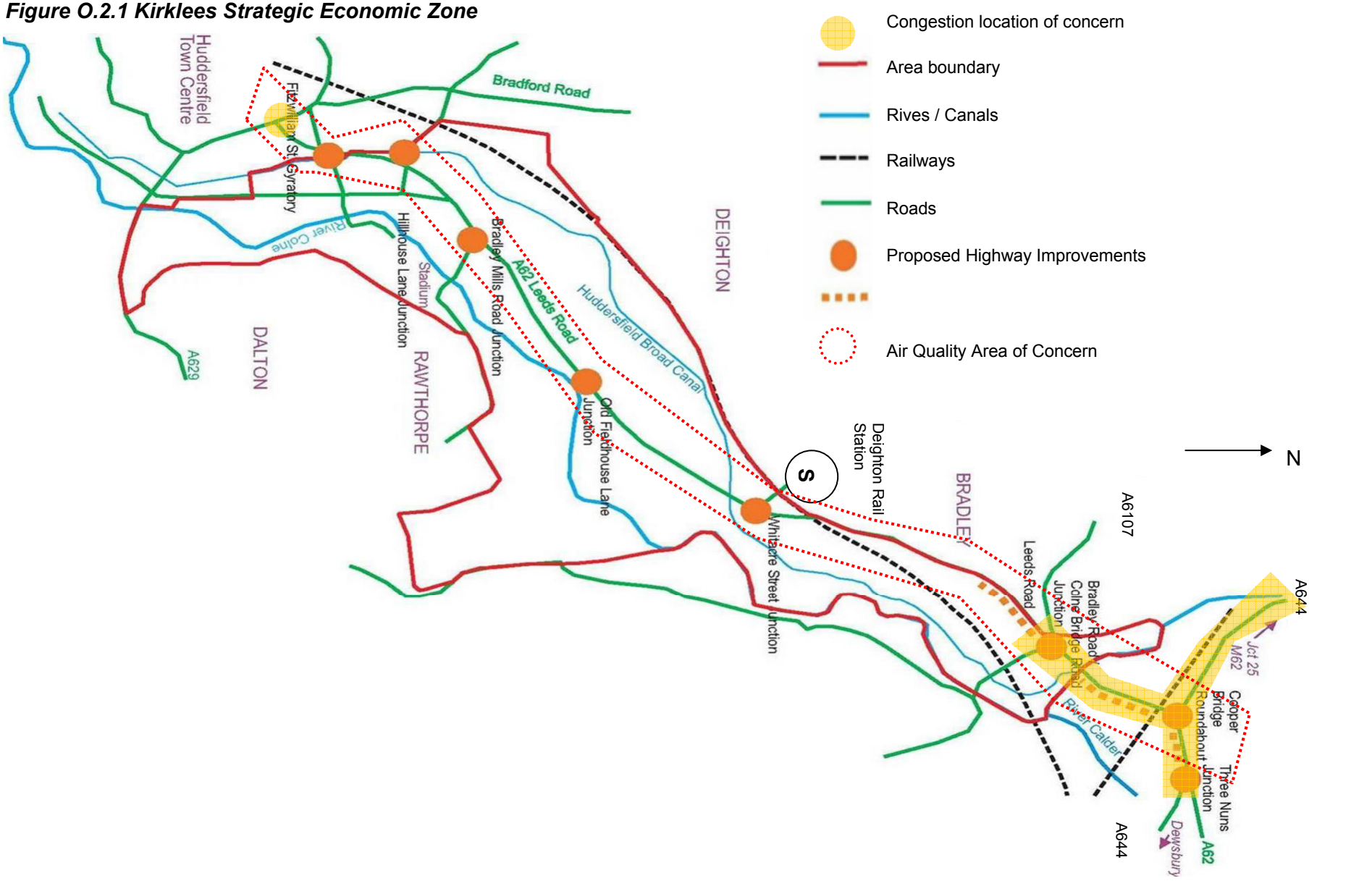
The nitrogen oxide Annual Air Quality objective is exceeded at several points, and modelling indicates that most of this pollution comes from traffic.

The A62 has therefore been identified as an Air Quality Area of Concern. It is at risk of exceeding at least one of the objectives set out in the National Air Quality Strategy, as indicated in Part 2.

As identified in Part 2, locations where traffic speeds are projected to decrease by 2011 and result in further air quality problems, are:

- the approaches and junctions adjacent to Cooper Bridge roundabout; and
- the A62 approach to Huddersfield Ring Road.

Figure O.2.1 Kirklees Strategic Economic Zone



FUTURE ISSUES

Critical Milestones

It is anticipated that between 2002 and 2012 approximately 90 hectares of largely brown-field land will be redeveloped within the KSEZ. Around 2,700 additional trips are forecast to be generated during each peak hour (based on assumptions of likely land use and historic trip generations from similar sites contained within a database known as TRICS).

Of these 10% are assumed as 'sustainable transport' trips influenced by the elements included in the transport strategy. It is intended that all new developments in the KSEZ will be required to develop and implement travel plans which will incorporate appropriate demand management measures.

Increased economic activity and development in the proposed KSEZ will result in increased numbers of vehicles travelling along the A62. Without any intervention the predicted traffic generation is an additional 17% of existing traffic in the morning peak. This equates to an increase in total vehicle delay and queuing of 10% in the morning peak, associated with development along the corridor.

A validated TRANSYT model of the A62 KSEZ corridor indicates that if the existing network has to accommodate all of the anticipated development traffic, delays in the morning peak will increase by:

- 6 minutes 19 seconds for traffic travelling southbound from A62 east of Three Nuns junction to Huddersfield Ring Road;
- 8 minutes 10 seconds to the Ring Road southbound from M62 Junction 25; to
- just over 9 minutes southbound from A644 east of Three Nuns junction to Huddersfield Ring Road

These equate to a 40 to 73% increase on existing inbound journey times in the morning peak. The modelled delays are of a similar order for outbound trips along the same sections of the network in the evening peak.

The predicted increase in vehicle numbers on the A62 is likely to raise the average annual level of nitrogen oxides in the short and medium term.

Economic Regeneration and Growth

The KSEZ is a major industrial and more general employment area in the town, having developed over the last century based on the textile, chemical and engineering industries. It is home to three of the largest private sector employers in the district.

Many of those traditional employment uses in the KSEZ now have reduced requirements for premises, creating surplus land and buildings. It is anticipated that this trend will continue over the next decade and beyond.

A total of 180 hectares is thought likely to be redeveloped over 20 years. The KSEZ transport strategy has been formulated however to allow 90 hectares to be redeveloped over 10 years.

Urban and Rural Renaissance

The nature and location of the A62 makes it the largest single area within Kirklees suitable for the growth of industrial and employment opportunities. Large areas of the brown-field land present an opportunity to accommodate future business needs in the district, helping to consolidate and grow the sub-regional economy.

MEASURES

To serve the infrastructure needs of potential developers of the KSEZ, a number of approaches have been considered:

- minor improvements;
- accommodating development traffic by unlocking under-used highway capacity; and
- accommodating development and existing traffic by carrying out major works.

The aim of the transport strategy is to accommodate the redevelopment of mainly brown-field land without adding congestion and delay.

Minor improvements, leaving the private sector to pay for major infrastructure works:

- will not accommodate development traffic;
- creates a risk that major developments do not occur (i.e. land sterilised);
- creates a risk that successful employers move away; and
- increases the risk of congestion reducing the attractiveness of the area.

Accommodating development traffic by unlocking under-used highway capacity:

- resolves some current congestion problems;
- is the likeliest to gain Highways Agency support base on preliminary discussions with the HA which are to be followed up in Spring 2006.
- accommodates 10 years of development traffic but major changes required thereafter (e.g. approaches requiring national policy change such as road user charging); and
- is estimated to cost £18 million
- is considered to be the most feasible option in the present financial and policy climate.

Any further increase in capacity of the corridor would require the route to be effectively turned into a dual-carriageway, and Huddersfield Ring Road and the A644 to the M62 to be improved. The cost would be in the order of £100-150 million which could not be funded. It would tend to encourage car growth which would not fit our policies. Furthermore, the Highways Agency would object based on preliminary discussions held to date.

Accommodating development and existing traffic by carrying out major works (such as dualling most of Leeds Road and the A644 to the M62 and improving much of Huddersfield Ring Road):

- could accommodate development traffic beyond the 90 hectares;
- has an order of cost estimated at £100 - 150 million, however finance is not currently available;
- encourages car use contrary to local and national Government policy;
- is unlikely to be supported by the Department for Transport or the Highways Agency as the proposals are too expensive; and
- would create difficulty in managing longer queues on the northern section of the network including M62 Junction 25, as traffic which could travel there quicker could further increase peak time delays.

The **preferred strategy** is the second option, accommodating development traffic by unlocking under-used highway capacity.

The full list of measures proposed within the overall transport strategy for the KSEZ is shown in the table that follows. The type of funding proposed is also identified.

The core measures include:

- layout changes to create additional bus priority, pedestrian and cycle facilities; and
- additional capacity to accommodate development traffic.

Complementary measures include:

- improved local cycling and walking links particularly to adjacent areas of deprivation;
- support to local bus services to address social exclusion issues;
- Bus SCOOT;
- air quality monitoring; and emissions testing and enforcement facilities

The focus is on junction improvements and their approaches, as the opportunities to either address congestion or enhance bus priority by increasing carriageway width, or re-allocating road space are limited.

The **overall impact of the preferred strategy** will be that the average delays experienced by all drivers across the network, including side road approaches will be roughly the same as in 2002. The junction improvements provide sufficient extra capacity to accommodate development traffic so the overall delay will not increase. There will be variations in specific journeys, with benefits for some and increased delay for others.

The TRANSYT model incorporating future land use development and with the strategy being implemented shows:

- delays from the M62 Junction 25 inbound to Huddersfield Ring Road in the morning peak are expected fall by over a minute;
- journeys from the north-east, i.e. the A62 and A644, will increase by an average of two minutes on current journey times rather than between 6 and 9 minutes if the strategy is not implemented;
- outbound journeys from Huddersfield Ring Road will reduce by an average of three minutes in the morning peak;

- outbound journey times in the evening peak will increase from Huddersfield Ring Road to M62 Junction 25, the A62 and A644 east of Three Nuns junction by between 30 seconds to just over a minute, while inbound journeys during the same period on average will remain the same; and
- bus journey times could reduce by 10-20% in the morning peak with, on average smaller savings inbound in the evening peak.

The potential increase in nitrogen dioxide levels in the short and medium term could be managed by improvements in engine technology which reduce nitrogen oxide emissions. This will lead (in the longer term) to lower nitrogen dioxide levels as older more polluting vehicles are replaced by newer less polluting vehicles. Emissions will be monitored along the corridor using continuous pollution monitoring equipment.

In addition, a purpose-built facility for testing vehicle exhaust emissions could be provided. This would allow action to be taken by the Vehicle Inspectorate (now VOSA) against offending high polluting vehicles that would fail the MOT emissions test which are about to enter the corridor. This should reduce the use of the corridor by high polluting vehicles.

Measures to strengthen the strategy

The strategy could be strengthened by upgrading and improving surfacing, lighting and signing on existing sustainable routes into the KSEZ area. Some of these may be footpaths, bridleways/cycleways/former coaching routes that cross the railway line from adjacent residential areas.

Further maintenance funding could be used to assist in the implementation and enforcement of travel plans supporting any capital investment in travel plan. This could be done through employing dedicated staff to advise businesses in the setting up of travel plans and to monitor their implementation.

Table O.2.1: Transport strategy measures for the KSEZ

Proposal	Description	£000's	Funding Source*
Transport Improvements – Phase 1 (completed)			
Bradley Road Junction Improvements	Junction improvement to increase capacity and to introduce pedestrian crossings.	1,100	Developer Contributions (DC)
Transport Improvements – Future Phases			
(i) Three Nuns/Cooper Bridge Gyratory	The replacement of the small signalled roundabout at Cooper Bridge with a larger signalled gyratory incorporating additional approach lanes to improve capacity, bus priority lanes, pedestrian and cycle crossings and the creation of a landmark gateway feature. Additional approach lanes and pedestrian crossings at Three Nuns junction.	8,900	Majority DC with some KMC/LTP2 funding
(ii) Cooper Bridge Road	Widening the carriageway to create an inbound bus lane and a lay-by to allow vehicle emissions testing and enforcement to take place.	3,300	KMC/LTP2 funding
(iii) Leeds Road Widening (Bradley Rd to Oakes Road)	The extension of the Huddersfield bound exit lanes at Bradley Road/Colne Bridge Road to further increase capacity and introduce measures to reduce accidents. (The junction itself was improved during 2005 as a condition of Bradley Business Park, to increase capacity and introduce pedestrian facilities.)	920	DC with some KMC/LTP2 funding
(iv) Whitacre Street Junction Improvement	An additional outbound lane to increase capacity and revised pedestrian facility.	1,300	DC with KMC/LTP funding
(v) Bradley Mills Road Junction Improvement	Layout changes to introduce new pedestrian facilities and reduce accidents.	370	DC with KMC/LTP funding
(vi) Hill House Lane Junction Improvement	Changed layout and method of operation to increase capacity.	120	DC
(vii) Pedestrian and Cycle Links	Improved links between residential areas and the new and existing job opportunities on the corridor.	250	KMC/LTP2 funding
(viii) Local Bus support	Continuation of the amendment of a bus route to link the Sheepridge, Brackenhall and Riddings housing estates with the employment opportunities on the corridor. (The amendments were introduced in April 2004 funded by Bradley Business Park under a Section 106 agreement.)	250	DC
(ix) Corridor Intelligent Traffic Control System	Modern traffic management technology to support the transport objectives for the corridor through traffic and environmental monitoring, more intelligent signal control systems, the provision of real time traffic information and bus priority through SVD and Bus SCOOT.	750	Part of Metro LTP2 budget for schemes over £200,000.
Environmental Improvements			
(i) Air quality monitoring	Additional permanent roadside monitoring equipment	130	KMC funding
(ii) Corridor Landscaping	Tree planting and landscaping to improve the visual quality of the corridor.	200	DC/KMC funding
Consultation and Fees		520	KMC funding
Total		**£18,110**	

Maximising Value from Resources

The measures aim to get better use of the highway network and maximise benefits by:

- encouraging sustainable transport through bus priority lanes and signals, pedestrian and cycle crossings and links to residential areas;
- unlocking under-utilised capacity in the highway network; and
- introducing modern traffic management technology through:
    - traffic and environmental monitoring;
    - more intelligent signal control systems; and
    - the provision of real time traffic information and bus priority through Selective Vehicle Detection (SVD) and Bus SCOOT.

Revenue Funded Schemes

All developments will be required to adopt demand management measures through Travel Plans including discounted Metrocards supported by KMC/Metro revenue.

Cross Boundary Actions

Calderdale Metropolitan Borough Council (CMBC) is considering Clifton Business Park development proposal. It is on approximately 16 hectares of land north of the M62, and would generate additional traffic on the A62.

Officers from CMBC and KMC have been working in partnership to identify the impacts of this development and the KSEZ, and to develop a joint strategy which will be presented to the Highways Agency. The proposed KSEZ transport strategy takes into account the impact of traffic from the proposed Clifton Business Park.

Links with LTP Objectives

The proposed schemes will contribute to the LTP2 objectives in the following way:

<u>Delivering Accessibility</u>

To improve access to jobs, education and other key services for everyone, by:

- improving access to job and training opportunities via local bus support; and
- supporting local economic growth while minimising long distance car commuting.

<u>Tackling Congestion</u>

To reduce delays to the movement of people and goods, by:

- improvements to a congested part of the network which retain and encourage more journeys by public transport, walking and cycling;
- improving journey time reliability for most travellers through junction improvements; and
- maximising use of the existing highway capacity along much of the A62.

<u>Better Air Quality</u>

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

- encouraging use of sustainable modes of travel; and
- enforcement of emissions policy.

<u>Effective Asset Management</u>

To improve the condition of the transport infrastructure, to:

- meet the needs of current and future transport users along the A62; and
- mitigate and adapt to the effects of climate change.

Links with the Community Vision

Part 1 refers to a shared community vision for West Yorkshire. The KSEZ schemes contribute to these by:

- serving the promotion and regeneration of the local economy, driving economic growth; and
- enhancing access to jobs for all but with an emphasis on people residing in local communities.

Links with Regional Economic Strategy

The proposed schemes by providing capacity and sustainable transport improvements along the A62, will contribute to delivering RES objectives by:

- stimulating 'enterprise' and 'investment' drivers supporting the creation of new business;
- assisting existing businesses to innovate and invest in becoming more productive;
- connecting people to employment opportunities especially from deprived local areas, maintaining diverse community employment opportunities;
- making the best use of the environment and infrastructure, to enhance sustainable transport links and minimise emissions;
- diversity – ensuring business realises its potential and contributes to an enhanced 'quality of life', benefiting, and involving local communities, and contributing positively to the economy; and
- enabling sustainable long term growth, minimising transport impacts and traffic emission levels, re-using brown-field sites with public transport access and maintaining local employment and competitiveness.

Consistency with the wider Local Corporate Planning Framework

The corporate planning framework currently underpinning decisions on land use is outlined in the Kirklees Unitary Development Plan (UDP). The KSEZ proposals are consistent with these through:

- encouraging developers to take appropriate measures to accommodate the demands generated by their developments; and
- development and land use changes being consistent with sustainable development principles and improvement to the built environment quality (e.g. development of brown-field land).

A core strategy for the Kirklees Local Development Framework (LDF) is emerging and has recently been through consultation. The core strategy includes a series of objectives to which the KSEZ strategy contributes to:

- securing an integrated public transport network offering convenient links within Kirklees and main centres outside the district; and
- ensuring new KSEZ development is well served by public transport.

These benefits will also contribute to transport objectives in the Regional Spatial Strategy and contribute to a potential LDF and central government objective of increasing the re-development of brown-field land.

Links with other Sectors

The transport strategy forms part of the Strategic Framework for the development of the KSEZ alongside the regeneration and land use planning strategy for the area. The transport proposals also contribute to the delivery of the KSEZ as a key development area in the emerging local development framework. The mechanism by which the Council will secure private contributions is included in the Supplementary Planning Document for the KSEZ.

The need for improved access to employment and training opportunities has been considered through joint working between the Economic Development, Planning and Highways and Transportation Services of the Council together with the bus operators and Jobcentre Plus.

This has:

- resulted in a bus route being diverted to provide more local bus services serving Bradley, Brackenhall and Sheepridge to the KSEZ; and
- allowed local recruitment by Instore when their head quarters moved into the Trident Business Park.

Provision of more direct services to the KSEZ than those at present from Rawthorpe and Dalton, will be considered when the infrastructure layout of future development is designed.

A strategic flood risk assessment of Kirklees and Wakefield areas has been carried out on behalf of the Environment Agency. It is not anticipated at present that the outcomes of this work will have any impact on the amount of traffic generated on the A62 corridor. It may affect the location and points where development traffic accesses the highway network.

Partnership Working

The strategy has:

- been developed by a range of services across KMC;
- included input from bus operators and Metro;
- involved CMBC in relation to the potential impact of the Clifton Business Park; and
- involved KMC and CMBC working with the Highways Agency to assess and address the impacts of development traffic on M62 Junction 25.

PERFORMANCE MANAGEMENT

Contribution to targets

The KSEZ strategy will contribute to a number of the targets in LTP2.

Overview

Mandatory Target M2: Bus Punctuality

- *Contribution* – Positive but slight in the context of an overall West Yorkshire target

Mandatory Target M3: Satisfaction with local bus services

- *Contribution* – Positive but slight in the context of an overall West Yorkshire target

Mandatory Target M8: Public Transport Patronage

- *Contribution* – Positive but slight in the context of an overall West Yorkshire target

Local Target L3: : Change in peak period traffic to Wakefield Urban Centre

- *Contribution* – Positive and moderate

Local Targets 7 and 8: Air Quality

Contribution – Positive and moderate

The reduction in peak time delay along the A62 will improve bus punctuality (mandatory target M2) and lead to an increase in satisfaction with local bus services in the area (mandatory target M3).

The infrastructure improvements will be supported by softer measures such as travel plans to reinforce sustainable travel as an option for commuters. Both will contribute to encouraging greater patronage of public transport (mandatory target M8), as services to adjacent residential areas will be enhanced.

This in turn is intended to have a positive contribution in improving the modal split of trips to Huddersfield in the morning peak to existing levels

The strategy includes an element for air quality monitoring and inspection, which is expected to have a modest but positive impact on air quality. Facilities will be used to contribute to reductions through vehicle inspections and monitoring nitrogen oxide and carbon dioxide road traffic emissions (local targets L7 and L8).

Identification and management of risks – target achievement

An explanation of the key risks and approaches to managing risk in achieving the targets in relation to this corridor strategy is detailed in Part 4.

Delivering some of the targets is dependent on decisions taken by external partners. For example bus operators who are important for ensuring public transport objectives can be met for the corridor. The risk (which is a general one) is in relation to them operating in the private sector, and being income driven. This means that any long term decline in passenger income may lead to reductions in service frequency and therefore scheme benefits. KMC will continue to work with bus operators to reduce this risk.

Identification and management of risks – scheme development/implementation

The scheme development is advanced with an early phase implemented in 2005. A bus route has been modified to connect the job opportunities on the corridor with residential areas using Section 106 monies. Further works are programmed to commence early in 2007.

The critical risk for this corridor is that private developer contributions may be difficult to obtain due to the additional cost and other charges in bringing brown-field land back into use e.g. contaminated land and flood risks. If funding is not received from the private sector, the developments are unlikely to take place.

There may also be a risk associated with bus operators withdrawing services, undermining the value of bus priority measures. Service

levels are high, particularly through Cooper Bridge roundabout and the Three Nuns junction so modest reductions would still mean that priority measures would generate justifiable benefits to bus journeys. If this was not the case then the public transport elements of scheme would not be provided and the justification of the improvements would be jeopardised.

Effects upon journey times from Mirfield (north of the A644 in the north-west) to Huddersfield may be very controversial during consultation. Car journeys are predicted to increase by two to three minutes in the morning peak, however, the bus priority measures will reduce bus journey times. Other journeys times along the corridor are estimated to be about the same or slightly quicker at peak times.

An additional risk is that the Highways Agency may not accept the transport strategy. If this occurs, KMC would have to review the strategy (both the improvements proposed and the proposed amount of developable land). To manage this risk KMC have had preliminary discussions with the Highways Agency and which be followed up in Spring 2006.

The role of UTMC and Traffic Managers to help achieve the desired outcomes

The strategy for the A62 includes financial provision to install an UTMC system. This will assist in enhancing traffic control especially through the congested sections of the network (A62 from Three Nuns junction to the Bradley Road junction) to optimise bus journey times and minimise delays to other traffic. Effective queue management on the A644 is important in prevent traffic queuing at peak times on to M62 at Junction 25.

The Traffic Manager will have a role to ensure that traffic flow is maintained. This will assist in securing the benefits of the various bus priority measures proposed for the A62 corridor and minimise incidents that disrupt traffic flow on the ground. This action will also ensure the effective operation of the improved junctions along the corridor.

Approach to budgeting, control of costs, and securing partnership funding from non-LTP sources

The cost of the proposed measures, although amounting to a major scheme in terms of cost, has not been approved for submission as a major scheme bid. It is currently intended to fund the works with a mix of developer and Government funding. An indication of how each element of the strategy will be financed is detailed in the table that follows.

Of the total strategy cost of £18.110 million, £1.100 million has already been spent on Phase 1 improvements to the A62 Leeds Road / A6107 Bradley Road junction.

Of the remaining £17.010 million around £11.910 million is being sought from the private sector through developer contributions with the remaining £5.1 million from KMC.

The total KMC contribution of £5.1 million will comprise:

- £1.5 million from LTP2 as a contribution to bus priority, local bus support and pedestrian, cycle, accident reduction and air quality mitigation measures; and
- £3.6 million from other KMC sources.

The amount each developer contributes will be based on the increased trips generated from their proposed development in the peak hour.

The Draft Supplementary Planning Document: UDP policy T10: Developer Contributions - Transport (Leeds Road, Huddersfield) provides the statutory basis for this levy, and is one of the elements of which the KSEZ consultation is to commence on January 27 2006.

(NB. Modelling work which is quoted in the text is to be finalised so all figures in the text are indicative.)

DESCRIPTION OF CASE STUDY AREA

This case study focuses on Wakefield city centre and the A61 north to Outwood. Wakefield is an area identified for employment growth in the Regional Economic Strategy, and for regeneration in the Regional Spatial Strategy. The city centre in particular is a site for three Key Development Areas (KDAs) during the LTP2 period.

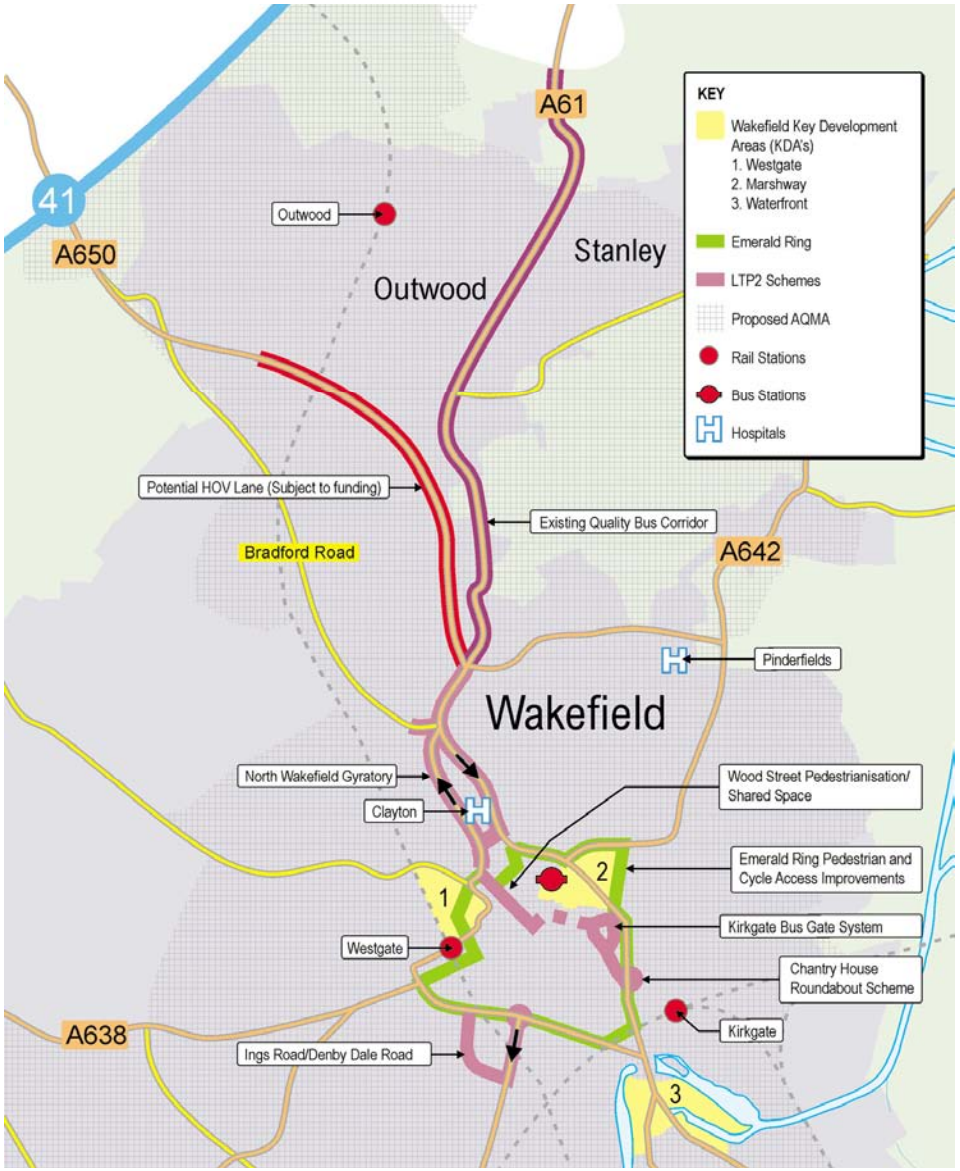
The northern approach to Wakefield is a key corridor for movements between Leeds and Wakefield. It includes the Wakefield and Hallam rail lines, the A61, A650 and Bradford Road. On average, 9,500 people per day access the north of the city using the A61, and around 21% (2,000) of these people travel by bus using the existing Quality Bus Corridor.

In comparison around 20,000 people per day access the north of the city using the A650, which links directly to the M1. No bus routes serve the A650 at this time.

Traffic using the A61 and A650 approaches to the city is joined by traffic from Bradford Road, carrying an estimated additional 4,700 people per day. Quantified numbers of people making this journey by bus are not available at this time but frequent services operate on this route.

Around 12,000 people per day travel to and from Wakefield using the two railway stations (Wakefield and Kirkgate).

Figure O.3.1 Wakefield City and Northern Approach Case Study Area



CURRENT ISSUES

The LTP2 consultation revealed that the public's top three local transport problems are:

- congestion for trips into Wakefield; and
- long travel times for trips into Wakefield; and
- the poor condition of the roads, cycle lanes and pavements.

Fifty-five per cent of the public were referring to these issues in the context of their journey to work.

In addition to the consultation, analysis has indicated particular issues in the case study area related to:

- air quality objectives for nitrogen dioxide being exceeded across the city;
- under-utilisation of rail at Kirkgate station in comparison to service provision;
- a relatively low use of cycling and walking as an alternative mode; and
- particular road safety issues at the Ings Road / Denby Dale Road roundabout.

Air Quality

Areas of Concern

Air quality modelling indicates that the annual mean objective for nitrogen dioxide is exceeded in the majority of the city of Wakefield, whilst PM_{10} particulate matter is likely to become an issue towards the end of the LTP2 period.

In response to this, consultation is in progress over a proposal to declare an extensive Air Quality Management Area (AQMA) over the city of Wakefield (see accompanying map).

Transport is estimated to be contributing to 55% of the air quality problems experienced in Wakefield (based on evidence used to model local emissions in 2005). Air quality modelling of the junctions within Wakefield city centre confirms that they are a significant source of nitrogen dioxide.

Background Emissions

The M1 motorway is in close proximity to Wakefield and is itself a significant source of background emissions of nitrogen dioxide.

During the LTP2 period, the Highways Agency plans to:

- widen the M1 within Wakefield to four lanes (both directions); and
- employ ramp metering to manage access to the motorway junctions in Wakefield for local traffic.

This will have knock-on effects for traffic and air quality on local roads that have yet to be modelled/quantified by the Highways Agency or WMDC.

The Highways Agency has employed consultants to develop VISSIM and SATURN models of the impacts of the changes at the junctions. WMDC have contributed to this ongoing work, with information from their own, developing SATURN model.

Congestion

The analysis of ITIS data indicates congested conditions on the A61 approach to the city, as average speeds are less than 70% of the speed limit in the morning peak period.

Observation has shown that significant delays are being caused by queues waiting to access junctions at peak times. Some journey time monitoring has been carried out in Wakefield to establish a baseline for the quantitative analysis of congestion.

Rail Use

Rail travel to Wakefield city centre doubled between 1998 and 2004 and this strong trend is expected to continue in line with the economic growth prospects of the city and Leeds. However, Kirkgate station remains relatively under-used considering the amount of services stopping there. It is likely that this is due to it being generally perceived by users as less accessible and secure in comparison to Westgate.

Bus Use

Bus travel to the city centre in the AM peak has fluctuated around a flat trend since 1998. A Quality Bus corridor has been in operation on the A61 since 2002 and the route has a high level of patronage.

Cycling

The 2001 census recorded that only 1.4% of residents cycle to work in the district, which is below the national average of 2.8%.

The number of people cycling into Wakefield city centre is also low, recorded at 72 in 2004/5. This is thought to be an underestimate as there are other cycle routes through the cordon that are not being surveyed. Additional survey points have been created to increase the rigour of the survey and improved monitoring techniques will reflect changes related to off road routes more accurately.

Walking

There has been strong growth in the number of people walking to the city centre in the peak period but numbers are still relatively small in comparison to car modal share (e.g. walking share was 4% in 2005).

Safety

The Ings Road/Denby Dale Road roundabout is a location of concern for safety. Over the past five years there were 33 slight and three serious casualties (one involving a pedestrian). The majority involved cars, vans or lorries crashing into each other. Two crashes involved cyclists and two involved pedestrians.

Perceived road danger is a barrier for pedestrians and cyclists travelling to the city centre via the existing walking and cycling routes.

FUTURE ISSUES

Economic Regeneration and Growth

Over the LTP2 period work will begin on three major KDAs that are planned to help regenerate the city. These are:

- Marsh Way;
- Westgate; and
- Waterfront.

Marsh Way will include a supermarket, department store, retail units, residential units, new market hall, relocated open market, library and car parking integrated into the city. The scheme will entail re-routing part of Marsh Way dual carriageway on the eastern side to the city centre.

Westgate is a commercial redevelopment project, centred on the Westgate area and including the redevelopment of Westgate railway station. It will include a hotel, offices, leisure and substantial new housing, a multi-storey car park, landscaping and highway works.

Waterfront will be located at the southern gateway to the centre. The core site is a five-hectare brown-field site located in the Waterfront conservation area. The development includes restoration of listed warehouses/mills, some new build and public realm works for commercial, cultural, leisure, residential and open space land uses. A significant new visitor attraction, the Hepworth Gallery, will be built on the waterfront headland. This will be complemented with a connecting pedestrian bridge over the river (work is to start in Spring 2006 and be completed in 2008).

<u>Employment</u>

Econometric forecasts by Yorkshire Futures are for employment in the district to grow by around 4,000 by the end of the LTP2 period. Most of the new employment will be located within the Wakefield city area.

WMDC estimates that around 93% of this new employment will be for the three KDAs and three other, smaller cultural projects to create around 3,700 jobs (full-time equivalent).

The remaining 300 jobs will be provided by a new call centre planned at Paragon business Park. Subject to planning permissions this has potential for more employment in the future. Since the park is north of Wakefield city and close to the M1 it is less important in terms of commuter traffic entering the city centre, nevertheless some impact on city centre traffic levels can be expected from this source.

The transport assessments for the three KDAs reveal that they will attract and generate substantial levels of additional travel. The total trip generation is forecast at 1,700 trips in the morning peak and 2,200 trips in the evening peak. If the same distribution on the network for current conditions is assumed, and all trips are assumed to be made by car, this results in the potential for the following additional trips on the main arterials into the city in the morning peak period:

- 58% on the A650, 900 trips;
- 28% on the A61, 500 trips (100 of which would be by bus based on current mode

share); and

- 14% on Bradford Road, 200 trips.

Forecasts based on census data of the impact of future increases in employment in the district are to increase the inbound peak period traffic levels across the cordon by 3% (850 cars). This puts the forecast of 1,700 trips into perspective indicating a potential increase of less than 5% if rail share is considered.

Recently introduced limited stop passenger trains stop at Kirkgate serving Sheffield and Leeds and frequent GNER services call at Westgate to and from Leeds. This provides sufficient capacity to easily accommodate a 10% growth in rail patronage.

The impact of these additional trips will be phased over the LTP2 period as the following timing for the developments is expected:

- Marsh Way – due to commence in January 2007 and be completed within the LTP2 period;
- Westgate - due to commence Phase 1 in November 2006, but will only be partially completed by the end of the LTP2 period; and
- Waterfront – due to commence in June 2006 but will be only partially completed by the end of the LTP2 period.

Housing

For the case study area the Local Development Framework Core Strategy preferred option for net additional housing in individual settlements is 310 per year for the plan period of LTP2. Forecast increases in city centre living in Wakefield are for some 1,600 residents within the next five years.

Depending on their chosen employment destination this has the potential to only slightly reduce the flow of commuter car trips across the cordon.

Promoting Social Inclusion

Hospital centralisation is proposed in Wakefield. The re-organisation will involve the closure of Clayton hospital (located close to the city centre on the A61). Pinderfields General Hospital (Wakefield) and Pontefract General Infirmary will re-organise their health service provision. This will generate new issues for accessibility to healthcare services that cannot be assessed yet, due to a shortage of detailed information about the proposals.

Urban Renaissance

Wakefield is one of six towns in the region to be designated a 'Renaissance town', by Yorkshire Forward. Completion of the three KDAs discussed earlier will make a considerable contribution to the urban renaissance of Wakefield.

Conserving and Enhancing Natural Resources

Investigations into trends for modal split in Wakefield have shown that for non-car modes to hold their own share against the car, they must grow at about three times the rate of that of the car. This suggests significant investment is needed to encourage more sustainable travel choices.

Summary of Future Issues

The most significant transport impacts for the future of this case study area are:

- the potential designation of the AQMA; and
- the need for significant investment to encourage more sustainable travel choices, and limit the potential growth in car use associated with the KDAs and new housing.

MEASURES

Consultation identified that the top ranked solutions to addressing the public's top three local transport problems were:

- measures to reduce congestion;
- improved bus services; and
- lower public transport fares/better ticketing arrangements.

A discussion is presented below on the overarching strategy measures that were considered for addressing the current and future issues for this case study area.

Strategy approach C2: Managing the demand for travel was considered in relation to:

- road space re-allocation through bus priority;
- road space re-allocation through High Occupancy Vehicle (HOV) lanes;
- parking charges; and
- smarter choices.

Road space reallocation through **bus priority measures** could improve accessibility to the city centre for people without cars, through improved journey times and reliability, particularly during peak periods.

This type of measure has been selected because:

- bus priority has been demonstrated to achieve significant journey time savings and some corresponding increases in bus patronage in the Leeds and Bradford districts; and
- bus travel into the city in the morning peak has fluctuated around a flat trend since 1998.

Recent and planned bus priority measures have the potential to increase the share of this mode. Allowing for a 1% growth in morning peak bus patronage by the end of the period the modal share is forecast to remain roughly constant throughout the term of the plan.

Proposed Measure: *Schemes costing more than £200,000*

North Wakefield Gyratory

Extensive junction improvements, assisting bus priority, cyclist and pedestrian movements.

Proposed Measure: *Revenue funded schemes*

Public transport development

In partnership with bus operators Metro plan to improve the existing services connecting into the A61 Quality Bus Corridor

Initial investigations indicate that **HOV lanes** on the A650, where public transport is a less viable alternative, may have scope for reducing car flows.

Findings from a recent before and after study of a 1.5km HOV lane on an approach into Leeds city centre has been used to estimate the impact of a similar proposal on the A650 in north Wakefield. It is estimated that average morning peak journey-time savings of around two minutes per person are possible. Other things being equal the reductions in traffic flows in the peak resulting from higher occupancy and less vehicles on the route are estimated to be in the region of 10%.

Proposed Measure: *Schemes utilising the Transport Innovation Fund*

A proposal for HOV lanes on the A650 may be pursued as part of a 2006 Transport Innovation Fund bid.

Long-stay **parking charges** at public car parks in the city centre are on average the second highest in West Yorkshire (Leeds prices being the highest).

A recent study conducted for the Wakefield Parking Strategy estimated that potential impact of demand management through control of long-stay parking prices has a weak potential. Particularly given that the amount of local authority long-stay parking provision in the core of the city is relatively small compared to the general level of private non-residential provision.

WMDC is committed to the **long term LTP2 policy** to:

- increase long stay car parking charges by more than the rate of inflation; and
- reduce the volume of spaces available

In the event of the success of this policy, a significant number of cars will still be attracted to the city centre, continuing to contribute to congestion.

Alternative measures may be necessary in the longer term to reduce the number of private cars in the city centre and on the radial approaches.

A range of measures were considered and are proposed under the umbrella term of '**smarter choices**'. They have the potential to reduce traffic flows into Wakefield depending on the degree of take up by employers, and the extent to which they are promoted and supported by the provision of facilities.

Department for Transport findings from 'Making Smarter Choices Work', 2003 give indications that:

- if given favourable circumstances workplace travel plans can reduce solo car use by around 10-25%;
- half of all schools engaged in School Travel Plans may indicate a noticeable traffic reduction; and
- in some situations tele-working and tele-conferencing have the potential to reduce work and commuting trips by as much as a third and improve performance of staff significantly.

It is too early to be able to evaluate whether the Wakefield car-sharing scheme has had any impact on mode share.

Proposed Measure: *Revenue funded schemes*

Smarter Choices – Travel Plans

WMDC are currently in discussion over the potential for Travel Plans with the two hospitals. This is in preparation for the change in travel patterns resulting from the reorganisation of the services provided by the hospitals and the closure of the Clayton Hospital site on the A61.

New employers at all three KDAs will be expected to have Travel Plans in place. A particular focus on travel planning will be directed towards employers at the Westgate development due to it's proximity to the railway and bus stations. Travel planning commitments made by employers will be complemented by support from the WMDC travel planning function.

Implementation of Wakefield MDC Corporate Travel Plan is scheduled for autumn 2006.

Other travel planning initiatives will be targeted at employees of organisations in the city centre.

WMDC will continue to sponsor an on-line car sharing network (wakefieldcarshare.com), free to use for all organisations in the district. This will enable a more efficient use of the car for commuter journeys.

Strategy approach A6: Raise awareness pf public transport and improve information was considered in relation to service and infrastructure improvements.

In response to community feedback, **making visual improvements to public transport** was selected. This is important for raising awareness about the level of existing public transport service provision. This is supported by the national findings that:

- one in two people do not realise that public transport is a choice; and
- that for every six people who change mode from a car, one goes to public transport and five go to active modes (walking or cycling).

The finding above can be usefully compared to census data findings in the district, showing that of the two fifths of residents that live within 2km of their workplace, 48% commute this distance by car.

Proposed Measure: *Metro schemes costing more than £200,000*

Passenger Waiting Areas – YBI Routes

As part of Metro's bus shelter installation and replacement programme, bus stop improvements relevant for this case study area are proposed for Bradford Road.

RTPI system development

Real Time Passenger Information is proposed for some stops on key bus routes in Wakefield. The location for these is yet to be identified.

Proposed Measure: *Revenue funded schemes*

Take up of the West Yorkshire Metrocard pre-paid ticket will be promoted. A greater number of passengers can benefit from cheaper fares and ticket interoperability between bus operators by using the card.

Options considered in relation to strategy approach C3: Making the best use of existing capacity for this case study area include:

- UTMC improvements;
- traffic gating; and
- junction improvements.

Making improvements simply through **UTMC** improvements were ruled out by the complexity of the structure of the existing junctions.

Traffic gating will prioritise traffic needing access to one of the new key developments in the city centre at Marsh Way. At the same time it will strengthen the enforcement of bus priority on key bus routes running through the city centre. It will ensure that the development is economically viable and secure journey time savings for bus passengers currently delayed by vehicles violating the existing traffic regulation.

Proposed Measure: *Schemes costing more than £200,000*

Kirkgate Bus Gate

Rising bollards to give bus priority.

Junction improvements on the northern approach to the city centre and in the core of the city itself were considered and selected for the LTP2 capital programme. A SATURN traffic model is being constructed to model the likely impact of these proposals on traffic movements.

The consideration of junction improvement seeks to address Government guidance on AQMAs for Wakefield Metropolitan District Council (WMDC) to focus on addressing emissions from road junctions.

A high priority for junction improvements will be to incorporate measures to give:

- buses greater priority than they already have;
- provision for cyclists (either on the carriageway or by shared use); and
- improve accessibility for pedestrians.

More radical infrastructure based solutions have been ruled out by consideration of the issues of public acceptability and consequential detrimental environmental impact.

Proposed Measure: Schemes costing more than £200,000

North Wakefield Gyratory

Extensive junction improvements, assisting bus priority, cyclist and pedestrian movements.

North Wakefield Gyratory could be funded as part of the YBI roll-out, bonus funding, or major scheme funding.

Funding has been allocated with LTP2 to address the specific issues at the Ings Road/Denby Dale Road roundabout.

Proposed Measure: *Schemes costing more than £200,000*

Ings Road/Denby Dale Road Roundabout

This is a local safety scheme.

Improvements to cycling and walking infrastructure were considered to address concerns about the:

- condition of paths; and
- the relatively low demand for cycling and walking.

Consultations have revealed that there are barriers that discourage cycling to the city centre that may be alleviated with the help of infrastructure provision/improvements.

The use of a cycle and walking periphery around the city centre (named 'The Emerald Ring') was considered to:

- improve access for the city centre for walkers and cyclists;
- assist to reduce pedestrian and cycle severance effects; and
- benefit those groups with no access to a car, which depend on walking or cycling to access the city centre.

The use of a segregated route has been selected for this case study area because recent experience with the Spen Valley Greenway and other Sustrans schemes in the Yorkshire and The Humber Region suggest

that high levels of growth have been obtained on isolated routes.

Consultation influenced the concept of the 'The Emerald Ring' and associated improvements to accessibility, and this has received public approval in preliminary consultations conducted by Yorkshire Forward. There will be further consultation through the Local Development Framework, Central Wakefield Area Action Plan.

The economic and community benefits of pedestrianised streets in city centres are, by now, well known. More pedestrianisation in the city centre is an essential element of Wakefield's Urban Renaissance strategy. The addition of Wood Street to the existing foot-street network will extend the benefits over a wider area.

Proposed Measures: Schemes costing more than £200,000

Wood Street

Pedestrianisation scheme.

Cycling and Walking Schemes

A combined cycling/walking scheme proposed for city centre and approaches is the 'The Emerald Ring'. This seeks to encourage greater cycle use and more walking.

Do Nothing

Doing nothing would result in increased congestion. The outcomes would be expected to be further deterioration in air quality and longer journey times for all highway users. Traffic might grow at a faster rate than it would in the absence of these measures.

Analysis of past trends indicates that doing nothing would mean that morning peak traffic would increase at a higher rate closer to 5% over the LTP2 period rather than 3%. A 1% growth in morning peak bus patronage by the end of the period may not occur. The potential for cycling growth of 20% over the plan period would be greatly reduced.

Measures to strengthen the strategy

Specific projects in the RTS include Improvements to Westgate Station, listed under Leeds-Sheffield Rail Improvements and North South Strategic Rail Links for passengers and rail freight.

A major scheme funding bid was submitted to the Department for Transport in July 2005 for capacity improvements at Wakefield Westgate rail station. The improvements proposed include platform lengthening and up/down passing loops.

Maximising Value from Resources

The measures proposed seek to harness the benefits of existing infrastructure rather than provide new infrastructure. They are considered to bring a better level of benefits relative to their cost, compared to other options. For example bus priority though UTMC improvements alone would bring some benefits to bus passengers but less overall when the impact on other users of the junctions are also taken into account.

The Westgate station proposal is a redevelopment of an existing railway station.

Links with LTP Objectives

The proposed measures will contribute to the LTP objectives in the following way:

Delivering Accessibility

To improve access to jobs, education and other key services for everyone, by:

- improved pedestrian and cycling accessibility; and
- promotion of greater social inclusion through improvements to public transport infrastructure and services, and pedestrian and cycling infrastructure.

Tackling Congestion

To reduce delays to the movement of people and goods, by:

- improved bus service reliability; and
- reduced delays to buses.

Better Air Quality

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

- encouraging a modal shift to public transport, walking and cycling through improved infrastructure, leading to air quality improvements.

Links with the Community Vision

The aims and proposals in this case study area are consistent with the Community Strategy for Wakefield. Particularly the priority to improve transport choice and make it easier to get around.

The priority states that WMDC will:

- reduce the need to use private cars through better siting of developments, the provision of transport information, improvements to the highway network for pedestrians and cyclists and the active promotion of cycling across the District;
- look to improve the highway network in a balanced way to meet the needs of communities and business; and
- create an environment to encourage and enable accessibility including safer journeys, equality issues and quality facilities.

Links with the Regional Economic Strategy

The proposals within the case study area accord with the policies and objectives in the Regional Economic Strategy, in particular:

- Objective 5:Transport Infrastructure and Environment; and
- Objective 6: Stronger Cities, Towns and Rural Communities.

Consistency with Wider Local Corporate Planning Framework

The proposed measures for this case study area (and LTP2 targets) will be part of the Local Development Framework, Central Wakefield Area Action Plan.

The corporate car sharing scheme is part of the corporate planning framework as is the forthcoming Corporate Travel Plan.

Links with Other Sectors

The are two large private sector schools on the A61 route and a city centre Further Education College campus. There are large proportions of bus and rail users as well as pedestrians within the catchment for these organisations. WMDC Travel Planning will help to ensure that these organisations are able to 'lock-in' the benefits from these improvements.

Another example of working with other sectors is the discussions between WMDC and the Primary Care Trusts in Wakefield to develop Travel Plans. This is to address the change in travel patterns associated with the two large hospitals undergoing a reorganisation of their health service provision and a third, smaller hospital closing.

Partnership Working

There is a great deal of partnership working throughout the case study area, especially in connection with bringing forward the three KDAs. For example, funding partners for the Wakefield Waterfront development include the European Regional Development Framework, Yorkshire Forward, English Heritage, the Arts Council England and the Heritage Lottery.

WMDC expects to also be working in partnership with the Highways Agency and Department for Environment Food and Rural Affairs over the prospective Air Quality Action Plan that will follow any declaration of new AQMAs in Wakefield.

PERFORMANCE MANAGEMENT

Contribution to LTP2 Targets

Overview

Mandatory Target M8: Public Transport Patronage

- *Contribution* – Positive but slight in the context of an overall West Yorkshire target

Local Target L2: Increase in local cycling levels

- *Contribution* – Positive and significant

Local Target L3: Change in peak period traffic to Wakefield Urban Centre

- *Contribution* – Positive and significant

Local Target L6: Morning peak period modal split to Wakefield Urban Centre

- *Contribution* – Positive but slight as a result of background economic growth

The measures are likely to have:

- **A positive but slight contribution to Mandatory target M8**: Public Transport patronage

  The LTP2 bus patronage target is for a 5% growth in all day bus patronage across the whole of the county. Census data findings show that commuting by bus in Wakefield declined by 23% in the decade prior to 2001.

  During the same period car commuting grew by almost 15%. Wakefield has the lowest level of public transport patronage in the West Yorkshire county.

  The proposals in this case study area:

  - *concern only a part of one area within the Wakefield district*
  - *concern a small proportion of the whole county*
  - *are mainly concerned with improving journey times for the peak periods, where passengers are currently experiencing delays.*

  Assuming that the measures were very successful in increasing bus patronage this positive effect could only contribute slightly to the target of increasing the overall all day bus patronage in West Yorkshire.

- **A positive and significant contribution to Local Target L2**: A 20% increase in cycling trips to Wakefield city centre during the AM Peak (0730-0930) by 2010/11.

  Given the low base of cycling measures in 2004, a 20% increase equates to a very small absolute increase of just 14 cyclists. This figure is very low and there is evidence suggesting that some trips may have been escaping measurement. In response, improvements to cordon monitoring arrangements have been made.

  Given the scale of the investment in cycling infrastructure planned for radial routes into the centre, complemented by the significant contribution of Emerald Ring and Smarter Choices work discussed above, the target growth should be achieved.

- **A positive and significant contribution to Local Target L3**: Morning peak period modal split to (Wakefield) urban centre.

  The target here is for no change in the proportion of the modal split representing the car over the LTP2 period.

  Based on past trends in Wakefield modal share, it has been estimated that for every one-point growth in the demand for car use there has to be a corresponding three point growth in non-car modes for the modal split to remain unchanged.

  The measures and initiatives proposed in the corridor study will contribute significantly to the growth in non-car travel to the city centre over the LTP2 period.

- **A positive but slight contribution to Local Target L6**: Change in peak period traffic flow to Wakefield urban centre (0700-1000)

  This target is currently set at +3% additional traffic by the end of the LTP2 period.

  A number of factors will contribute to an increase in the demand for travel to and from the city centre over the LTP2 period. They are driven by background economic growth e.g. the three KDAs. Other factors will act to reduce the rate of growth in the demand for travel in the morning peak period, e.g. more city centre living, and the parts of the measures identified in the corridor study that reduce the relative generalised cost of non-car modes.

  The measures proposed in this study therefore contribute a slight reduction to a rate of traffic growth in the peak period that would otherwise be higher were they not to be implemented.

Identification and management of risks – target achievement

The following critical risks have been identified for the proposed package of measures for this case study area:

- the level of take up and degree of commitment to Travel Plans by employers;
- motorway related traffic is largely responsible for poor air quality in the district. Although liaison with the Highways Agency will be sought over air quality issues in the district, the motorways are ultimately outside of the control of WMDC;
- scheme delivery may fall behind schedule due to unforeseen circumstances;
- developer investment may not occur (affecting Westgate Station in particular);
- maintaining bus operator commitment to sustaining a strong social bus network throughout the programme period;
- a down-turn in the economy could affect the potential for the completion of the KDAs; and
- new city centre housing may attract a large proportion of longer distance commuters working in Leeds. Should it be strong enough, the potential increases in demand for peak hour rail travel may eventually exceed the capacity.

Risks linked to the involvement of external parties will be minimised through a continued dialogue and engagement with residents, bus operators, public transport user groups, developers, employers and other partners/stakeholders. Internally, scheme delivery risks will be minimised through the implementation of a bespoke LTP2 financial and project management software package.

Alternative Actions

If the outcomes are not being achieved, the alternative courses of action includes the consideration of stronger demand management measures. This is most relevant if economic growth and concomitant traffic growth are much higher than expected.

The development of such a proposal would have a very lengthy lead in time and would be very unlikely to be implemented during the life of LTP2. All other alternative courses of action suffer, to a greater or lesser extent, from the same difficulty.

Identification and management of risks – scheme development/implementation

A particular risk related to scheme development is the consultation in relation to public acceptability. With careful planning and management the time available for scheme development is considered sufficient.

The role of UTMC and Traffic Managers to help achieve the desired outcomes

UTMC alone does not address the core issues but could be used to enhance the scheme post-implementation to optimise junction performance.

Traffic Managers could help mainly through the ongoing monitoring of the changing conditions and data collection.

Approach to budgeting, control of costs, and securing partnership funding from non-LTP sources

WMDC will procure software that will enable comprehensive monitoring of programme spend and progress towards targets/outcomes. Project 'drift' and cost escalations will be more easily managed and contained than previously.

Developer contributions to the highway projects will be secured through the planning process.

DESCRIPTION OF CASE STUDY AREA

This case study for the Castleford urban area encompasses:

- The town centre;
- Glasshoughton near M62 Junction 32;
- Normanton and Whitwood near M62 Junction 31; and
- The Airedale estate.

Castleford (38,000 population) is in the north east of Wakefield district. It is one of the Five Towns (also including Pontefract, Featherstone, Normanton and Knottingley) identified in the RSS as a priority area for investment. The Five Towns are at the heart of the Northern Growth Corridor and are part of Yorkshire Forward's Urban Renaissance programme.

The main industry of the Five Towns used to be coal mining. Thus, as this industry declined through the 1980s and 1990s there was a corresponding decline in the area's economy. Most recently the Prince of Wales colliery (adjacent to M62 Junction 32 between Pontefract and Glasshoughton) closed in 2005. Chemical works close to Castleford town centre have provided employment for many years, but these too have begun to close down.

In recent years new employment has been provided, and has been located near the M62. For example:

- Close to Junction 31 – Tuscany Park, Wakefield Europort and Pioneer Park business parks; and
- Close to Junction 32 – additional retail and leisure development (Xscape).

Castleford is strategically placed close to the junction of the M62 and the A1 / A1(M), eight miles south west of Leeds, at the confluence of the rivers Aire and Calder. Lafarge have developed a road / river interchange facility close to the Europort rail freight terminal.

The town is well served by rail lines. Rail freight is catered for with the Wakefield Europort freight terminal, from where direct trains to Europe operate via the channel tunnel. Local passenger services link Castleford with Leeds (two per hour), Pontefract, Wakefield, Barnsley and Sheffield (all hourly), with more frequent services at peak hours. In the daytime, regular bus services link Castleford with Leeds via Rothwell and via Allerton Bywater. Other bus services provide links to the other towns in the Five Towns area, plus frequent services to Wakefield. A regular 'Metroconnect' service provides a half hourly service from Castleford to Normanton via the Europort industrial area. There is a limited express bus service from the Glasshoughton M62 Junction 32 retail development to Hull.

Figure O.4.1 shows the location of the main transport features and locations in the town centre and the surrounding area.

CURRENT ISSUES

Particular issues for the case study area have been identified through:

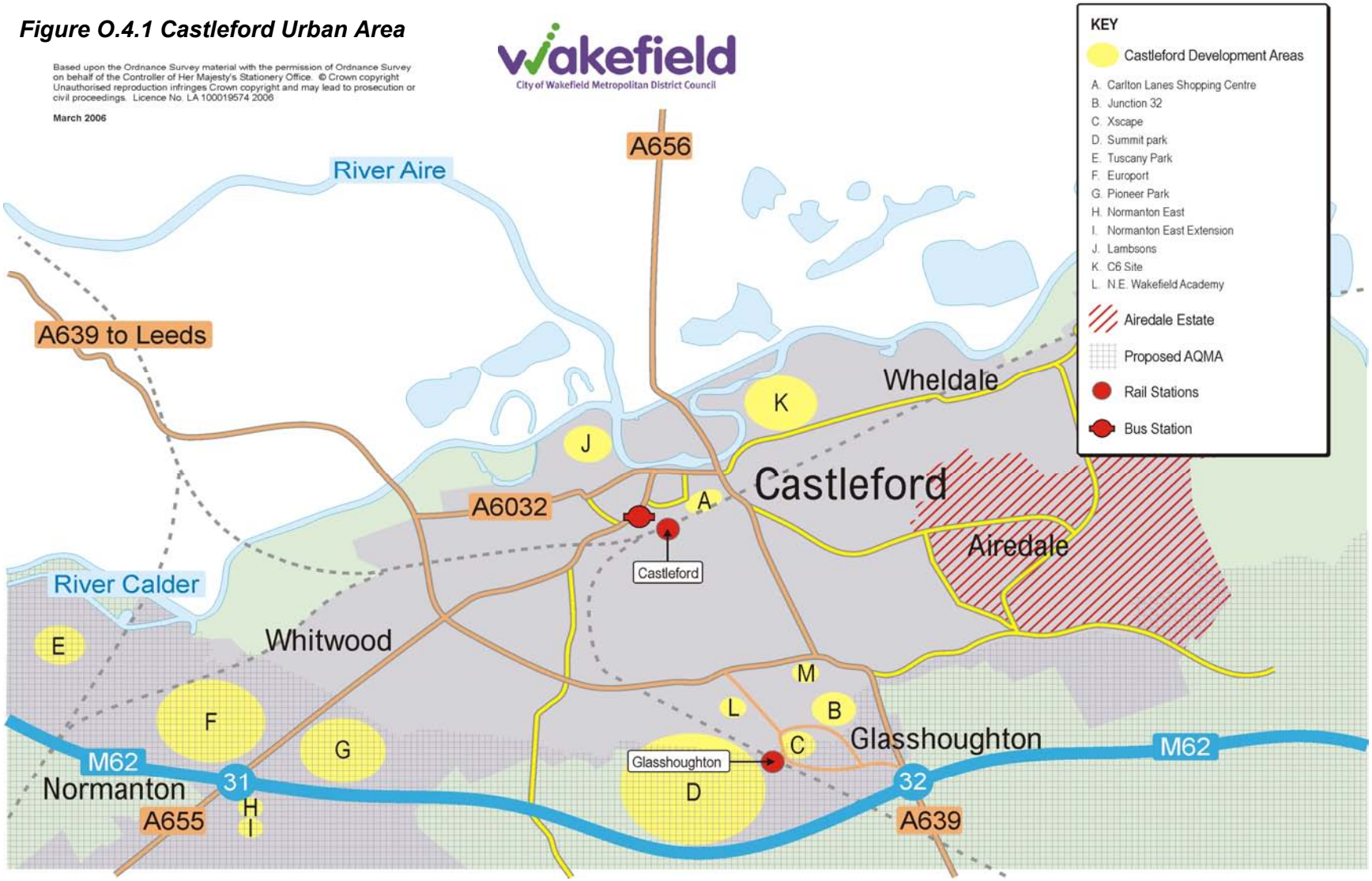
- the development of the Castleford Town Centre Strategy (2002-2012) by Wakefield Metropolitan District Council (WMDC) to provide a long term framework for sustainable development of the town centre, using extensive public consultation; and
- the production of the Five Towns Strategic Development Framework as part of the Yorkshire Forward urban renaissance programme.

<u>Accessibility</u>

Accessibility issues for the case study area are:

- the need for improved pedestrian and cycle access to the town centre from within Castleford and also to/from Allerton Bywater;

Figure O.4.1 Castleford Urban Area



- the low standard of the existing Castleford bus station inhibiting public transport use;
- poor links between bus and rail stations discouraging interchange between bus and rail (despite their close proximity); and
- the loss of some existing car parking due to new development in the town centre.

Wider strategic accessibility issues include:

- limited rail seating capacity in peak hours for trips to and from Leeds on the Hallam and Pontefract lines;
- rail service development needs (e.g. the need to bring the service frequency in line with the rest of the West Yorkshire rail network); and
- particular problems with access to new employment and leisure opportunities by public transport (e.g. poor public transport access to the south east of the Wakefield District from the Five Towns, with limited services from Pontefract and Featherstone, and no direct bus services from Castleford to Hemsworth, South Kirkby or South Elmsall).

Congestion

Congestion is not currently a severe problem in the Castleford area however there are congestion issues for M62 Junction 31. Improvements have been made to the junction to increase the capacity to cater for additional demand associated with development in the Europort area. However it is currently operating close to capacity and further significant employment development cannot take place in the Normanton and Whitwood area without overloading the junction.

Road Safety

The number and severity of casualty crashes in the Airedale Estate are a long-standing concern. Traffic-calming was introduced in 2000 to some of the estate. This did not lead to the desired reduction in the casualty rate, which remains above average. The 85th percentile speed on Elizabeth Drive, the Green and Kendal Drive has been surveyed as 35 miles per hour. This is considered to be excessive for a road with residential properties, shops, a school and a park.

Of the 14 reported casualty crashes over the last five years, four involved pedestrians and three involved cyclists.

Air Quality

There is an Air Quality Area of Concern around the M62 and A1, and in particular close to Glasshoughton. Transport is estimated to be contributing to 55% of the air quality problems experienced in the Wakefield district (based on evidence used to model local emissions in 2005).The nearby Ferrybridge power station also contributes to background emissions of nitrogen dioxide.

Air quality modelling indicates that parts of the study area exceed the annual mean objective for nitrogen dioxide, whilst PM_{10} particulate matter is likely to become an issue towards the end of the LTP2 period.

In response to this, consultation is in progress over a proposal to declare an extensive Air Quality Management Area (AQMA) (see accompanying Figure O.4.1).

FUTURE ISSUES

Economic Growth and Regeneration

The Five Towns area is designated as a priority area for regeneration in the Wakefield District.

Employment

The most critical milestones for change are:

- in the town centre, from the expansion of Carlton Lanes shopping centre; and
- near M62 Junction 32, related to further employment around the summit park site.

The extension of the Carlton Lanes shopping centre in 2006 is expected to attract new trips to the town centre, due to the improved 'retail offer'. It is anticipated that many of the new trips will be from local residents who currently travel further afield, to alternative shopping centres in places such as Leeds.

Later in the LTP2 period, further new employment anticipated around the summit park site will increase the number of peak hour trips in the area. This (as well as new employment at Xscape) is expected to put pressure on M62 Junction 32.

The proposed development of the Normanton East employment site (estimated to yield about 2,500 jobs equating to several thousand trips) is also expected to put additional pressure on M62 Junction 31.

Detailed modelling of the anticipated impact on junctions 31 and 32 has yet to be carried out.

Redevelopment of the existing bus station site is also expected to increase the number of people employed in the town centre. However, given the relative scale and town centre location, the expected impact is likely to be moderate in comparison to existing conditions.

Housing

A considerable volume of new residential units are planned on brown-field sites. Between 1,600 and 2,000 are already planned for sites close to the town centre (with an additional 1,000+ possible on other sites). These sites include 1,200 units at the former Lambsons works, and around 350 in the Fryston area. Section 106 money is also anticipated to be used to refurbish existing housing.

The most critical milestone for change is the redevelopment of the former Lambsons industrial site in 2006. A planning application has been submitted for this redevelopment. Its close proximity to the town centre and proposed new interchange is likely to provide the opportunity for increased levels of walking and cycling. It is expected that many of the new peak time trips generated will be to new employment in Leeds. The peak hour rail service to Leeds will therefore be put under further pressure from these additional trips, as services are already frequently full.

The closure and redevelopment of the C6 plant in the Wheldon Road area for housing may generate new car trips. However, the expected impact of these changes is likely to be moderate in comparison to existing conditions.

Regeneration

Regeneration initiatives for the town centre aim to reconnect the town centre to the waterfront, public art and heritage schemes. This will include improvements to pedestrian crossing facilities, measures to slow traffic and potentially alterations to junctions, which may require LTP funds.

Promoting Social Inclusion

The location of the new North East Wakefield academy on the edge of the Glasshoughton J32 development, will result in trips to the existing Whitwood college being displaced to the new site. It is anticipated that more students will be attracted to the new facility.

Consideration will need to be given as to how to ensure that adequate public transport links are provided to the new site, particularly from Wakefield as there are currently no direct bus services.

Urban and Rural Renaissance

Further proposals are being developed for the redevelopment of the nearby Prince of Wales colliery site adjacent to M62 Junction 32, including possible housing, local retail, and leisure. These have yet to be quantified. However, because the site was an attractor of trips, and in future will generate outbound peak hour trips, the net impact on the demand for travel is likely to be minimal.

Other

During the LTP2 period, the Highways Agency plans to:

- widen the M62 from junctions 25 to 27 in Wakefield to four lanes (both directions); and
- employ 'integrated treatments' to manage access to all the M62 motorway junctions in Wakefield for local traffic.

This will have knock-on effects for traffic and air quality on local roads that have yet to be modelled or quantified by the Highways Agency or WMDC.

Summary of Future Issues

The most significant transport impacts of future development for the case study area are:

- further pressure on rail capacity to Leeds as a result of additional housing; and
- further pressure on M62 Junctions 31 and 32 related to and potentially restricting employment growth.

MEASURES

The summary table of strategy approaches listed in Part 2 shows the range of measures considered. Many are West Yorkshire wide initiatives that include schemes in Castleford, such as the programme of bus stop upgrades associated with the Yorkshire Bus Initiative.

During LTP1 a range of measures were applied in Castleford. The impact of the measures considered and proposed from the toolkit for LTP2 is outlined below.

Delivering Accessibility and Tackling Congestion

The impact on accessibility specifically within the Castleford area is difficult to quantify, as many of the measures will not be directly measured by the accessibility indicators. New cycle routes, bus stop upgrades, maintenance of rights of way etc, will all be consistent with the strategy to improve accessibility.

The provision of a linked network, will permit a wider range of destinations to be reached by sustainable modes.

New high quality, 'Drive In Reverse Out' bus stations were provided across West Yorkshire during the LTP1 period. These have included Wakefield and Ossett in the WMDC area. They have successfully addressed personal security issues, and provided an enclosed waiting area. There is a clear outstanding need to meet minimum modern standards for a bus station in Castleford town centre.

Away from the motorway junctions, congestion is not currently an issue, and is not forecast to become an issue.

However, within the Castleford Urban Area, strategy approach C1: Encourage modal shift to public transport provides the opportunity to address several public transport accessibility issues and in turn minimise the potential for future congestion.

The Wakefield Bus Priority Study (2002) did not identify any specific need for bus priorities within the Castleford urban area. One particular junction hotspot on the edge of the Airedale estate is being addressed as part of the LTP1 programme.

Upgrading the existing rail station and building a new bus station will encourage more use of public transport. The poor quality and separation of the existing facilities was identified in public consultation for the Castleford Town Centre Strategy, and is a key component of unlocking regeneration activity in the town centre.

Proposed Measure: *Scheme costing more than £200,000*

Castleford Interchange Integrated Transport Scheme

£1,160,000 is allocated over two years (2006/07 to 2008/09) to design and develop a major scheme bid for an integrated interchange transport scheme for Castleford. This is a prerequisite component in moving this major scheme from a 'provisionally' approved scheme to an 'approved' scheme.

Strategy approach C2: Manage the demand for travel was considered for tackling the congestion related to the employment sites near the motorway junctions.

It would not be realistic to implement a workplace parking levy (WPL) scheme, to discourage car use, as this would undermine the attractiveness of many of the employment sites in Castleford. Until larger, more congested cities implement schemes, it is unlikely that a WPL will be politically acceptable or even necessary in smaller urban areas. Alternatively, to complement new developments new employers will be encouraged to develop travel plans, and bus stops will be upgraded.

Proposed Measure: *Capital schemes / groups of schemes costing less than £200,000*

Bus infrastructure (excluding interchanges)

Proposed bus stop upgrades on Yorkshire bus corridors in the Castleford area include:

- raised kerbs to allow level boarding
- bus stop clearways; and
- upgraded shelters where necessary.

The routes include:

- Wakefield – Normanton – Castleford;
- Leeds – Methley – Castleford;
- Leeds – Castleford – Pontefract; and
- routes through the Airedale estate.

Proposed Measure: *Metro schemes costing more than £200,000*

RTPI system development

This is a West and South Yorkshire wide initiative to provide Real Time Passenger Information (RTPI) on displays mounted in bus shelters key corridors.

An urban bus challenge funded regular bus service (branded as Metro-connect) links Castleford and the Europort industrial estate near Junction 31, for those who don't have access to a private car and to discourage car use. The continuation of this during LTP2 would ensure that there are smarter choices available for travel.

There is limited scope within the study area to utilise strategy approach C3: Making the best use of existing capacity for tackling congestion, using LTP2 funding.

Only a few junctions are signalised in the main urban area, so UTMC was not considered appropriate to remove the potential congestion expected as a result of future developments.

Measures have already been implemented to maximise capacity at M62 Junction 31, using developer contributions. The junction has been signalised and the layout altered to maximise the number of vehicles able to pass through the junction.

One approach proposed for tackling congestion is C5: Encourage more cycling and walking. This also links to C6: Promoting smarter travel choices and C7: Promoting sustainable land use planning policies and practices.

These approaches are already being applied at the district level, with initiatives in the Castleford area (e.g. the recently completed replacement of the Tittle Cott bridge pedestrian underpass provides better facilities for pedestrians to access the town centre from south of the railway line).

These approaches will reduce the demand for car travel, but the exact impact is difficult to forecast.

The use of brown-field sites close to the town centre, is evidence of sustainable land use planning policies. It will allow more people to live close to the major sources of employment, and assist to promote walking, cycling and public transport use. Cycling and walking link improvements proposed for LTP2, will allow WMDC to promote smarter choices to larger employers around Castleford. There are no lower cost alternatives to this.

The consultation for the Castleford Town Centre Strategy identified the need for improved walking and cycling links to the town centre.

New LTP2 schemes to provide improved links are expected to encourage more cycling, to the town centre in particular. The anticipated impacts have not yet been quantified. However, experience elsewhere in West Yorkshire of new routes has seen large increases in cycling. For example, experience with the Spen Valley Greenway in Kirklees demonstrates that segregated off road routes, with good signing and links to relevant destinations will attract new cyclists.

Proposed Measure: *Capital schemes/groups of schemes costing less than £200,000*

Cycling and Walking Schemes

Proposals include:

- routes between Glasshoughton, Cutsyke, Whitwood and the town centre;
- completion of more riverside routes; and
- links to the Pontefract Park cycle route.

These are subject to detailed design, consultations and costings being completed. As with all minor schemes the exact dates for implementation may change, in response to land ownership, consultation and other issues.

Proposed Measure: *Schemes using other funding*

Cycle route proposals to link with Allerton Bywater and Methley in the Leeds City Council area, are being developed with Sustrans. Match funding will be sought from other agencies to supplement LTP funds.

A new footbridge across the river Aire between Castleford waterfront (A6032 Aire Street) and Mill Lane is expected to commence construction in summer 2006. It is being funded through English Partnerships, Yorkshire Forward and WMDC.

The proposals for new pedestrian and cycle routes provide an example of maximising value from resources. They will use established paths, rights of way and quiet roads (for

cycleways) wherever possible. New crossings over main/principal roads and signing, will provide the main demand for expenditure.

Safer Roads

All of the road safety strategy approaches (S1 to S5) were considered to address the above average casualty crash rate and high vehicle speeds within the Airedale estate.

As strategy approaches S2 to S5 apply across the district, no specific measures were considered for the Airedale Estate.

Education initiatives, such as promoting safer child cycling and walking, reinforce the benefits of engineering measures. However they do not remove the need for physical measures.

The focus for improvement is therefore S1: Provide an appropriate road environment for each user group.

This will include:

- new segregated cycle routes to improve safety; and
- traffic calming to reduce the number and severity of casualties.

Monitoring of comprehensive traffic calming measures previously implemented elsewhere in the district, has shown reductions in speed and the number of casualties. Successes elsewhere with area wide traffic calming schemes, suggest that there is no cheaper alternative to provide the same level of benefits on large housing estates.

Proposed Measure: ***Scheme costing more than £200,000***

Airedale Estate, Castleford

Area wide safety scheme costing around £200,000 programmed for 2006/07.

Better Air Quality

Strategies AQ1 to AQ4 are relevant across West Yorkshire. The Highways Agency is developing solutions to strategic road related pollution, including the M62 close to Glasshoughton.

The Highways Agency has employed consultants to develop VISSIM and SATURN models of the impacts of the changes at the junctions. WMDC have contributed to this ongoing work, with information from their own SATURN model (which is in development).

The promotion of new / improved cycling and walking links, and the location of new housing close to the town centre, are consistent with these strategies, as they promote sustainable transport.

Major Schemes Measures

There are three potential major scheme opportunities for this case study area:

- MyBus (Phase 2 – Yellow Bus);
- the Glasshoughton Coalfields link road (provisionally approved in 1999); and
- the Castleford Interchange and Town Centre Integrated Transport scheme (provisionally approved in 2005).

The two major schemes that have provisional approval are essential as they strengthen the overall strategy that promotes access to the regeneration sites around Castleford.

Without these schemes it will be more difficult to promote the use of public transport, and address congestion plus air quality problems around the motorway junctions.

MYBus (Phase 2 – Yellow Bus)

This would provide an attractive, high quality, home to school bus service, and include services to Airedale and Castleford High schools during 2006-07.

The MY bus initiative has been successfully introduced elsewhere across West Yorkshire. There is evidence that car journeys have been reduced and that the schemes have been well received elsewhere in the WMDC area, for example around Hemsworth where a scheme was implemented in 2005.

The Glasshoughton Coalfields link road

The Glasshoughton Coalfields link road was first promoted in LTP1, and was provisionally approved by the Department for Transport in 1999. It is expected to be constructed between 2006 and 2008.

The proposed road link provides an extension to the Normanton by-pass enabling traffic between the bypass and the Castleford area to avoid J31 of the M62, to address the existing junction capacity issues.

This scheme corresponds with strategy approach C4: Improve the existing high network. The capacity improvement proposed by the Glasshoughton Coalfields link road is:

- necessary to provide the required amount of traffic relief for existing and future conditions; and
- expected to provide relief to the nearby M62 Junction 31.

This is quantified in the 1999 annex E submission to the Department for Transport.

This scheme maximising value from resources by utilising an existing bridge under the M62, to reduce costs and minimising new infrastructure.

The Castleford Interchange and Town Centre Integrated Transport scheme.

A new combined bus / rail interchange to be located next to the railway station was identified as a key scheme to permit 'seamless' journeys as part of the Castleford Town Centre Strategy.

The Castleford Interchange and Town Centre Integrated Transport scheme, is currently being developed, after provisional approval from the Department for Transport in 2005 for £14.1million.

The key objective is to relocate the bus station on land adjacent to the rail station with improvements at the rail station for high quality public transport interchange facility.

It will include:

- improved pedestrian links between the bus and rail station and the town centre;
- improved pedestrian subways under the railway which link the southern residential areas with the main retail core and public transport facilities;
- extension of pedestrianisation of Carlton Street to Powell Street, to provide an attractive environment for businesses and shoppers; and
- a new bus only link road between Station Road and Enterprise Way, to provide for east-west bus movements as a result of the pedestrianisation.

The annex E submission included detailed estimates of benefits including:

- rail trips forecast to increase by 9,800 per annum from 195,200 to 205,000;
- bus patronage at the bus station forecast to increase by 37,000 trips per annum from approx 740,000 to approx 777,000; and
- benefits to existing users of the bus and rail stations.

Further cost benefit analysis and analysis of traffic conditions (using a SATURN highway model and TRIPS public transport model) is contained in the annex E.

An example of considering alternative options was a low cost option to the proposal put forward in the annex E. It was to refurbish the existing bus station site and carry out limited improvements to the railway station. The benefits of a combined bus/rail interchange would not be gained. No redevelopment benefits would be realised, which help to offset the cost of the scheme, and realise other regeneration aspirations.

This scheme aims to maximise value from resources given that the existing Castleford bus station falls well below the modern standards provided at other bus stations in West Yorkshire. A major scheme would have been required to reconstruct on the existing site anyway, with associated disruption to bus service operations. The opportunity to relocate to the site next to the railway station:

- allows the land value of the existing site to be realised; and
- maximises the potential for interchange between bus and rail.

Figure O.4.2 shows the location of the planned and proposed measures to be delivered in the town centre and the surrounding area during LTP2.

Links With Regional Strategies

The provisionally approved major schemes are included in:

- the Regional Transport Strategy; and
- in the list of regional priorities approved by the Regional Transport Board in February 2006 that was submitted to Government.

The Glasshoughton Coalfields link road is consistent with the adopted Regional Spatial Strategy (based on the selective review of RPG12). This has an overall objective to

"maintain high and stable levels of economic growth and employment, through the regeneration of areas damaged by post industrial decline". This will be achieved through improving access.

Similarly the major scheme proposed for the Castleford town centre, including the new interchange is consistent with regional policy, as it promotes better sustainable transport access to a priority regeneration area.

Links With Other Sectors

Health

The interchange proposal has already influenced a decision made by the Primary Care Trust with regard to the location of a health centre.

The existing health centre adjacent to the proposed new interchange site, was earmarked for relocation by the primary care trust, until the provisional approval (by the Department for Transport) to develop the new interchange was given. The trust is now developing proposals to refit and expand the existing site. This is due to the accessibility enhancement that the new interchange provides.

Education

The good transport links to the new 14-19 North East Wakefield Academy, have influenced the selection of this location. It is close to:

- the recently completed Glasshoughton railway station;
- the proposed new walking and cycling links; and
- the Glasshoughton Coalfields link road.

Links With LTP Objectives

The measures proposed for Castleford area contribute to achieving four of the five LTP2 objectives. For example:

Delivering Accessibility

To improve access to jobs, education and other key services for everyone, by:

- providing new walking and cycling links that pass close to the new 14-18 North East Wakefield Academy that will be located close to the recently completed Glasshoughton railway station.

Tackling Congestion

To reduce delays to the movement of people and goods, by:

- upgrading bus stops including RTPI along key corridors to encourage greater use of public transport.

Safer Roads

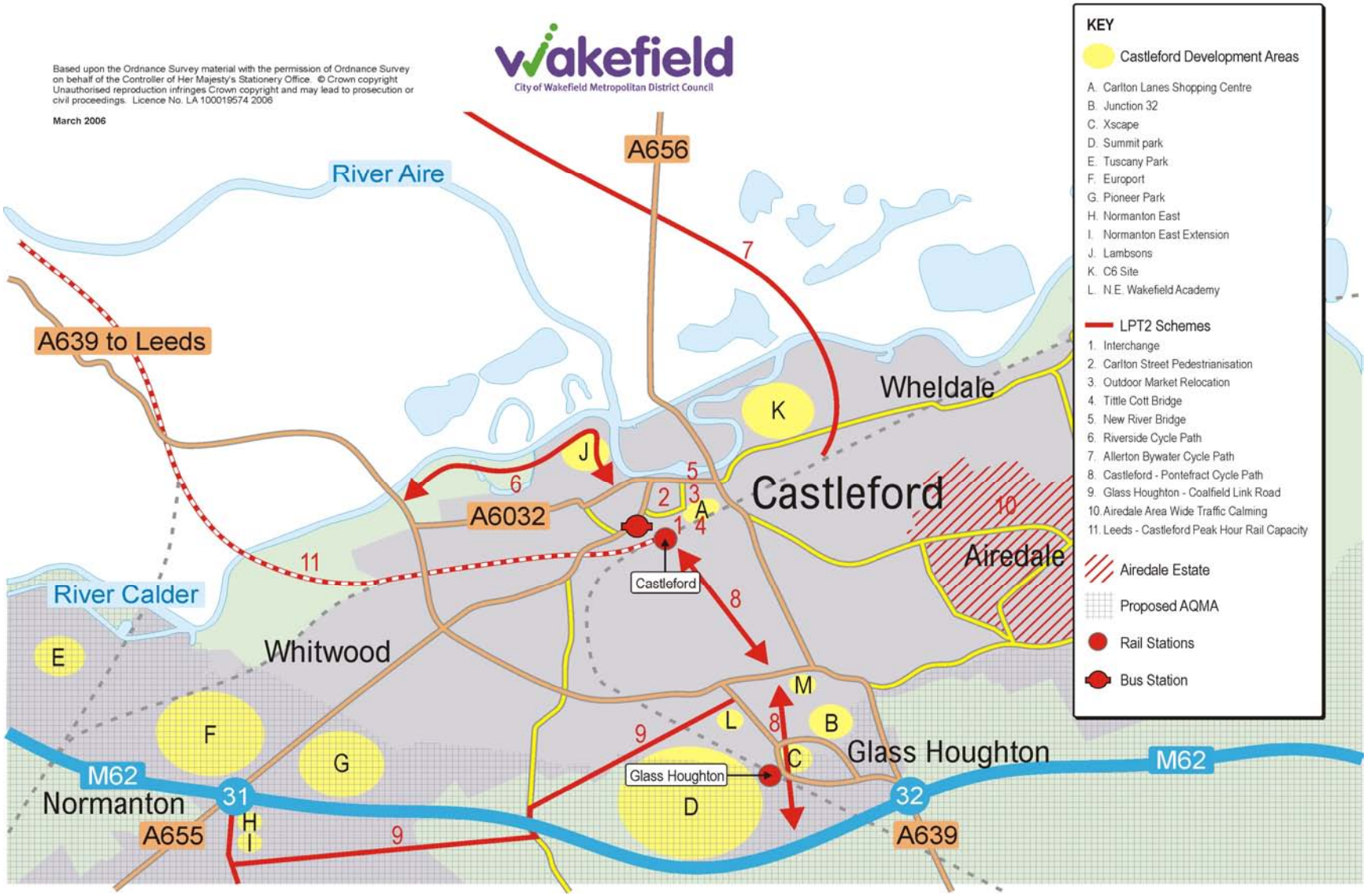
To improve safety for all highway users, by:

- addressing above average casualty crash rates within the Airedale Estate.

Better Air Quality

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

Figure O.4.2 Proposed Measures for the Castleford Urban Area



- beginning consultation over a proposal to declare an extensive Air Quality Management Area (AQMA) in the area.

Links With The Community Vision

The aims and proposals in this case study are consistent with the Community Strategy for Wakefield. Particularly the priority to: *Improve transport choice and make it easier to get around.* This includes a commitment to the increasing the availability and use of public transport, by providing more services and facilities such as interchanges.

The priority states that WMDC will:

- Reduce the need to use private cars through the better siting of developments, the provision of transport information, improvements to the highway network for pedestrians and cyclists and the active promotion of cycling across the District.
- Look to improve the highway network in a balanced way to meet the needs of communities and business.
- Create an environment to encourage and enable accessibility including safer journeys, equality issues and quality facilities.

There is a target to increase the use of public transport.

Consistency with The Wider Local Corporate Planning Framework

The Local Development Framework and urban renaissance agendas are consistent, in that development of new housing, employment and retail, is focused on existing brown-field sites. These are easier to serve by existing public transport, and many are within walking / cycling distance of the town centre and the new interchange.

Partnership Working

Partnership working is required on many of the projects listed, including work with Sustrans and Groundwork Wakefield on the cycle route proposals. Metro, Network Rail and the bus and rail operators will be involved in delivering the new bus / rail interchange.

Many schemes in Castleford have already been developed through the Castleford Town Centre partnership which includes representatives from many groups.

Yorkshire Forward have sponsored the Urban Renaissance programme, which has included recommendations for transport schemes.

PERFORMANCE MANAGEMENT

Contribution to targets

Delivering Accessibility

The following proposed measures are expected to contribute, locally, to mandatory target M7 (Bus Patronage) the programme of bus stop upgrades associated with the Yorkshire Bus Initiative. The corridors selected between Pontefract, Castleford and Leeds, and Castleford, Normanton and Wakefield are the key ones for current demand. They also coincide with current and future development sites at Glasshoughton and Europort.

The impact on accessibility specifically within the Castleford area is difficult to quantify, as many of the measures will not be directly measured by the accessibility indicators. New cycle routes, bus stop upgrades, maintenance of rights of way etc, will all be consistent with the strategy to improve accessibility.

The new interchange, which will be of high quality and bring the bus and rail stations together will also contribute to M7, as outlined in the annex E.

Tackling Congestion

The issues section identified the growth in traffic around M62 junctions 31 and 32 as increasing the potential for congestion. The Glasshoughton Coalfields link road will relieve these junctions, by removing some Castleford to Normanton, Wakefield and other local traffic from them.

Safer Roads

The area wide traffic calming scheme planned for the Airedale estate targets an area with specific local safety issues. Other minor works, pedestrian and cycle crossing facilities, will improve safety. In a similar scheme implemented in the Lupset area of Wakefield an average of 12 injury accidents per year

were reported over the 15 years up to 2004. In the 11 months since the scheme was completed there have been five reported casualties. A full and thorough before and after study is being undertaken to verify this result, but the reductions appear to be significant.

These will contribute, to the overall safety targets in LTP2 (mandatory targets M10, M11, M12 and local target L7), but to a minor extent given the wide coverage of the targets in comparison to the coverage of the Airedale estate.

Better Air Quality

The focus on sustainable transport, and new housing within walking distance of the town centre, is expected to reduce car dependence, and in turn stop increases in nitrogen oxides and carbon dioxide emissions (local targets L8 and L9). This may also help avoid Air Quality Management Areas being declared.

The new interchange is expected to contribute to local target L1 as the new interchange will be of a high quality and will bring the rail and bus stations together, which will improve the perception of the quality of the infrastructure.

The Yorkshire bus corridor upgrades to bus stops and shelters should also help to meet this target, and contribute to local target L11 (number of bus shelters that meet modern standards [95% by 2010/11]).

Mandatory target M8 (to increase cycling across West Yorkshire by 10% by 2010/11), will be assisted by the new cycle routes to be developed in the Castleford area as well as the new housing close to the town centre. It is anticipated that increases in cycling here, will contribute significantly to meeting this target.

Identification and management of risks – target achievement

There is a risk that the private bus operators may contract their bus networks. An enhanced network is essential to increase bus use. This will be achieved through dialogue, and existing quality partnership arrangements. If this fails consideration will be given to more radical measures, such as quality bus contracts. This would need to be implemented at the West Yorkshire level.

The new houses may attract a large proportion of longer distance commuters, working in Leeds. The potential increases in demand for peak hour rail travel may exceed the capacity of services. It would not be desirable to attract more car commuters. WMDC will work with Metro, and Northern Rail to identify funding sources for additional rail rolling stock and secure this funding if this is necessary.

The target for increasing cycling relies on the creation of a joined up network of routes. The key risk is that only part of the network is able to be delivered due to:

- land ownership problems;
- lack of alternative off road routes; or
- 'novice' or inexperienced cyclists failing to start using the routes for journeys to work, school and leisure.

If land use issues arise, every effort will be needed to find alternative routes to provide a joined up cycle network which may entail longer, less direct routes. Further funding may need to be allocated to 'encouragement and promotion', to ensure that residents are aware of the new facilities.

Air quality targets are largely reliant on motorway related traffic, much of which is outside the control of the authority. If public transport alternatives are not taken up by the occupiers of new houses, traffic congestion may increase and associated air quality issues may ensue. This risk will be managed through close working with partners, including the Highways Agency and local bus operators (such as Arriva) so that the motorway traffic is managed in a way that protects local roads. Bus services may need to be provided to meet the needs of new housing developments.

The major scheme interchange proposal has been through a rigorous risk identification process. The most significant risks identified are associated with the compulsory purchase of land, which may delay the implementation of the scheme. Costs may also increase if significant archaeological finds are made when construction work begins. Whilst the scheme costs and programme allow for limited delays and cost increases, there is always the danger that the scheme may not be able to be delivered.

Identification and management of risks – scheme development/implementation

A risk identified from LTP1 related to scheme development is the delivery of cycling schemes. Every cycle and walking scheme is allocated its own budget for scheme development. This is generally in the year before implementation is planned. Several schemes are in development at any one time, to provide alternative schemes for implementation if other schemes are delayed.

The role of UTMC and Traffic Managers to help achieve the desired outcomes

As stated previously, only a small number of junctions are signalised in the main urban area, so UTMC is not considered to be relevant in addressing congestion issues.

Traffic Managers could help mainly through the ongoing monitoring of the changing conditions and data collection. The Traffic Manager has an obligation to reduce congestion where it is preventing the smooth and expeditious movement of traffic.

Approach to budgeting, control of costs, and securing partnership funding from non-LTP sources

WMDC will procure software that will enable comprehensive monitoring of programme spend and progress towards targets/outcomes. Project 'drift' and cost escalations will be more easily managed and contained than previously.

Developer contributions will be sought to fund a number of local road network improvements, including cycle routes and pedestrian crossing facilities. This will continue a trend begun during LTP1.

WMDC are investigating the possibility of pooling section 106 payments into a pot to implement transport improvements. The scale of potential new developments across the Five Towns and in Castleford in particular lends itself to this approach. This may come to fruition in the period of the LTP2.

Funding is being sought from English Partnerships and other sources. Together with input from Sustrans this will be used to develop and implement cycle route proposals, including links to Allerton-Bywater and the Trans Pennine Trail at Methley.

The Glasshoughton – Coalfields link road major scheme relies on considerable developer contributions from the new Normanton east industrial estate (about half the total scheme cost). A section 106 agreement is being negotiated.

APPENDICES
GLOSSARY

GLOSSARY

Acronym/phrase	Description/meaning
µg/m^3	Microgram per cubic metre
AccessBus	A dial-a-ride, door-to-door bus service for people who have difficulty using conventional public transport.
Airviro	An air quality management modelling tool
AOC	Area Of Concern
ANPR	Automatic Number Plate Recognition
APR	Annual Progress Report
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQMT	Air Quality Management Team
ASL	Advanced Stop Line for cyclists at signalised junctions
ATT	Average Travel Time
BCI	Bridge Condition Indicator
BCR	Benefit cost Ratio
BRI	Bradford Royal Infirmary
BRT	Bus Rapid Transit
BSEL	Bus Strategy Evaluation Laboratory, a bus specific modelling package
BMX	Bridge Management eXpert computer software
bonus funding	Money above The Partnership's allocation from DfT awarded due to submission of a better than average LTP and achievement of LTP1 targets
BVPI	Best Value Performance Indicator
CCTV	Closed Circuit Television
CfIT	Commission for Integrated Transport
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COMEAP	Committee on the Medical Effects of Air Pollutants
CROW	Countryside and Rights of Way
CSS	County Surveyors' Society
dB (A)	decibels
DDA	Disability Discrimination Act 1995
DEFRA	Department for Environment Food and Rural Affairs
DfT	Department for Transport
do nothing	Scenario assuming no new initiatives promoted by the LTP Partnership
ECML	East Coast Main Line
EIA	Environmental Impact Assessment
EMAS	EcoManagement and Audit Scheme
ETP	Education, Training and Publicity
EU	European Union
Five Towns	Wakefield urban conurbation comprising Castleford, Featherstone, Knottingley, Normanton and Pontefract
GDP	Gross Domestic Product
GIS	Geographical Information Systems
GMPTE	Greater Manchester Passenger Transport Executive

GLOSSARY

Acronym/phrase	Description/meaning
GP	General Practitioner
GPS	Global Positioning System
HA	Highways Agency
HAMP	Highway Asset Management Plan
HARMS	Highways Agency Route Management Strategy
Heavy Woollen Area	Dewsbury, Batley, Mirfield, Cleckheaton, Heckmondwike, plus smaller settlements
HGV	Heavy Goods Vehicle
HOV	High Occupancy Vehicle
ICE	Invest Enhance Connect
ICT	Information and Communication Technology
Interreg	EU-funded programme to help European regions form partnerships to develop new solutions to economic, social and environmental challenges.
IPPC	Integrated Pollution Prevention and Control
ISO	International Standard
KSI	Killed or Seriously Injured
LAA	Local Area Agreement
LAF	Local Access Forum
LBIA	Leeds Bradford International Airport
LDF	Local Development Framework
LEZ	Low Emission Zone
LGA	Local Government Association
LGI	Leeds General Infirmary
LPSA	Local Public Service Agreement

Acronym/phrase	Description/meaning
LSP	Local Strategic Partnership
LTP	Local Transport Plan
LTP1	1st West Yorkshire Local Transport Plan (2001/2-2005/6)
LTP2	2nd West Yorkshire Local Transport Plan (2006/7-2010/11)
major schemes	Schemes costing more than £5million that are bid for in addition to the Partnership's allocation
MetroConnect	Metro subsidised local bus services
MRes	Master of Research
MSBC	Major Scheme Business Case
MyBus	Metro's yellow bus project involving the ordering of a fleet of new vehicles that will be used exclusively for home-to-school transport and educational excursions.
NAQS	National Air Quality Strategy
NATA	New Approach to Transport Appraisal
NCN	National Cycle Network
NHS	National Health Service
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NRF	Neighbourhood Renewal Fund
NRSI	Neighbourhood Road Safety Initiative
NRSWA	New Roads and Street Works Act
NYCC	North Yorkshire County Council
ODPM	Office of the Deputy Prime Minister

Acronym/phrase	Description/meaning
Pb	Lead
PCT	Primary Care Trust
peak spreading	Tendency for a growing proportion of trips to be made outside of the two peak periods.
PFI	Private Finance Initiative
PHV	Private Hire Vehicle
PLASC	Pupil Level Annual School Census
PM_{10}	Particulate Matter less than 10 microns in diameter
PPG	Planning Policy Guidance
pressure points	Congested areas on the transport network
PTAM	Public Transport Accessibility Model
PTA	Passenger Transport Authority
PTE	Passenger Transport Executive
Punctuality Improvement Partnerships	Partnerships between bus operators, transport authorities/Passenger Transport Executives and highways authorities to identify the causes of punctuality and reliability problems and to pose solutions.
QBC	Quality Bus Corridor
QC	Quality Contract
RES	Regional Economic Strategy
ROW	Rights of Way
ROWIP	Rights of Way Improvement Plan
RSS	Regional Spatial Strategy
RTPI	Real Time Passenger Information
RTS	Regional Transport Strategy
SAS	Surface Access Strategy
SDDG	Sustainable Development Design Guide
SEA	Strategic Environmental Assessment
SEU	Social Exclusion Unit
SEZ – p6	Strategic Economic Zone
SMART	Specific, Measurable, Achievable, Realistic and Timed
smart shelter	A brand name for a bus shelter, there are smart 4s and smart 5s in West Yorkshire
SO_2	Sulphur Dioxide
SOA	Super Output Area – a new geographic hierarchy designed to improve the reporting of small area statistics in England and Wales. They have a consistent size of population and fixed boundaries when compared to Wards/Divisions. An SOA has a mean population of 1500.
STM	West Yorkshire Strategic Transport Model
SUDS	Sustainable Urban Drainage Systems
SWYMBUS	South and West Yorkshire Motorway Best Use Study
SYPTE	South Yorkshire Passenger Transport Executive
TAMP	Transport Asset Management Plan
TEMPRO	Trip End Model Presentation PROgram
the Partnership	West Yorkshire Local Transport Plan Partnership (comprising of West Yorkshire PTA, City of Bradford Metropolitan District Council, Calderdale Metropolitan Borough Council, Kirklees Metropolitan Council, Leeds City Council and City

GLOSSARY

Acronym/phrase	Description/meaning
	of Wakefield Metropolitan District Council)
TIF	Transport Innovation Fund
Trans-Pennine	Operator of northern inter-regional express trains
Travelwise	A partnership of local authorities and other organisations working together to promote sustainable transport.
TRL	Transport Research Laboratory
UDP	Unitary Development Plan
UKCIP	United Kingdom Climate Impact Programme
UKPMS	UK Pavement Management System
UTMC	Urban Traffic Management and Control
VMS	Variable Message Sign
VOSA	Vehicle and Operator Services Agency
windfall sites	Brownfield sites not envisaged as becoming available for development in the UDP
WYCRP	West Yorkshire Casualty Reduction Partnership
WYEP	West Yorkshire Economic Partnership
WYTEG	West Yorkshire Transport Emissions Group
WYTESA	West Yorkshire Transport Education and Skills Alliance
YAHPAC	Yorkshire And Humber Pollution Advisory Council
YBI	Yorkshire Bus Initiative
Yorcard	A proposed Regional multimodal smartcard ticketing scheme in South and West Yorkshire with options of adding further local authority facilities, e.g. libraries and health centres.