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Appendices

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Contacting Us

This Local Transport Plan has been developed with the support of partners, stakeholders and members of the public. The Plan will be regularly reviewed and updated. It identifies a flexible approach to the delivery of the Implementation Plan (see Section 5.3, paragraph 5.7.7 and Appendix A) to reflect changing priorities. You can continue to contribute to such reviews.

The Plan also includes a number of strategies and processes that will be the subject of further consultation during 2011/12, the first year of the Implementation Plan.

If you have any further comments about the Plan, or just want to keep involved in the on-going work, please contact the LTP Partnership.

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Version Changes for Local Transport Plan 3: Plan Appendices		
Version	**Date**	**Description of change**
2	03-10-2012	APPENDIX C REPLACED AND APPROVED BY ITA 27-07-2012
1	01-04-2011	DOCUMENT AS SUBMITTED TO THE DEPARTMENT FOR TRANSPORT

Appendix A1.
Implementation Plan 2011-2014:
Integrated Transport Project Sheets

All potential schemes listed below for inclusion in the Implementation Plan are subject to appropriate public and stakeholder consultation, value for money, affordability, statutory processes and approval mechanisms.

Network Management				
Project Name	**Profiled Capital cost (£'000)**			
	2011/12	**2012/13**	**2013/14**	**3 year Total**
Lorry Route Map, including routing, restriction and consultations.	50	50	0	100
HGV Access Schemes	0	30	70	100
Central Urban Traffic Management Control and local traffic signal improvements	0	200	200	400
Improvements to traffic signals including providing facilities for disabled people and more efficient operation through use of new technology	125	125	150	400
Network Management - LTP2 commitments	229			229
	404	**405**	**420**	**1,229**

Public Transport Assets				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Records management, document management and collaborative working systems to support public transport assets	77	0	0	77
Bus shelter improvement programme in urban areas across West Yorkshire	854	427	43	1,323
Design work for Dewsbury Bus Station refurbishment	0	0	43	43
Upgrade of core elements of the Real Time Passenger Information system	128	128	128	384
Hardstanding improvement programme at rural bus stops across West Yorkshire	0	0	43	43
Replacement of life expired vehicles for Metro Local and FreeCityBus services	0	256	256	512
Replacement of life expired vehicles to support maintenance of public transport assets across West Yorkshire	128	0	0	128
Replacement of life expired vehicles to support maintenance of public transport assets across West Yorkshire	0	17	17	34
ICT programme to support public transport assets	60	154	102	316
Upgrade of the main Bus Services Timetable software which holds all West Yorkshire's service information	77	137	60	273
Repairs to carriageway at Bradford Interchange	38	342	0	380
Maintenance equipment for Metro bus stations across West Yorkshire	31	8	13	51
AccessBus Booking System with full demand responsive transport capacity	51	0	0	51
Provision of fixed cameras and screens at stands at Leeds bus station to assist bus drivers when reversing	171	85	0	256
Public Transport Assets - LTP2 Commitments	270	0	0	270
	1,885	**1,553**	**832**	**4,270**

Information				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Expanding public transport journey planning websites and other sources to include provision of walking, cycling and other travel information.	50	250	100	400
Bringing together current knowledge of West Yorkshire citizens and their travel needs to enable personalisation of information and ticketing provision.	50	100	100	250
Enabling customers to develop website information to suit their personal needs	50	50	100	200
Enhancing real time passenger information on anything that might disrupt normal running of transport networks and services, and providing alternative ways to travel.	75	75	75	225
Ensuring information is available on the move to phone-based internet services.	50	50	50	150
Enabling the benefits of real time public transport information to be rolled out more widely e.g. to employers, shopping centres, GP surgeries.	100	200	200	500
Variable Message Signs displaying travel information to help reduce congestion	0	200	200	400
Enabling provision of on-street information at key interchanges when travel centres are not available.	50	100	150	300
Minor measures to encourage sustainable travel	100	100	100	300
	525	**1,125**	**1,075**	**2,725**

Safety & Enforcement				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Provide/renew safety cameras to ensure effective enforcement and reduce casualties	225	225	225	675
Fixed bus lane enforcement cameras to assist bus operations	108	108	108	324
Mobile CCTV enforcement of bus lanes to assist bus operations	25	120	0	145
	358	**453**	**333**	**1,144**

Integrated ticketing				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Public Transport ticket vending machines / smartcard top up points, possibly in conjunction with information kiosk provision.	85	507	507	1,099
Issue of Smartcards to young people, MetroCard holders and pay as you go.	85	84	85	254
Smart enabled devices in schools to enable young people to pick up ticketing products.	17	51	51	119
Development of non transport smart products on ITSO cards such as library or leisure cards.	0	63	42	105
Upgrade of gates to accept Smartcards at Leeds, Bradford and other rail stations as they are gated to speed up movement through the gates and enhance customer satisfaction for regular travellers.	85	84	42	211
Smartcard equipment for AccessBus, MyBus and other LTP funded vehicles	0	127	85	212
	272	**916**	**812**	**2,000**

Demand Management & Enforcement				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Strategic signing to help reduce congestion in urban centres	50	75	0	125
Business case for Demand Management Measures	0	0	50	50
Automatic Number Plate Recognition to help management of traffic and provide information for future scheme development	100	100	50	250
	150	**175**	**100**	**425**

Active modes				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Enhanced walking routes linking communities with local facilities and public transport in Calderdale	30	25	21	76
Wakefield District Public Rights of Way / Pedestrian Improvements	30	30	30	90
High quality off-highway footpath routes in both urban and rural areas in Calderdale	20	15	15	50
Disabled Access (Kerbing & Parking Bays), Leeds	75	75	75	225
Public Rights of Way Network, Leeds	25	25	25	75
Walking and cycling route between Bradford City Centre and West Bowling	527	309	0	836
Bradford District wide walking/cycling measures including Rights of Way Improvements	50	50	50	150
Strategic on and off-road cycle network linking communities with employment, education and local facilities in Calderdale	115	100	65	280
Cycling and walking Greenway Programme, Kirklees	100	100	200	400
Small scale walking and cycle schemes in Kirklees	50	100	150	300
Map of Cycle Routes within Wakefield District	5	0	0	5
New cycleway linking Skills Exchange to Transpennine Trail, Castleford	80	0	0	80
Cycleway from Ossett to Dewsbury	0	75	0	75
Castleford Cycleway Network phase 1	0	100	0	100
Castleford Cycleway Network phase 2	0	0	150	150
Wakefield Strategic Cycle phase 1 network	0	0	150	150
Leeds Core Cycle Network Route 10 Bradford - City Centre Phase 1	223	25	0	248
Leeds Core Cycle Network Route 12 Garforth - City Centre	117	336	25	478
Leeds City Centre Core Cycle Network Route (East	0	15	115	130
Leeds City Centre Core Cycle Network Route (South)	0	15	125	140
Access to Cyclepoint Phase 3, Cookridge Street, Leeds.	100	0	0	100
Active Modes – LTP2 Commitments	**375**	**0**	**0**	**375**
	1,922	**1,395**	**1,196**	**4,513**

Local Integrated Transport				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Locally determined measures that meet LTP3 objectives including casualty reduction measures, safer routes to school, pedestrian crossing facilities, local parking management etc.	4,334	4,333	4,333	13,000
Measures to support transport hubs including pedestrian and cycling improvements, car share and hackney/ private hire facilities	250	500	250	1,000
Local Integrated Transport - LTP2 Commitments	265			265
	4,849	**4,833**	**4,583**	**14,265**

Bus priority				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Allerton Road, Bradford inbound bus lane	0	0	20	20
Bolton Road, Bradford outbound bus lane to Queens Road	30	0	0	30
Thornbury Gyratory, Bradford - scheme to be determined	0	0	60	60
Thornton Road, Bradford - inbound bus lane	0	0	70	70
Toller Lane, Bradford - both directions bus lanes	0	25	0	25
Woodside Road, Low Moor inbound bus lane	0	60	0	60
A646 minor bus priority measures	20	0	0	20
A629 Halifax to Huddersfield corridor bus priorities and enhanced public transport facilities	0	25	225	250
Brighouse town centre improvements to bus and general traffic flows	50	0	0	50
King Cross centre package of measures to improve access and bus service reliability	140	190	0	330
Bus priority on A629 Wakefield Road	10	450	0	460
Bus Priority on A644, Kirklees	170	20	400	590
Bus Priority in Huddersfield Town Centre	180	345	75	600
Canal Street (A647) Outbound Bus Lane	215	0	0	215
Dawson's Corner - Bradford Road - Outbound Bus Lane (linked to highways improvement scheme)	0	200	0	200
Gelderd Rd (A62) Inbound Bus Lane to Wheatsheaf Junction (linked to highways improvement scheme)	75	25	0	100
Horsforth Roundabout - Junction Signalisation.	0	0	200	200
Meanwoood Road - short length of bus lane at Grove Lane	185	75	0	260
Roundhay Road - combined bus priority and road safety scheme.	0	200	0	200
Park and Ride (Associated Bus Priority Measures.)	0	0	150	150
Scott Hall Road Guideways - minor upgrades	25	0	0	25
York Road Guideways - minor upgrades	25	0	0	25

Churwell Hill/Ring Road Inbound Bus Lane	100	0	0	100
Harrogate Road - Inbound Bus Lane	0	0	500	500
Bus gate on Westgate, Wakefield City centre	250	0	0	250
Bus Lane extension and bus priority measures - Dewsbury Road, Wakefield	0	200	200	400
Bus Lane extension and bus priority measures, Horbury Road, Wakefield	0	0	250	250
Bus Priority measures at junctions, Barnsley Road, Wakefield	0	0	125	125
Dewsbury Road /Tommy Wass Junction, Junction Capacity & Bus Gate.	1,007	50	0	1,057
Bus Priority - LTP2 Commitments	255	5	0	260
	2,737	**1,870**	**2,275**	**6,882**

Hubs				
Project Name	**Profiled Capital cost (£'000)**			
	2011/12	**2012/13**	**2013/14**	**3 year Total**
Hubs implementation: define and agree locations; branding; define key components of a hub; develop schemes.	200	0	0	200
Corn Exchange, Leeds - development as an interchange hub.	0	0	75	75
Develop and deliver partnership scheme with other funders to deliver a single interchange hub at Castleford.	0	500	370	870
Information Points, passenger shelters, seats and other street furniture at each hub.	0	750	750	1,500
Bus Station Programme	1,058	0	0	1,058
Hubs - LTP2 Commitments	25	0	0	25
	1,283	**1,250**	**1,195**	**3,728**

Bus QC / Partnership				
Project Name	**Profiled Capital cost (£'000)**			
	2011/12	**2012/13**	**2013/14**	**3 year Total**
Develop Bus Quality Contract / Bus Partnership Scheme	100	100	100	300

WYSPS & Major schemes				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Contribution to the new pedestrian entrance for the south side of Leeds Rail Station, reducing pedestrian congestion and providing a quicker, easier route to the south of Leeds	259	1,003	280	1,542
New Rail Stations with car parking at Kirkstall Forge (Leeds) and Apperley Bridge (Bradford)	56	181	101	338
New combined bus and rail interchange for Castleford town centre	400	400	67	867
Connecting Airedale - improvement works to Saltaire roundabout	344	1,656	0	2,000
Kirklees Strategic Economic Zone - junction improvements, bus lane and bus priority facilities on A62	1,139	0	0	1,139
Repairs to Leeds Inner Ring Road	1,992	0	0	1,992
North Wakefield Gateway - junction, pedestrian and bus priority improvements , Leeds Road / Wentworth Street, Wakefield	3,650	0	0	3,650
New Rail Station and car park at Low Moor, Bradford	488	2,382	2,527	5,397
Introducing Traffic Light Priority for buses at up to 200 traffic signal locations throughout West Yorkshire	600	110	0	710
Further Development of LTP3	442	0	0	442
Development of NGT (a Trolleybus system for Leeds) & other major schemes to support Jobs and housing growth	3,000	0	0	3,000
	12,370	**5,732**	**2,975**	**21,077**

Highways Improvements				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Connecting Airedale Stage 3 - Canal Road / Valley Road / Otley Road Improvements	325	275	200	800
A629 junction improvements	85	0	0	85
A646 Mytholmroyd highway and junction improvements	75	140	0	215
Elland town centre improvement package of measures	0	70	135	205
New highway link from Green Lane to the industrial estate, Featherstone	0	300	300	600
Town End junction highway improvement to increase capacity at junction bottleneck, Pontefract	0	300	300	600
Aberford Road / Jacobs Well Lane junction improvement, Wakefield	80	0	0	80
Junction improvements on the A629 Wakefield Road, Kirklees	155	0	0	155
Dewsbury Ring Road traffic signal improvements	212	0	0	212
A651 Junction / traffic signal upgrades, Kirklees	60	0	0	60
Signal upgrades on A638 Heckmondwike	0	0	200	200
Strategic junction improvements on A62, Kirklees	0	250	0	250
Horsforth Roundabout - Junction Signalisation (Linked to BP Scheme).	100	300	500	900
Armley Gyratory - Outline Design Proposals.	50	50	50	150
Gelderd Road - Highway Improvements (Linked to bus priority scheme).	110	10	0	120
M621 J2 (Islington Roundabout).- Junction Signalisation	60	250	15	325
Dawson's Corner - Bradford Road junction improvement (Linked to bus priority scheme). .	50	50	150	250
A647 Leeds Rd /A6177 Killinghall Rd, Laisterdyke Junction Improvements completion including pedestrian/cycle facilities.	50	0	0	50
Development of future highways improvements	153	154	197	504
Highways Improvements - LTP2 Commitments	665	134		799
	2,230	**2,283**	**2,047**	**6,560**

Rail				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Safety & Security improvements including CCTV & better lighting at 10 locations across West Yorkshire	100	100	100	300
Customer Information Screens at 42 stations (5 in Calderdale, 8 in Leeds, 15 in Kirklees, 14 in Wakefield)	419	500	0	919
General improvements to passenger facilities at rail stations, including Pontefract Monk Hill and a number of other stations	205	200	200	605
Improvements at various locations to assist access to rail stations, including better signage and walking routes to and from stations and improved access to platforms	150	150	150	450
Car park Enhancements and expansion at Crossflatts, Sowerby Bridge, Pontefract Monkhill, Mirfield and Todmorden Rail Stations	636	1,002	425	2,063
Contribution to National Station Improvement Programme at Huddersfield and Dewsbury rail stations	50	0	0	50
Contribution towards additional rail depot facilities for rolling stock	500	0	0	500
Strategic rail infrastructure and service development planning including the Northern Hub	115	65	70	250
Development of proposals for Tram Train on the Harrogate Line	50	50	50	150
	2,225	**2,067**	**995**	**5,287**

Future development				
Project Name	Profiled Capital cost (£'000)			
	2011/12	2012/13	2013/14	3 year Total
Development of schemes for delivery from 2014 onwards	75	75	100	250
Management and Monitoring of LTP3	190	190	180	560
Development of funding bids as required to access additional support for transport projects	100	100	100	300
	365	**365**	**380**	**1,110**

TOTAL INTEGRATED TRANSPORT	**31,675**	**24,522**	**19,318**	**75,515**

Appendix A2.
Implementation Plan 2011/12:
Highways Maintenance Project Sheets

All potential schemes listed below for inclusion in the Implementation Plan are subject to appropriate public and stakeholder consultation, value for money, affordability, statutory processes and approval mechanisms.

Bradford Transport Asset Management Plan 2011/12			
Resurfacing / Reconstruction			
A58 Whitehall Road, Wyke	B6265 Main Road, Eastburn	Cliffe Lane West, Baildon	New Brighton, Cottingley
A6033 Hebden Bridge Road, Oxenhope	B6265 Skipton Road, Utley	Crooke Lane, Wilsden	New Lane, Tyersal
A6035 East Parade, Keighley	B6265 Bradford Road, Riddlesden	Darfield Street, Manningham	New Works Road, Low Moor
A6036 Halifax Road, Odsal	B6265 Keighley Road, Steeton	Dockfield Road, Shipley	Nile Road, Ilkley
A6038 Otley Road	B6379 Town Gate, Wyke	Duchy Grove, Heaton	North Dean Road, Keighley
A6038 Hollins Hill	B6381 Leeds Old Road	Dunkirk Rise, Riddlesden	North Road, Wibsey
A6177 Laisterdyke, Laisterdyke	C111 Dick Lane	Ellercroft Road / Avenue, Lidget Green	Odsal Road, Odsal
A6177 Sticker Lane	C111 Legrams Lane, Lidget Green	Foster Park Road, Denholme	Old Langley Lane,
A6177 Killinghall Road	C111 Listerhills Road	Gill Bank Road, Ilkley	Reevy Road, Wibsey
A6181 Canal Road	C111 Swain House Road	Gladstone Street, Bradford Moor	Reva Syke Road, Clayton
A629 Bridge Street, Keighley	C111 Kings Road	Greenside Lane, Cullingworth	Roundhill Street, Little Horton
A629 Aire Valley Road	C501 Otley Road, East Morton	Greystones Lane, Oakworth	Rufus Street, Little Horton
A629 Halifax Road	C504 Keighley Road, Cullingworth	Hall Lane, East Bowling	Sedbergh Park, Ilkley
A644 Albert Road, Queensbury	C508 Potter Brow Road	Hallfield Road, Manningham	Shelley Grove, Fairweather Green
A644 Brighouse and Denholme Road	Various: Surface Dressing (other classified roads)	Hardings Lane, Ilkley	Sherrif Lane, Eldwick
A644 Brighouse Road, Queensbury	Various: Minor Works (other classified roads)	Hardy Street, Wibsey	St James Road, Baildon
A647 Great Horton Road	Altar Drive, Heaton	Harris Street, Bradford	St Thomas's Road / Longcroft Link, Bradford
A647 Ford Hill / Ford, Queensbury	Apsley Street, Keighley	Heather Grove, Keighley	Staithgate Lane, Odsal
A647 Halifax Road, Queensbury	Back Springswood Place, Nabwood	High Fernley Court, Wyke	Stott Hill, Bradford
A647 High Street, Queensbury	Barwick Green, Buttershaw	Highfield, Tong	Tarn Lane, Keighley
A647 Sandbeds, Queensbury	Ben Rhydding Road, Ilkley	Hustson Street, Little Horton	Thorn Lane, Heaton
A647 West End, Queensbury	Bertram Road, Manningham	Kershaw Street, Laisterdyke	Thornaby Drive, Clayton
A65 Skipton Road, Ilkley	Bradford Lane, Laisterdyke	Langbar Rd / Denton Road, Ilkley	Upper Heights Road, Thornton

A650 Westgate Hill Street, Tong	Bradford Road, Idle	Larch Drive, Odsal	Victoria Road, Haworth
A650 Bingley Road, Saltaire	Bridge Street, Bradford	Leaventhorpe Lane, Thornton	Watkin Avenue, Thornton
A657 Leeds Road	Briggs Street, Queensbury	Long Lane / Shay Lane, Heaton	Wells Walk, Ilkley
A658 Church Bank, Bradford	Broadhead Lane, Oakworth	Lord Street, Keighley	Wharncliffe Road, Frizinghall
Various: Surface Dressing (PRN)	Brook Street, Ilkley	Main Street, Haworth	Wheatlands Grove/Crescent/Avenue, Heaton
Various: Minor Works (PRN)	Buckle Lane, Menston	Markfield Drive, Low Moor	Windermere Road, Great Horton
B6143 Keighley Road (Lidget), Oakworth	Bude Road, West Bowling	Merrydale Road, Bierley	Windsor Road, Oakworth
B6143 Colne Road, Oakworth	Burley Lane, Menston	Midland Road, Manningham	Woodlands Grove, Cottingley
B6144 Toller Lane, Manningham	Calver Avenue, Keighley	Moody Street	Surface Dressing (non-classified roads)
B6144 Whetley Hill, Manningham	Castle Road, Ilkley	Moorside Road, Fagley	Applied Surface Treatments (non-classified roads)
B6160 Bolton Road, Addingham	Cemetery Road, Lidget Green	Morethorpe Ave, Bradford Moor	Minor Works (non-classified roads)
B6249 Bingley Road, Cullingworth	Clayton Lane, Clayton	Ned Lane, Holmewood	

Bridges, structures and retaining walls			
B3394 Rough Top Retaining Wall	B3124 Christchurch	B8353 Chat Hill Road	B0198 River Aire Bridge, A650
B3368 Upper Bradshaw Head Farm.	B8120 North Bank Road	B8222 Green Sykes Wall	B1100 Nab Wood No 3, A650
B3369 2 - 10 Denholme Road.	B8106 Scott Lane Riddlesden	B3129 St Enochs Road Retaining Wall	B0041 Ingrow, A629
B8237 Bradshaw Head East Wall	B3129 Prospect Grove	B0210 Hebden Road Viaduct Drainage	

Street Lighting			
Stoney Ridge Avenue, Heaton	Main Road, Eastburn	The Drive, Crossflatts	Back Norman Terrace, Eccleshill
North Park Road, Manningham	Skipton Road, Eastburn	Kendall Avenue, Shipley	Back Marlborough Road, Eccleshill
Grove House Road, Bolton	Keighley Road, Utley	Ashfield Avenue, Frizinghall	Scarborough Road, Shipley
Myers Lane, Bolton	Alexandra Road, Shipley	Valley Road, Shipley	Fagley Lane, Eccleshill
Leeds Road, Shipley	Providence Lane, Haworth	Station Road, Baildon	Birchlands Avenue, Wilsden
Glenside Road, Windhill	Brighouse Road, Denholme Gate	Green Road, Baildon	Carr Lane, Windhill
Skipton Road, Utley	Hallowes Park Road, Cullingworth	Back Mount St North, Eccleshill	Rear Bargrange Ave, Shipley
Skipton Road, Steeton	Stapper Green, Wilsden	Back Mount St South, Eccleshill	Valley Road, Bradford

Calderdale Transport Asset Management Plan 2011/12			
Resurfacing / Reconstruction			
Burnley Road (A646), Hebden Bridge	Proprietary Surface Treatment, various locations	Beestonley Lane, Stainland	Broad Street, Halifax
Calderdale Way (A629), Elland	Surface Dressing, various locations	Ewood Lane, Todmorden	Victoria Rd (C567) (Elland), Blackstone Edge Rd (B6138), Hebden Bridge, Gibbet St, (Halifax) & Listers Rd, (Halifax).
Pellon Lane (C 5955), Halifax.	Anti-skid, various locations	Shay Lane, Halifax	Blackstone Edge Rd (B6138)
Elland Road (B6113), Ripponden	Mission Street/Calder Street/River Street, Brighouse	North Parade	Hebden Bridge, Gibbet St, (Halifax)
Pellon New Road (C5955), Halifax	Cross Lane, Elland	Gibb Lane	Listers Rd, (Halifax).
General Structural Maintenance of Carriageways, various locations	Doghouse Lane, Todmorden	School Lane, Illingworth - Phase 2	
Bridges, structures and retaining walls			
Priest Lane, Ripponden - Bridge no 75 (Waterloo)	A646 Halifax Road, Eastwood - Bridge no 28 (Sandbed)	Denfield Lane, Ovenden - major burr wall maintenance	A58 Rochdale Road, Triangle - major burr wall maintenance
Bridge Gate, Hebden Bridge - Bridge no 2132 (Hepton Old)	Holdsworth Road, Holmfield - Bridge no 4053 (disused Rly No 6 Holmfield)	Woodhouse Lane, Brighouse - Bridge no 4113 (Wood House)	Scout Road, Mytholmroyd - major burr wall maintenance
Station Road, Luddendenfoot - Bridge no 71 (Boy)			
Street Lighting			
Wade Street (Halifax), Phase 2	Banksfield Estate (Mytholmroyd) - Phase 10	Spring Edge (Halifax) – Phase 2	LED lighting trial
Long Wall (Elland) – Phase 2	Caldene Avenue (Mytholmroyd) – Phase 1	Richmond Road (Halifax) – Phase 4	Upgrading existing street lighting furniture incorporating new energy saving equipment

Kirklees Transport Asset Management Plan 2011/12

Resurfacing / reconstruction			
A652 Bradford Road / A643 Church Lane, Birstall	A652 Oxford Road, Gomersal	Forge Lane, Thornhill	C997 Northgate / Westgate, Almondbury
Principal Road Surfacing Dressing Programme	A616 Woodhead Road, Bridge St, Lockwood Rd	B6106 Dunford Road, Holmfirth	C578 Marsh Lane, Shepley
Minor Maintenance - Pre Surface dressing patching	B & C Road Surface Dressing Programme	C6117 Calder Road, Ravensthorpe	B6107 Holmfirth Road / Coach Road, Meltham
A640 Gledholt Roundabout	Minor Maintenance - Pre surface dressing patching	C998 Acre Street, Lindley	C565 Turnshaw Road, Kirkburton
A643 Spen Lane, Gomersal	B6432 Colne Road, Newsome	C554 St Marys Lane / School Lane, Kirkheaton	C629 Blacker Road, Birkby
A6024 Woodhead Road, Honley	B6117 Fall Lane, Dewsbury	C641 Paddock Roundabout / Lowergate, Paddock	

Bridges, structures and retaining walls			
Minor Retentions (roads connecting communities)	Ottiwells Bridge, Marsden	A644 Hudds Rd, Mirfield - Phase 2	Deanbrook Culvert, Holmfirth
Minor Retentions (structures)	Mill Moor Road Culvert, Meltham	A638 Crackenedge Lane, Dewsbury	Dalton Bank Rd Bridge, Colnebridge
Minor Structural Maintenance (structures)	Roundwood Beck Culvert, Dalton	Wood End Bridge, Slaithwaite	
Walling Works (structures)	Whitehall Way Bridge, Dewsbury	Halifax Old Rd Bridge, Fartown	
Interim Measures (structures)	Milns Bridge, Milnsbridge	Brownhill Lane Bridge, Holmbridge	

Street lighting			
Highbridge Lane, Skelmanthorpe	Kaye Lane, Almondbury	Long Lane, Dalton	Meltham Road, Netherton
Huddersfield Road, Meltham	Huddersfield Road, South Crosland	Meltham Road, Lockwood	Bradford Road, Cleckheaton

Leeds Transport Asset Management Plan 2011/12			
Resurfacing / reconstruction			
Highways Non Principal, Classified & Distributor Road Programme	Brigshaw Lane	Highway Principal Road Programme	Eccup Lane
Minor Works	Street 5, Thorp Arch	Ring Road Farnley	Newton Lane
Surface Treatment	Kirkstall Lane	Harrogate Road	Holyrood Lane
Coal Road	Gledhow Lane	Wetherby Road	Bradford Road
Tong Road	Walton Road	Selby Road	Otley Old Road
Bradford Road	Brigshaw Lane	Highway Urban Distributor Road Programme	East Chevin Road
Wood Lane	Hough Side Road	Surface Treatment Proposals	Carlton Lane
Church Street	Branch Road	Weardley Lane	
South Parkway	Fall Lane	Bayhorse Lane	

Bridges, Structures and Retaining Walls			
Woodhouse Tunnel A58	Hough End Footbridge A647	Wellington Road North Footbridge A58	Silver Mill Hill Footbridge A660
Lovell Park Road Bridge A64	Hough End Footbridge A647	Westgate Footbridge A58(M)	Woodside Bridge A6120
Balm Road Railway Bridge	Osmondthorpe Footbridge	Front Street Bridge C13	Sturdy Beck Culvert A61
Redbeck Bridge A65	Skinner Lane Bridge	Fall Lane Railway Bridge	Pool Bank Culvert A658
Richardshaw Lane Bridge A647	Ellar Ghyll North Culvert A6039	Wortley Road Railway Bridge	Marsh Beck Culvert A660
Swinnow Lane Bridge A647	New York Road Viaduct Eastbound A64(M)	Brigshaw Lane Bridge	Low Mill Road Bridge A6610
Calverley Street Bridge A58	Otley Bridge B6451	Blackburn Court Bridge	Woodman Inn Culvert A653
Spofforth Hill Bridge A661	Old Road Bridge	Berry Lane Railway Bridge	Leeds Bridge
Ring Road Farnley Bridge A6110	Robin Hood Bridge A61	Gillett Bridge	Water Lane Footway Cantilever
Shaftsbury Footbridge A64	Whackhouse Lane Railway Bridge	Cartmell Drive Bridge	Gipton Beck Footway Cantilever
Branch Road Bridge	Leeds & Bradford Road Burr Wall B6157	Dunhill Rise Bridge	Burley Street Viaduct
Parkin Lane Canal Bridge	Abbey Road Retaining Wall A65	Bagley Lane Bridge C507	Miscellaneous Retaining Wall Repairs
A657 Retaining Wall Works (Various locations)	Oatland Lane Bridge A58	Howley Beck Culvert	Inner Ring Road
Valley Farm Bridge A61	Rodley Lane Culvert A657	Quarry Hill Footbridge A64(M)	A647 Stanningley Road
Jum Beck Culvert C508	Bay Horse Farm Culvert	Whitehall Road Bridge A58	York Road
Selby Road Culvert A63	Thorner Lane Culvert	Calverley Railway Bridge A6120	Otley Road
Spring Valley Crescent Footbridge A647	Bridge C12	Viaduct Road Arches	Britannia Road

NB: No planned street lighting renewal schemes due to recently undertaking renewal of the vast majority of street lighting stock across Leeds as part of the PFI initiative.

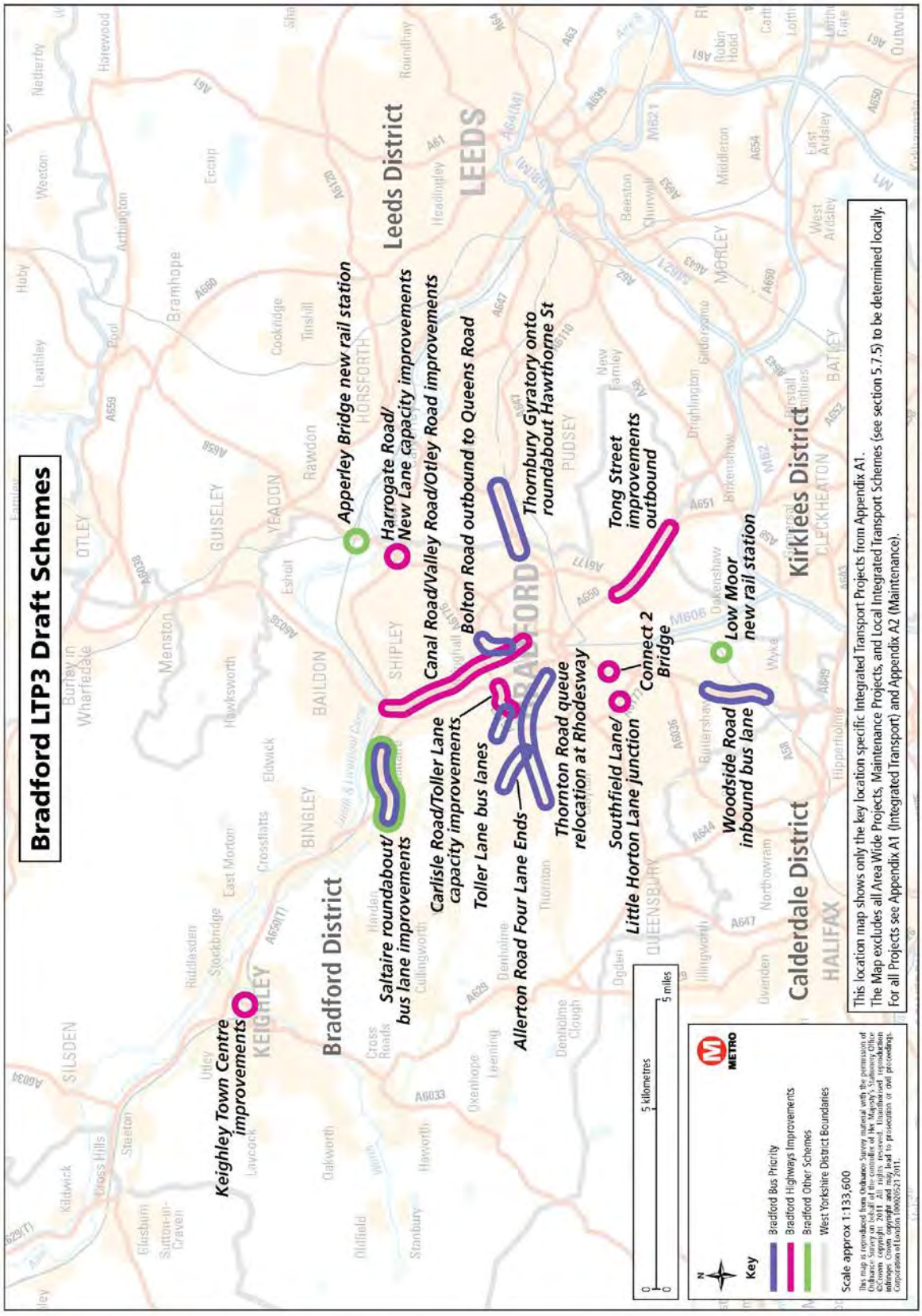
Wakefield Transport Asset Management Plan 2011/12			
Resurfacing / Reconstruction			
Watling Road - Bowness Avenue to Grange Road	A636 Red Kite Roundabout	A628 Pontefract Road - B6421 Purston Lane to Quaker School	A642 New Road - House No.57 to Lighting Column No.27
Ferrybridge Road - school boundary to Park Rise	Wood Lane - A642 New Road to boundary	B6132 Chevet Lane - Woodthorpe Lane to Walton Station Lane	B6133 Snydale Road - Whin Mount to Castleford Road
Moorfield Crescent - Marton Avenue to Beechwood Mount	Lindale Lane - Lindale Garth to Sunny Hill	Hill Top Road - Hill Road to Lodge Lane	A642 Horbury Road - Cumbrian Way to Redoubt Pub
Pinders Garth - Doncaster Road to Fishergate	Station Road - Ferry Top Lane to School Lane	Leake Street - A656 Pontefract Road to Ferrybridge Road	A61 Barnsley Road - District Boundary to Seckar Lane
B6129 Wakefield Road - Milner Way to Dale Street	Brandy Carr Road - Batley Road to Jerry Clay Lane	Park Lodge Crescent - Park Lodge Lane to end	A642 Aberford Road - Lake Lock Road to Moorhouse Grove
Water Lane - Bondgate to Ferrybridge Road	Milnthorpe Lane - A61 Barnsley Road to Milnthorpe Drive	B6389 Agbrigg Road - A61 Barnsley Road to A638 Doncaster Road	B6128 Kingsway - Ventnor Way Roundabout to Leeds Road Roundabout
Fairfax Road - J/W Cromwell Crescent to J/W Harewood Ave	Kimberly Close	South Parade - Teall St to Manor Road	B6136 Holywell Lane - A656 Front Street Roundabout to Fryston Road
Church Avenue - Church View to Church Mount	Highfield Place	Park Lodge Lane - Linton Road to Windhill Road	B6428 Hemsworth Lane - B6273 Garmil Head Lane to Ofley Bridge
Church Avenue - Church Mount to end	Slack Lane - A61 Barnsley Road to School Lane	Maltkin Drive - Bretton Lane to End	B6428 Ofley Lane - Ofley Bridge to A638 Doncaster Road Rounadout
Ouchthorpe Lane - Bar Lane to Hatfield View	Alden Crescent - Mill Hill Lane to House No 38	Adwick Grove - Kettlethorpe Road to end	B6273 Wakefield Road - B6428 Hemsworth Lane to Cross Hill
Barstow Square	Apple Tree Close - Larks Hill to House No 8	Sunny Bank - Alexandra Drive to Queen Elizabeth Drive	C89 Lodge Lane - Hill Top Road to B6132 Chevet Lane
Kensington Road - A61 Leeds Road to Richmond Road	Pledwick Lane - Woodland Drive to Woodthorpe Lane	A656 Front Street - A6539 Leeds Road Roundabout to B6136 Holywell Lane Roundabout	Walton Lane - A61 Barnsley Road to C89 Oakenshaw Lane
Warwick Street - Agbrigg Road to end	Queen Elizabeth Road - A642 Stanley Road to Warmfield View	Rose Avenue - Common Lane to Sunny Avenue	A650 Wrenthorpe Bypass - A61 Leeds Rd Roundabout to Paragon Avenue Roundabout
Elizabeth Drive	A642 Stanley Road - Jacobs Well Lane to Pinder's Grove	Doncaster Road - Thorpe Lane to Station Road	A650 Wrenthorpe Bypass - Paragon Avenue Roundabout to Kenmore Road Roundabout
B6421 Aketon Road - Rivelin Road to Westwood Road	A642 Aberford Road - Pinder's Grove to Bar Lane	Colonels Walk - Stuart Road to end	B6422 Hague Lane - A628 Hemsworth Bypass Roundabout to Holmsley Lane

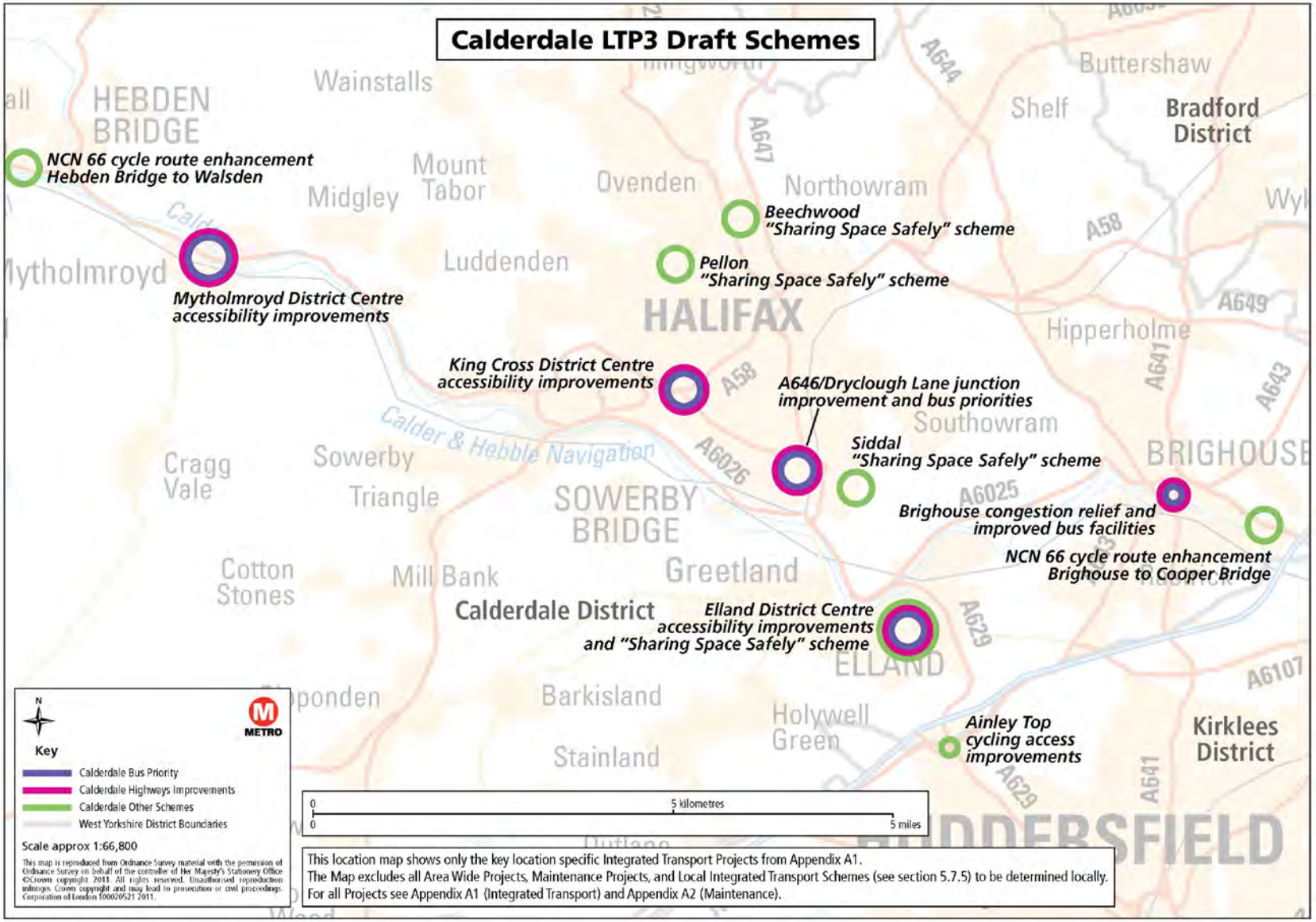
Bridges, structures and retaining walls						
Spawd Bone Lane, refurbishment		Principal inspections		UK Coal Bridge, Kirkgate Lane, South Hiendley		Cow Lane Railway Bridge, Sharlston
Headlands Lane footbridges, refurbishment		Alverthorpe Road / Westgate parapet walls		UK Coal Bridge, Santingley Lane, Crofton		
Carry over from 2010/11 schemes (Applehaigh Culvert; Outwood School footbridge; Alverthorpe Bridge)		UK Coal Bridge, Waggon Lane, Upton		UK Coal Bridge, Back Lane, Wintersett		

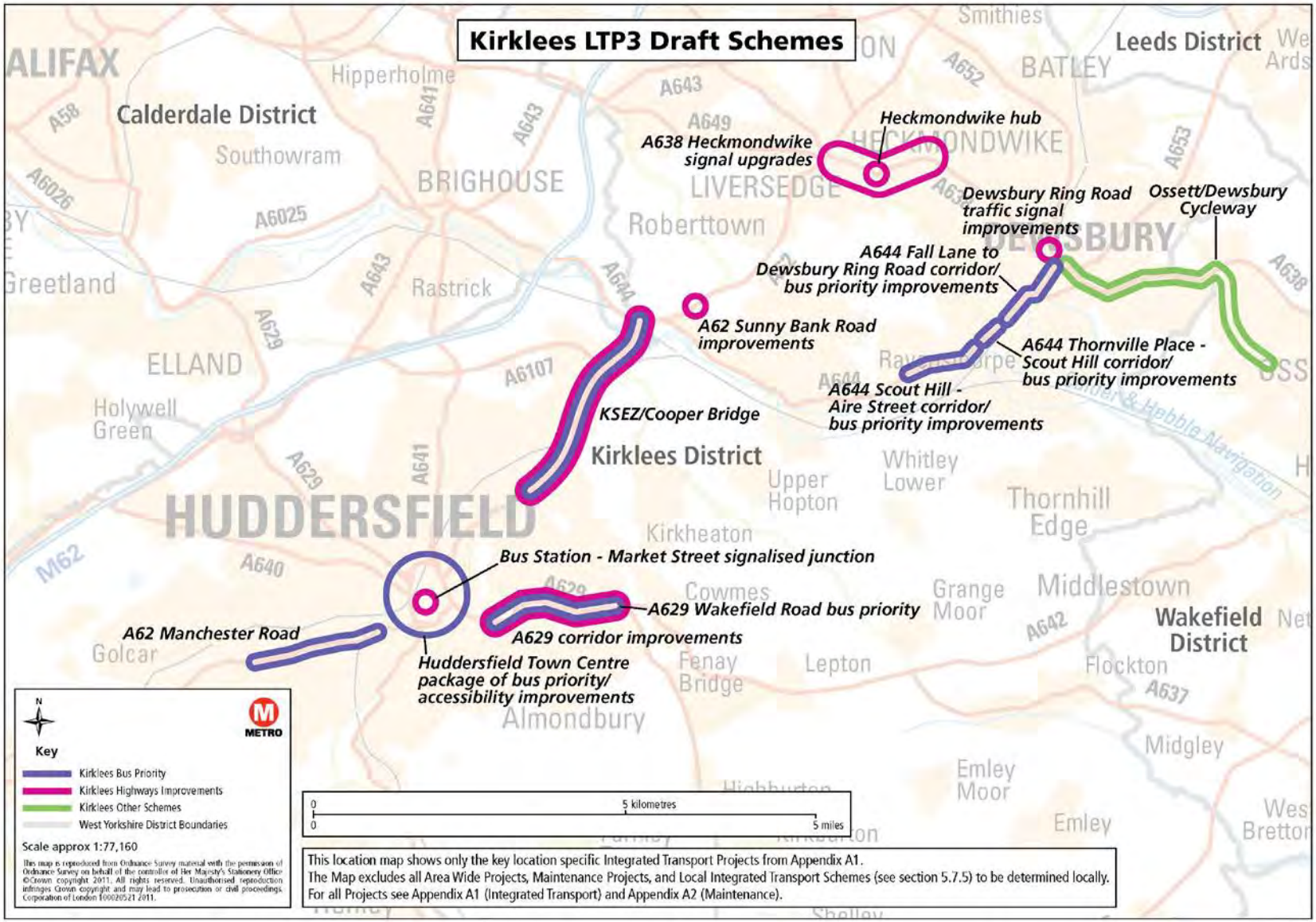
Appendix A3.
Implementation Plan 2011-14:
New Ways of Working

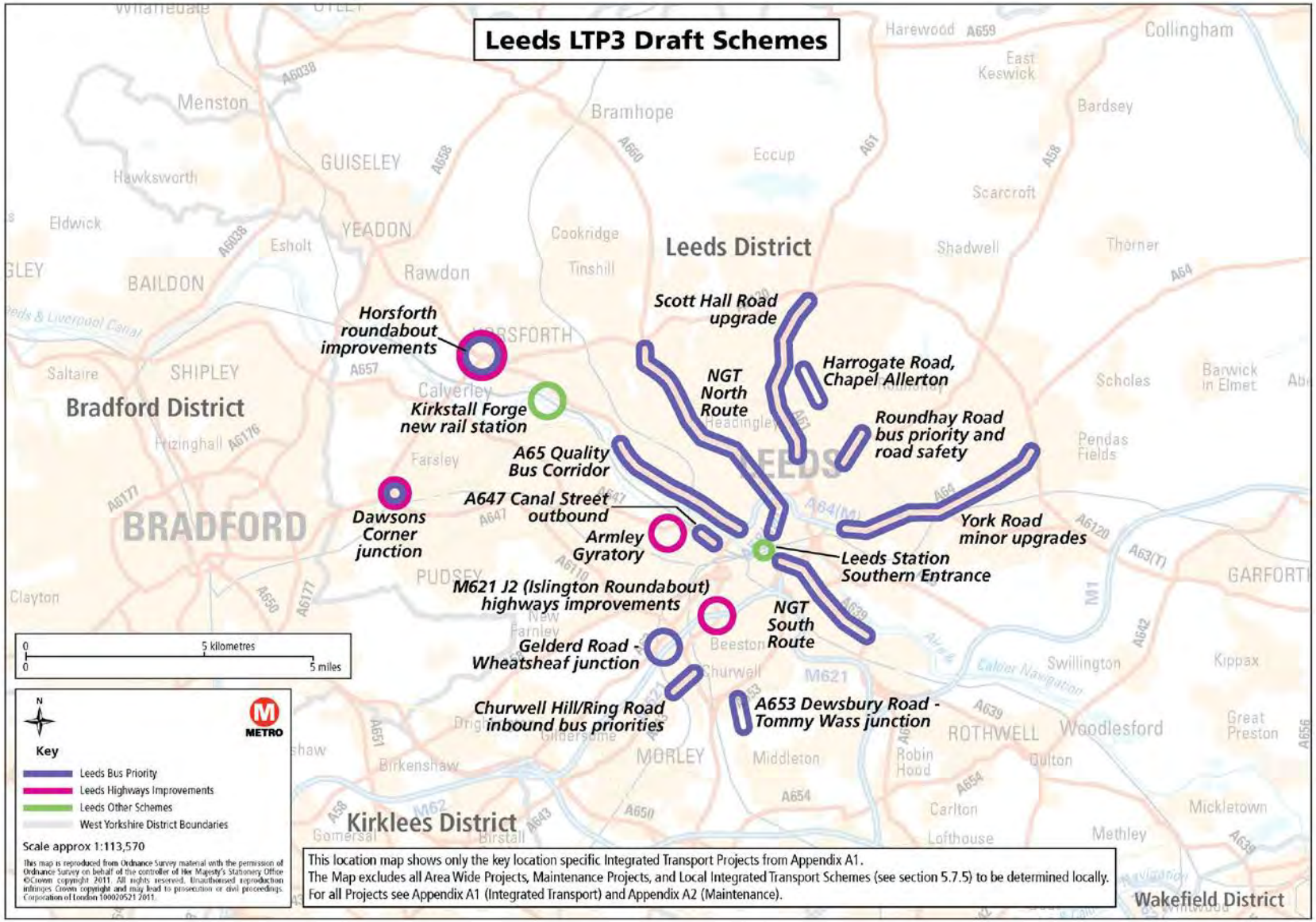
Process	Proposal	Strategy Approach
Adapt processes according to the transport user and route hierarchy	1, 4	Assets
Review the costs and benefits of adopting 'whole life costing' principles into business case and procurement exercises.	2, 5	Assets
Undertake cross District/ Metro joint procurement where possible and beneficial.	2	Assets
Develop a Transport Asset Management Plan	2	Assets
Develop approach to use the Voluntary sector where possible and feasible (e.g. winter salting local champions)	2	Assets
Undertake a Parking Review	11	Choices
Develop an Emergency Response Plan	3	Assets
Review the costs and benefits of adopting 'carbon accounting' into business case and procurement exercises	2, 3, 5	Assets
Increase partnership working, including cross sector (such as with the health service/ planning etc.)	2, 10, 17	Assets, Choices, Connectivity
Develop consistent Development Guidelines (e.g. travel planning, Transport Assessments, Parking policy, developer contributions, design guides etc.)	6, 12	Choices
Embed LTP3 in LDF Development Strategies	6, 12, 17, 25	Choices, Connectivity, Enhancements
Establish a New Approach to Transport Funding and Local Decision making.	All	All
Develop collaboration on bids and services	2, 10, 17	All
Cary out Value Engineering processes to reduce front end business case costs procurement costs, statutory undertaker costs, and supply partnerships costs,)	2	All

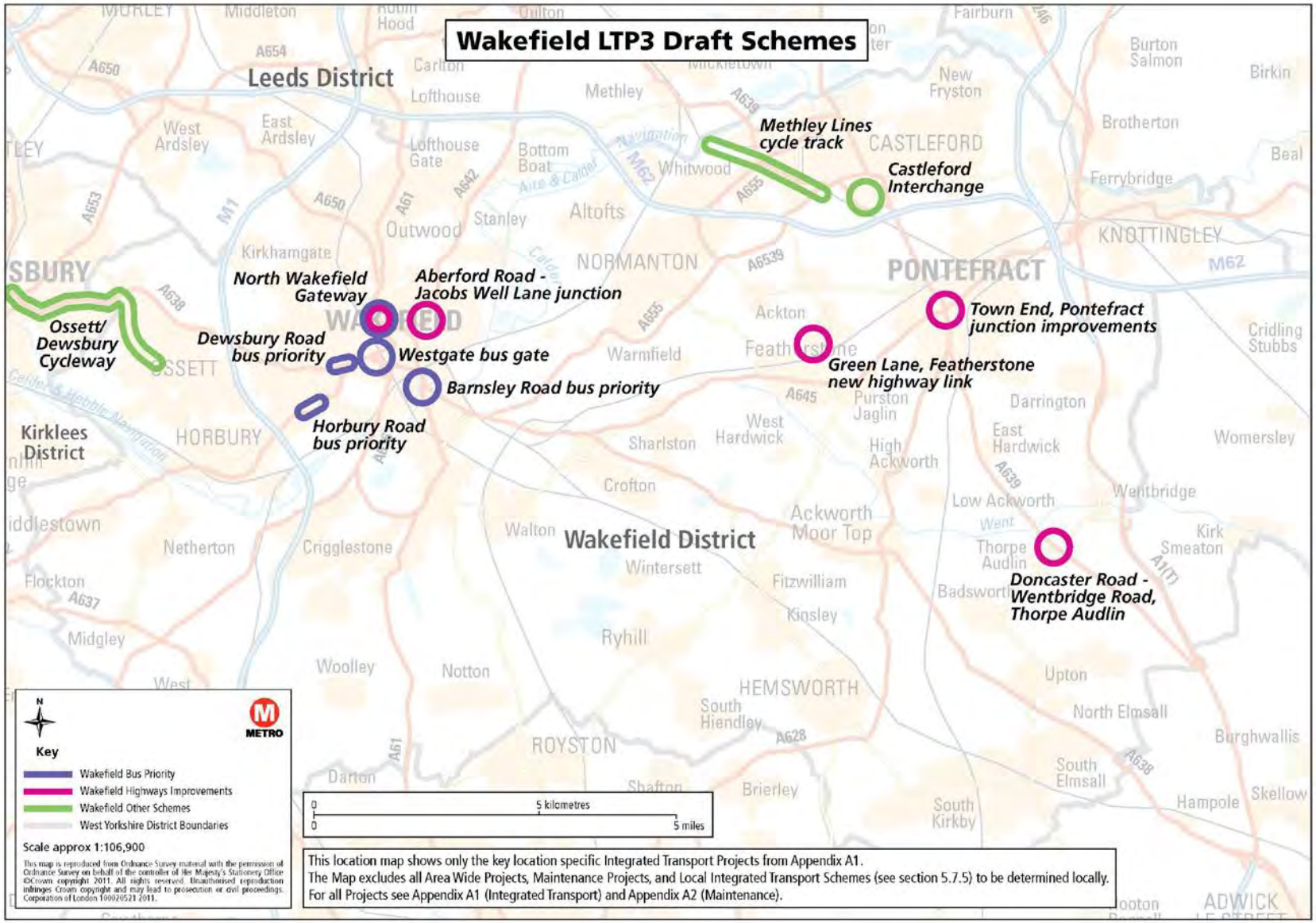
Appendix A4.
Implementation Plan 2011/14:
Location of Key Projects




Calderdale LTP3 Draft Schemes
NCN 66 cycle route enhancement Hebden Bridge to Walsden
Mytholmroyd District Centre accessibility improvements
Beechwood "Sharing Space Safely" scheme
Pellon "Sharing Space Safely" scheme
King Cross District Centre accessibility improvements
A646/Dryclough Lane junction improvement and bus priorities
Siddal "Sharing Space Safely" scheme
Brighouse congestion relief and improved bus facilities
NCN 66 cycle route enhancement Brighouse to Cooper Bridge
Calderdale District
Elland District Centre accessibility improvements and "Sharing Space Safely" scheme
Ainley Top cycling access improvements
Bradford District
Kirklees District
HEBDEN BRIDGE
Wainstalls
Mount Tabor
Midgley
Ovenden
Northowram
Shelf
Buttershaw
Luddenden
HALIFAX
Hipperholme
Southowram
BRIGHOUSE
Sowerby Triangle
Cragg Vale
SOWERBY BRIDGE
Greetland
Mill Bank
Cotton Stones
ELLAND
Barkisland
Holywell Green
Stainland
Calder & Hebble Navigation
A644
A647
A58
A649
A643
A641
A6026
A6025
A629
A6107
Key
Calderdale Bus Priority
Calderdale Highways Improvements
Calderdale Other Schemes
West Yorkshire District Boundaries
METRO
Scale approx 1:66,800
0 5 kilometres
0 5 miles
This location map shows only the key location specific Integrated Transport Projects from Appendix A1.
The Map excludes all Area Wide Projects, Maintenance Projects, and Local Integrated Transport Schemes (see section 5.7.5) to be determined locally.
For all Projects see Appendix A1 (Integrated Transport) and Appendix A2 (Maintenance).


Kirklees LTP3 Draft Schemes
Heckmondwike hub
A638 Heckmondwike signal upgrades
Dewsbury Ring Road traffic signal improvements
Ossett/Dewsbury Cycleway
A644 Fall Lane to Dewsbury Ring Road corridor/ bus priority improvements
A62 Sunny Bank Road improvements
A644 Thornville Place - Scout Hill corridor/ bus priority improvements
A644 Scout Hill - Aire Street corridor/ bus priority improvements
KSEZ/Cooper Bridge
Kirklees District
Bus Station - Market Street signalised junction
A629 Wakefield Road bus priority
A629 corridor improvements
A62 Manchester Road
Huddersfield Town Centre package of bus priority/ accessibility improvements
Calderdale District
Leeds District
Wakefield District
HUDDERSFIELD
BRIGHOUSE
DEWSBURY
BATLEY
LIVERSEDGE
ELLAND
Key
Kirklees Bus Priority
Kirklees Highways Improvements
Kirklees Other Schemes
West Yorkshire District Boundaries
Scale approx 1:77,160
0 5 kilometres
0 5 miles
This location map shows only the key location specific Integrated Transport Projects from Appendix A1.
The Map excludes all Area Wide Projects, Maintenance Projects, and Local Integrated Transport Schemes (see section 5.7.5) to be determined locally.
For all Projects see Appendix A1 (Integrated Transport) and Appendix A2 (Maintenance).


Leeds LTP3 Draft Schemes
Horsforth roundabout improvements
Kirkstall Forge new rail station
Dawsons Corner junction
A65 Quality Bus Corridor
A647 Canal Street outbound
Armley Gyratory
M621 J2 (Islington Roundabout) highways improvements
Gelderd Road - Wheatsheaf junction
Churwell Hill/Ring Road inbound bus priorities
Scott Hall Road upgrade
NGT North Route
Harrogate Road, Chapel Allerton
Roundhay Road bus priority and road safety
York Road minor upgrades
Leeds Station Southern Entrance
NGT South Route
A653 Dewsbury Road - Tommy Wass junction
Leeds District
Bradford District
Kirklees District
Wakefield District
BRADFORD
Key
Leeds Bus Priority
Leeds Highways Improvements
Leeds Other Schemes
West Yorkshire District Boundaries
Scale approx 1:113,570
0 5 kilometres
0 5 miles
METRO
This location map shows only the key location specific Integrated Transport Projects from Appendix A1.
The Map excludes all Area Wide Projects, Maintenance Projects, and Local Integrated Transport Schemes (see section 5.7.5) to be determined locally.
For all Projects see Appendix A1 (Integrated Transport) and Appendix A2 (Maintenance).


Wakefield LTP3 Draft Schemes
Methley Lines cycle track
Castleford Interchange
North Wakefield Gateway
Aberford Road - Jacobs Well Lane junction
Ossett/ Dewsbury Cycleway
Dewsbury Road bus priority
Westgate bus gate
Barnsley Road bus priority
Horbury Road bus priority
Town End, Pontefract junction improvements
Green Lane, Featherstone new highway link
Doncaster Road - Wentbridge Road, Thorpe Audlin
Leeds District
Kirklees District
Wakefield District
CASTLEFORD
PONTEFRACT
KNOTTINGLEY
NORMANTON
HEMSWORTH
ROYSTON
Key
Wakefield Bus Priority
Wakefield Highways Improvements
Wakefield Other Schemes
West Yorkshire District Boundaries
Scale approx 1:106,900
0 5 kilometres
0 5 miles
This location map shows only the key location specific Integrated Transport Projects from Appendix A1.
The Map excludes all Area Wide Projects, Maintenance Projects, and Local Integrated Transport Schemes (see section 5.7.5) to be determined locally.
For all Projects see Appendix A1 (Integrated Transport) and Appendix A2 (Maintenance).

Appendix B.
This is What You Told Us

Preparation of the LTP3 has included an extensive programme of consultation involving the public, key stakeholders and Elected Members. Several periods of public consultation have taken place throughout the development of the third Local Transport Plan:

- consultation on the draft Vision and outline Objectives took place between April and August 2010;
- public consultation on the draft WYLTP3 Strategy 2011 to 2026 took place between October 2010 and January 2011;
- public consultation on the draft WYLTP3 Implementation Plan 2011-14, and the Integrated Sustainability Appraisal (ISA) took place during January and February 2011.

The purpose of the consultation was to invite people to give their feedback on the outline vision and objectives, the draft Strategy and the draft Implementation Plan, and input into how these should be delivered.

In total, over 1000 formal responses were received and over 70 events were held during the consultation period involving around 750 people.

In addition, a ten week period of informal consultation has been carried out on the proposals to introduce a Quality Bus Contract scheme for West Yorkshire. This consultation ran between October and December 2010, and attracted formal feedback from almost 900 respondents.

Draft Vision and Outline Objectives

The draft Vision and outline Objectives were consulted upon between April and August 2010, with an electronic version of the consultation document being made available for comment online. The majority of respondents were supportive of the general direction of the Vision and content of the Objectives. The main priorities emerging from this period of consultation were:

- reliability;
- connectivity;
- affordability;
- integration; and
- active modes.

Draft LTP3 Strategy 2011 to 2026

Public consultation on the substantive draft West Yorkshire Local Transport Plan Strategy for 2011 to 2026 ran from 27 October 2010 to 7 January 2011

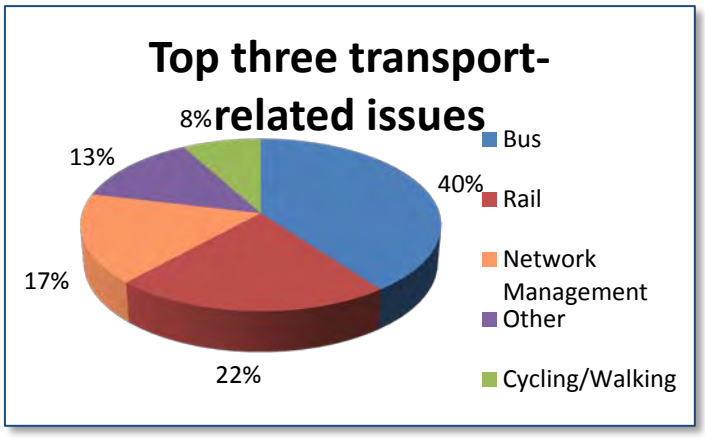
Participants were asked what their main transport concerns are and what they want to see happen over the next 15 years, as well as what they think should be prioritised for funding.

Over 800 formal responses were received and around 600 people were involved via 60+ events held during the consultation period. In total, approximately 1,400 people were involved in this phase of consultation.

Q. What are the main issues you face in West Yorkshire?

The main transport-related issues raised were:

- bus issues (40%) including high fares, poor reliability and the impact of service changes;
- rail issues (22%) including low capacity, high fares and poor reliability;
- network management issues (17%) including congestion, limited interchange and poor road conditions;



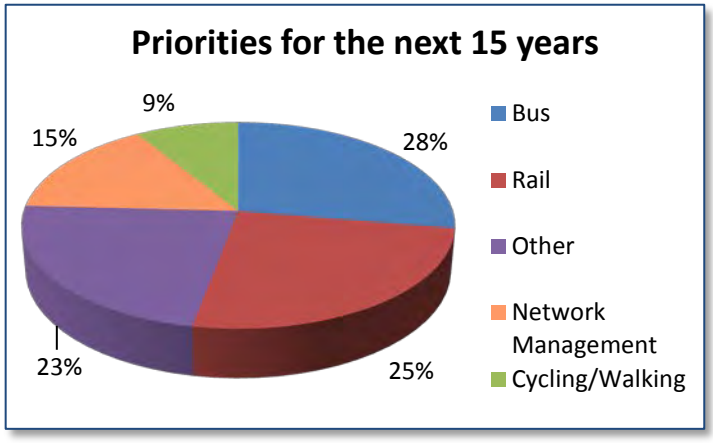
- other (13%) including public transport information and ticketing;
- cycling and walking issues (8%) including provision of infrastructure, safety and education.

Q. Do you support the Vision and Objectives?

There was strong support for the overall direction of the strategy; with two-thirds (66%) respondents agreeing or strongly agreeing that the Vision and Objectives capture what they would like to see, regarding transport, over the next 15 years. Only 10%of respondents disagreed or strongly disagreed with the Vision and Objectives, though most of the reasons that people gave for disagreeing referred more generally to the strategy document, as opposed to the Vision and Objectives, such as insufficient focus on bus and cycling infrastructure, insufficient mention of motorcyclists and over-emphasis on public transport.

Q. What are your priorities for the next fifteen years?

The majority of respondents prioritised:



- bus improvements (28%) including lower fares, improved reliability and higher frequency services;
- rail improvements (25%) including increased capacity, lower fares and higher frequency services;
- other improvements (23%) including ticketing and the introduction of smartcards, and the need for more say over buses;
- network management improvements (15%) including improved enforcement, better inter-change facilities and reduced congestion;
- cycling and walking improvements (9%) including improvements to infrastructure, safety and education.

Q. What do you think of the 'Big Ideas'?

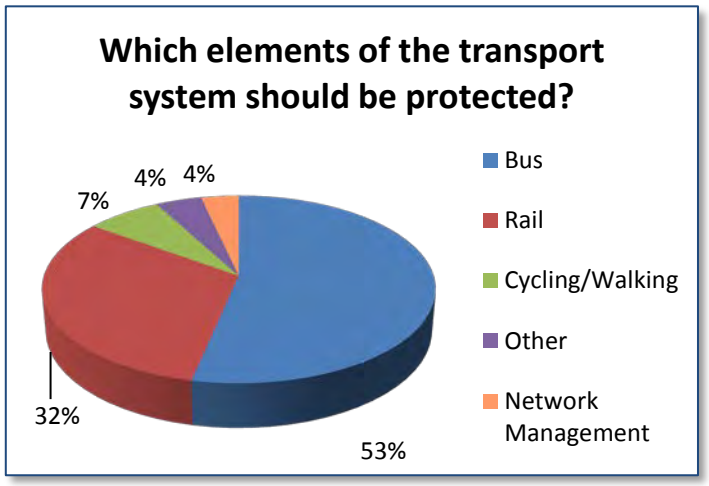
Respondents were asked to consider the big ideas, and rank these on the basis of their relative importance. All the big ideas were supported, with only small differences between their rankings. As shown in this table, 'a new approach to buses' was ranked the highest.

'Big Ideas'	Ranking
New approach to buses	1st
New approach to managing the transport network	2nd
Integrated ticketing	3rd
Stronger measures to manage demand for travel	4th
Enhanced travel information	5th
Low-carbon transport modes	6th

Q. What elements of the transport system would you like to see protected from the spending cuts?

Over half (53%) the respondents said they would like to see bus services protected, which included protection of the current network, concessionary fares and affordable fares.

One third (32%) respondents want to protect rail services, including protection of the current network, concessionary fares and affordable fares.



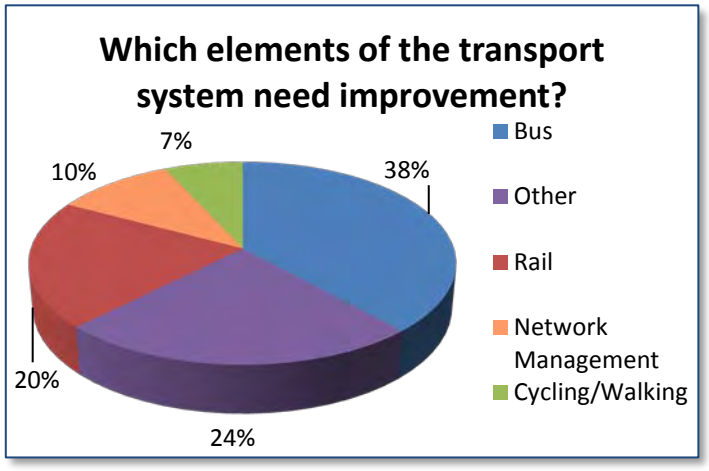
The remaining respondents (15%) chose:

- cycling and walking facilities and the cycle network (7%);
- network management including enforcement, maintenance and greenways (4%);
- other elements such as New Generation Transport and low-carbon initiatives (4%).

Q. What would you do to improve West Yorkshire's transport system?

The majority of respondents (38%) chose to prioritise buses, specifically focussing on bus fares, reliability and franchising.

One in four respondents (24%) prioritised 'other' issues which included an integrated transport system, better ticketing and rapid transport.



One in five respondents (20%) prioritised rail issues including capacity, fares and the network.

One in ten respondents (10%) would prioritise network management issues such as enforcement, interchanging and congestion charging / restrictions on car use.

Cycling and walking issues were prioritised by 7% respondents, and included network, safety and education issues.

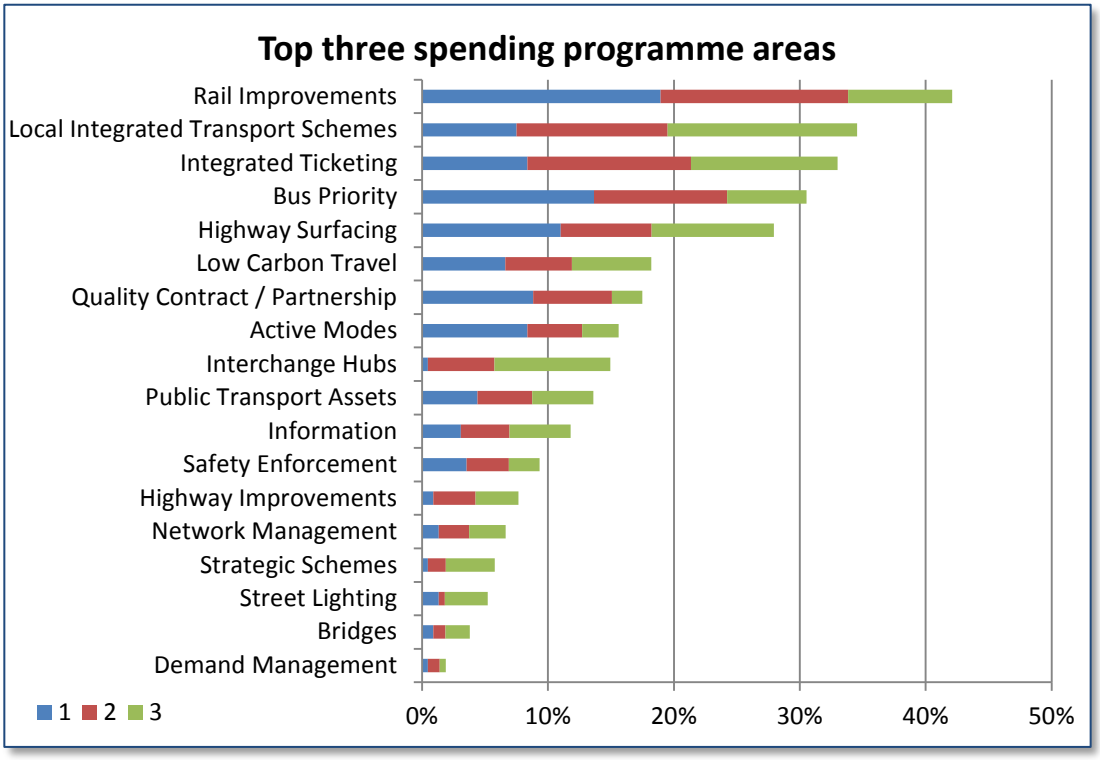
Draft WYLTP3 Implementation Plan 2011-14, and the Integrated Sustainability Appraisal (ISA)

Public consultation on the draft West Yorkshire LTP Implementation Plan for 2011 to 2014 was carried out during January and February 2011. Over 200 formal responses were received.

Eleven public consultation 'drop-in' events were held during the consultation period across West Yorkshire and were attended by approximately 150 people. Further events and meetings were held with Elected Members and key stakeholders during the consultation period.

Q. What do you think are the top three spending programme areas?

Respondents were asked to select their top three Spending Programme Areas for inclusion in the Implementation Plan 2011 to 2014, and rank their choices from 1 (being the most important) to 3. As detailed in the chart, rail improvements, local integrated transport schemes and integrated ticketing were rated in the top three by the most respondents. Rail improvements, bus priority and highway surfacing were rated the highest (number 1) by the majority of respondents.



Q. Do you disagree with any elements of the Spending Programme?

Just over three-quarters of all respondents said they agree with all the proposed elements in the Implementation Plan. Almost a quarter of respondents (24%) felt some of the elements in the Spending Programme should not be included in the first Implementation Plan. The most frequently cited elements that this group did not support were road maintenance, the trolleybus scheme (NGT) and strategic schemes.

Q. Do you agree with the findings of the Integrated Sustainability Appraisal?

Almost two-thirds (61%) of respondents agree with the general findings of the ISA; that the strategy and projects proposed will have a generally positive impact for West Yorkshire and that any significant adverse effects can be effectively managed. Just over a third of respondents (38%) disagree with these general findings.

Five statutory consultees were also contacted and invited to comment on the draft ISA report.

English Heritage is broadly happy with how potential impacts on historical assets have been assessed in the ISA. A few specific suggestions were made, including ensuring identified effects are properly incorporated into scheme development; inclusion of specific reference on the need to protect the Saltaire World Heritage Site and the suggestion to include an ISA indicator for protection of heritage assets.

The **Environment Agency** sent a generic checklist for all Local Transport Plans, but not specific to the WY plan. Relevant comments from this list have been incorporated into the final ISA.

WY Transport Emissions Group (representing air quality and emissions officers from the WY LTP Partnership) suggested some clarity around the UDM jobs and carbon model to aid understanding of the air quality and emissions reductions outputs. The Group suggested that reference to West Yorkshire's Air Quality Action Plans would also be beneficial, particularly with regard to appropriate mitigation.

Q. Do you think there is anything missing from the Implementation Plan?

Almost half (47%) of respondents stated that they think there are elements missing from the draft Implementation Plan. The most frequently cited 'missing elements' were:

- rail improvements including electrification, proposals for a Bradford Cross-Rail scheme (to link the two existing city centre stations), improved access to rail stations and re-opening disused railways and stations;
- bus improvements including enhanced rural bus networks, better tracking systems, improved reliability and improved driver training;
- greater emphasis on active modes including walking and cycling journey planners, enforcement of cycle infrastructure, public rights of way improvements and safer network of walking routes.

Proposal to Introduce a Bus Quality Contract Scheme

Public consultation on the proposals to introduce a Bus Quality Contract Scheme was carried out between October and December 2010. The informal consultation consisted of nine one day exhibitions at, or close to, Bus Stations in each of the West Yorkshire districts, as well as the distribution of leaflets to passengers on the Free Town/City Buses. Information about the proposals and an opportunity to respond was also available on Metro's website. Feedback was sought via a questionnaire, which 895 people completed.

Q. Do you agree with Metro's vision for bus services in West Yorkshire?

The vast majority of respondents (91%) stated that they agreed with the vision. The main reasons for this support related to:

- Ensuring that the focus is on providing a better public service, rather than increasing profits;
- Simple fare structures and integrated ticketing;
- Improved reliability;
- Fewer service and timetable changes;
- Better connectivity and integration with rail services.

Q. Do you agree that Metro should introduce a Quality Bus Contract Scheme that would make bus operators more accountable to Council Tax-payers?

The majority of respondents (90%) supported the introduction of a Quality Bus Contract Scheme, as a means of making bus operators more accountable to Council Tax-payers. The main reasons for this support related to:

- Quality Contracts being the only viable way to ensure operators are held accountable;
- accountability is required to improve services;
- unreliability of private operators to provide a decent services without intervention from a public body;
- to ensure operators are providing good value for money and a good services.

From those respondents who did not support the introduction of a Quality Bus Contract Scheme, the main comments related to:

- generally happy with the present arrangement;
- buses are currently reliable and hence there is no need to change anything;
- preference for a competition-led service.

What have we learnt from this feedback?

All of the comments and feedback made have been considered and reviewed. The feedback has been used to inform the development of the Local Transport Plan, and where appropriate changes have been made to the strategy and implementation plan.

Throughout the public consultation, bus and rail issues have quite consistently come through as the most frequently raised concerns, and suggested areas for improvement. These elements are integrated into the strategy throughout.

Network management issues, particularly around congestion, interchange, maintenance and enforcement have consistently been raised as one of the next most important issues, after bus and rail. The comments and suggestions made have again been reviewed and specific changes to the draft strategy have been implemented where appropriate. Improvement to these elements is integrated into the strategy throughout.

Other issues, including public transport information, ticketing, lack of say over buses, integrated transport and NGT, have consistently been raised as one of the most important issues. These elements have been prioritised by respondents as the elements of the transport system that they'd most like to see improved, and as priorities for the next 15 years and have been integrated into the strategy throughout.

Cycling and walking issues have frequently been raised by respondents, and have been rated relatively highly in response to which element of the transport system that respondents would like to see protected, and have been integrated into the strategy throughout.

Further detail of the results of the public consultation is available in the 'Developing LTP3 and Bus Quality Contracts in West Yorkshire: This is What You Told Us', which is available online at **www.wyltp.com**.

Appendix C.
Key Transport Route Networks and 'Consideration of Users' Toolkit

1. Key transport route networks and a set of toolkit principles for West Yorkshire have been developed to reflect both the different - often conflicting - needs of transport users and the varying levels of importance of the network.

2. The definition of the key route networks has been based on the role of routes within the overall network.

3. A set of toolkit principles has been developed that will be used to clarify how the competing needs of different user groups should be addressed within scheme design.

Key Transport Route Networks

4. For West Yorkshire, key route networks for roads and buses have been defined and are described below.

Highway Network

5. The key route network for roads is shown in Figure 1. It comprises:

   Pink National Strategic Routes - Motorways and all purpose trunk roads (with **Dotted Pink -** M62 Diversion Routes - utilised in times of bad weather).

   Orange Routes – local roads that perform strategic functions (**Dark Orange** >20,000 vehicles per day; **Light Orange** <20,000 vehicles per day) by:

   - connecting West Yorkshire's Core and Key Centres to each other;
   - connecting these Centres to the Core District Centres within the Leeds City Region and adjacent city regions;
   - connecting these Centres to Leeds-Bradford International Airport;
   - connecting these Centres to the National Strategic Network;
   - performing a ring road and by-pass function around the five Core District Centres, the Key Centres and primary urban areas;
   - carrying future higher traffic levels associated with major land use changes.

Bus Network

6. The key route network for buses is shown in Figure 2. It comprises:

   Green Routes

   - These are all routes covered by high frequency bus services (15 min headway);

- Or form a strategic connection between Core (including LBIA) and Key Centres;
- Serve areas that will be subject to significant development growth.

7. The most heavily used elements of the West Yorkshire bus network have been designated as **Dark Green Routes**.
8. The Dark Green Routes are based on the highest frequency parts of the network that serve each of the five Core District Centres, together with the Key Centres of Keighley, Dewsbury, Morley, Castleford and Pontefract. The inclusion threshold varies between centres and has been partly based on including those radials which carry 70% of bus patronage. For a major centre like Leeds the threshold is approximately 9 services per hour in the morning peak, while for small centres the threshold falls to 5 or 6.
9. The network also shows two development corridors. These are routes where bus services do not currently meet the criteria for inclusion as part of the green routes, but where planned future development is likely to raise demand significantly.

Future Development of the Networks

10. The key route networks will be subject to review during the Plan period as District development plans become more defined and to reflect changes in the highway or bus networks.

Consideration of Users Toolkit

11. A user hierarchy of consideration was defined in LTP2 for use in the design of highway measures. This has been retained, but in LTP3 in a condensed form as a 'consideration of users' toolkit, in respect of: **3 User Hierarchy**

    1. Pedestrians
    2. Cyclists
    3. Public transport passengers
    4. Commercial vehicles (including taxis, coaches and HGVs)
    5. Cars and motorcyclists
    6. Horse Riders – to be considered in local circumstances.

13. Where appropriate, high occupancy vehicles (with two or more occupants) should be given greater priority than single occupant cars.
14. The consideration of users toolkit is deployed to ensure:

    - that the needs and safety of each group of road users are considered in a common sequence when a scheme is being prepared;

- that each group of users is given proper consideration, in line with LTP3 strategy and local planning objectives;
- and that trade-offs between groups are considered in a transparent manner.

15. This approach does not mean that users at the top of the toolkit list will always receive the most beneficial treatment at any given location. The order of consideration will be determined by the location of a proposed improvement on the key route networks as defined earlier. Nevertheless, all schemes should be designed to the appropriate design standards, taking account of all relevant user groups, and in particular vulnerable users.

Toolkit Principles

16. A set of toolkit principles has been agreed to guide scheme designers in considering different users in developing schemes on the defined key transport route networks for West Yorkshire as below.

17. The toolkit principles are:

- The LTP3 Key Transport Networks for Highway and Bus provide the tools for realising the best value from infrastructure / LTP investment on routes where most current connectivity takes place;
- All schemes should be designed to the latest national and local design standards, making appropriate consideration and provision for the safety of all users, particularly vulnerable users, in accordance with the common sequence;
- Schemes that are located on the key routes of the highway and bus networks should give greater prominence to movement on these routes - with the core sections providing the greatest priority - except within local and district centres where more importance needs to be given to the users of these centres;
- Where the key networks overlap, careful consideration should be given to specific users in line with the consideration of users list, whilst at the same time recognising the importance of movement along these routes;
- Where key radial and orbital routes intersect, priority should be given to radial bus movements and to orbital traffic movements.

18. The application of the toolkit principles will be monitored during the Plan period and, if appropriate, modified to ensure that they are being utilised as envisaged.

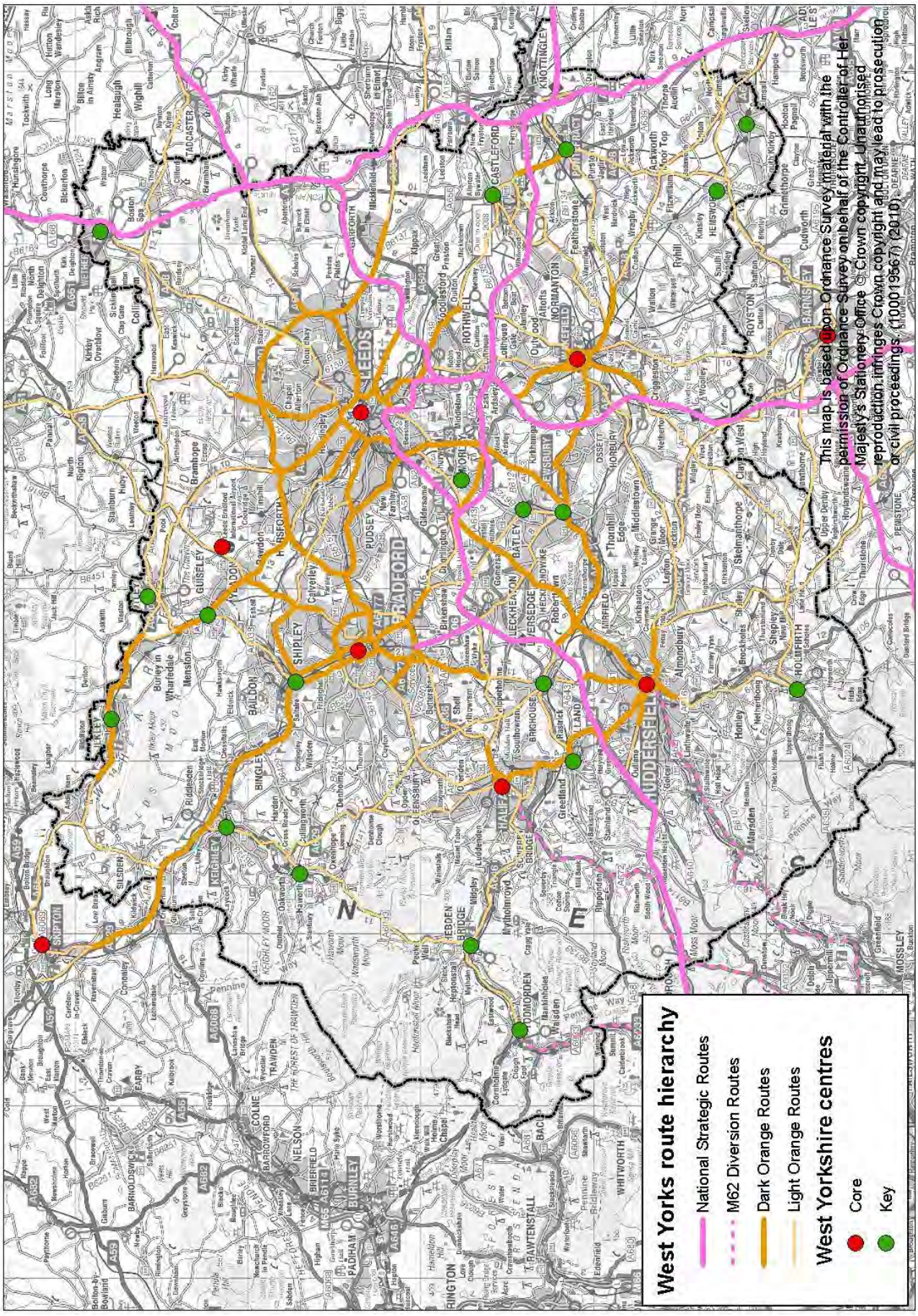


Figure 1 : West Yorkshire Key Road Network

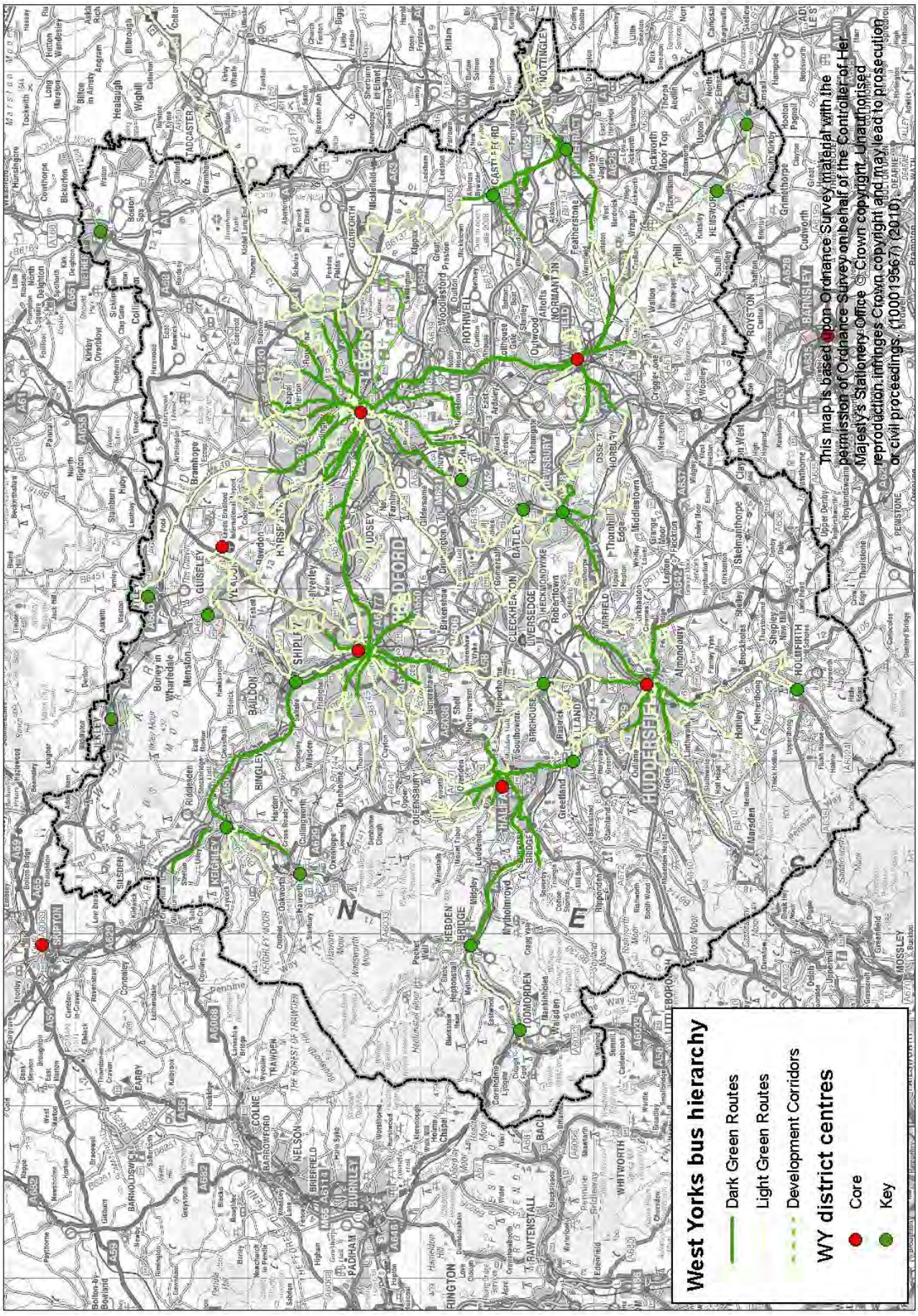


Figure 2: West Yorkshire Key Bus Network

Appendix D.
Use of the Urban Dynamic Model in the Development of LTP3.

1 Introduction

1.1 The Leeds City Region Connectivity Study Urban Dynamic Model (UDM) has been used to identify the indicative impacts on jobs filled (employment), modal share/shift and CO_2 reduction at the following three stages in the preparation of WYLTP3:

- My Journey Packages
  - Package 1: Transport Assets
  - Package 2: Sustainable Travel Choices
  - Package 3: Connectivity and seamless journeys
  - Package 4: Enhancements
- Options for the Implementation Plan 2011-14
  - Option 1: Transport Assets
  - Option 2: Tackling congestion
  - Option 3: Reducing carbon
- Draft Implementation Plan 2011-14

1.2 The UDM is a land use and transport interaction model designed to show how transport affects and is affected by economic and population change.

1.3 At each stage of testing the interventions became more specific and detailed.

1.4 The results of the tests are presented as comparisons against the relevant Do-minimum scenario (rather than a base year) generated for the earlier Connectivity Study.

For the Package tests it was assumed that proposals continue to be implemented until such time that constraints on the development of land available for housing and jobs are alleviated. The focus is on the results for the last year of the Plan (2025) but results for 2016 are also reported to provide a benchmark.

For the Options and Implementation Plan tests the results for 2016 assume that all the schemes included in the first Implementation Plan (2011-2014), that are expected to have a material effect, are delivered by March 2014. The tests are presented for 2016 to allow for most of the effects of these interventions to work through, and the results for 2025 are reported assuming that all the effects of these interventions will have been captured by then.

In these comparisons the numbers produced by the UDM have been used as indicators of the direction of change achieved by the tests. These have been used to guide the development of the Plan.

1.5 A comparison of the impact of each test on jobs and CO_2 reduction are presented in Chart 1 for 2016 and Chart 2 for 2025 shown below.

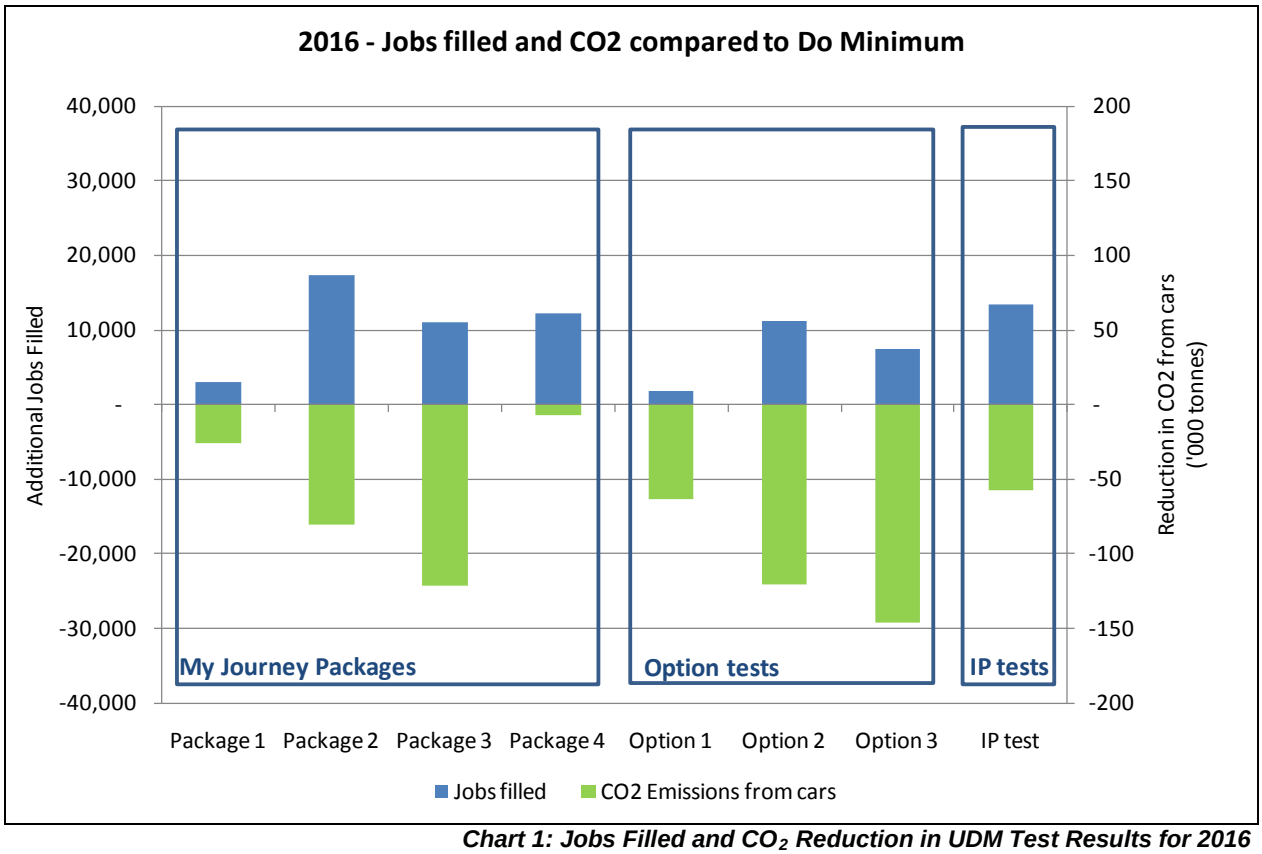


Chart 1: Jobs Filled and CO_2 Reduction in UDM Test Results for 2016

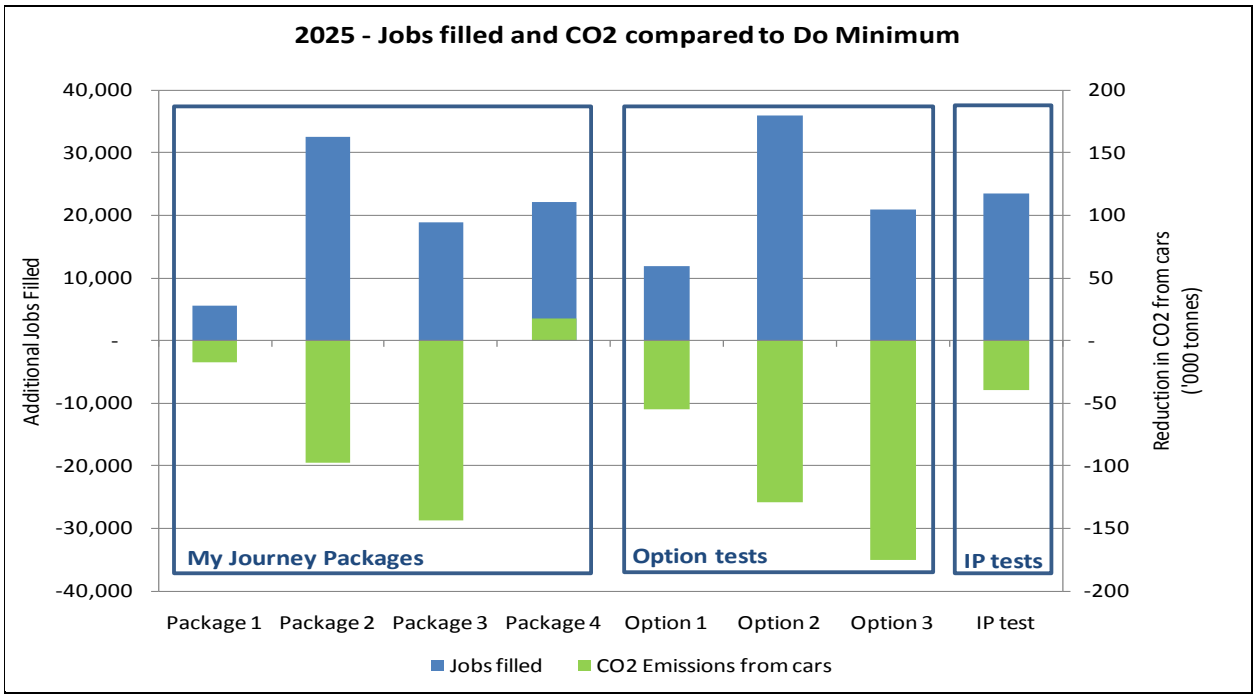


Chart 2: Jobs Filled and CO_2 Reductions in UDM Test Results for 2025

2 The Leeds City Region Do Minimum

2.1 The Do Minimum scenario was the same as developed for the Leeds City Region Connectivity Study reported in 2010 but modified to include a trend showing a decline in the available highways capacity, to repesent degredation of the condition of highways. This might occur if the existing standard or schedules of highway maintainence do not continue in LTP3.

2.2 The Do Minimum scenario included land use assumptions based on:

- Housing; planning led assumptions based on inputs from the Regional Spatial Strategy
- Jobs; from DfT's latest National Trip End Model (NTEM) v6.1

2.3 In the UDM land available for growth in housing and jobs has a major influence over the future direction and location of development and therefore on trip making. This effectively acts as the ultimate limit on the capacity the UDM can allow development to grow in to. However this growth can be constrained by limitations on trip making imposed by characteristics of the transportation system. The UDM was used to test the extent to which LTP3 proposals or interventions can alleviate constraints on growth over time.

2.4 Table 1 below describes the Do Minimum scenario used as the basis for comparions against the LTP3 options using the UDM:

Table 1: Do Minimum Scenario

District	Jobs Filled [rounded 000s]			Car Mode Share [rounded %]			CO_2 from cars [rounded 000 tonnes]		
	Base	2016	2025	Base	2016	2025	Base	2016	2025
Bradford	227	241	261	68	70	71	104	114	122
Calderdale	94	98	103	72	74	76	45	50	54
Kirklees	177	184	193	72	75	76	89	96	102
Leeds	427	453	484	67	69	70	231	252	267
Wakefield	157	169	185	74	77	78	106	119	130
West Yorkshire	1,082	1,146	1,225	70	72	73	574	630	674

3 LTP3 Package Tests

3.1 The draft LTP3 Strategy identified four strategic themes:

- Package 1: Maintaining and making the most efficient use of transport assets;
- Package 2: Enabling and encouraging more sustainable travel choices;
- Package 3: Providing connectivity and seamless journeys;
- Package 4: Enhancing the transport system.

Package 1: Maintaining and making the most effective use of transport assets						
	Jobs Filled [rounded 000s] (% change)		Car Mode Share [% rounded] (% change)		CO_2 from cars [rounded 000 tonnes] (% change)	
District	2016	2025	2016	2025	2016	2025
Bradford	241(0%)	262(0.3%)	70(0.3%)	72(0.8%)	109(-4.1%)	120(-2.1%)
Calderdale	98(0%)	103(0%)	74(0%)	76(0.1%)	48(-4.7%)	52(-4.0%)
Kirklees	184(0%)	193(0.1%)	75(0.1%)	76(0.2%)	92(-4.5%)	98(-3.3%)
Leeds	456(0%)	488(0.9%)	69(0.2%)	70(0.5%)	242(-3.6%)	262(1.9%)
Wakefield	170(0.0%)	185(0.1%)	77(0.1%)	78(0.2%)	113(-4.3%)	126(-3.2%)
West Yorkshire	**1,149(0%)**	**1,230(0.5%)**	**72(0.1%)**	**73(0.4%)**	**605(-4.0%)**	**657(-2.6%)**

3.2 Package 1 incorporated a reduction in the CO_2 emission factor, to represent improved technology, and targeted maintenance activity to halt degradation of the highway capacity. Halting the decline in available highways capacity contributes to job growth and a slight reduction in CO_2 emissions.

Package 2: Enabling and encouraging more sustainable travel choices						
	Jobs Filled [rounded 000s] (% change)		Car Mode Share [% rounded] (% change)		CO_2 from cars [rounded 000 tonnes] (% change)	
District	2016	2025	2016	2025	2016	2025
Bradford	242 (0.4%)	262 (0.8%)	66 (-6.4%)	67 (-6.3%)	100 (-12%)	108 (-11.2%)
Calderdale	99 (1.1%)	104 (0.3%)	69 (-6.7%)	70 (-6.9%)	43 (-14%)	46 (-15.0%)
Kirklees	185 (0.5%)	194 (0.2%)	70 (-6.4%)	71 (-6.6%)	84 (-13%)	88 (-13.7%)
Leeds	464 (2.5%)	510 (3.3%)	63 (-7.9%)	63 (-9.9%)	218 (-13%)	226 (-15.3%)
Wakefield	172 (1.8%)	186 (0.2%)	71 (-7.0%)	72 (-7.8%)	104 (-13%)	109 (-15.8%)
West Yorkshire	**1,16 (1.5%)**	**1,25 (1.5%)**	**66 (-7.1%)**	**67 (-8.1%)**	**550 (-13%)**	**577 (-14.4%)**

3.3 Package 2 included several interventions to reduce/limit travel. Focusing interventions on those areas with good public transport accessibility contributes to job growth whilereducing car

share and CO_2 emissions. A key driver of the employment growth was the re-allocation of development land to those zones with good public transport accessibility.

Package 3: Providing Connectivity and seamless journeys						
	Jobs Filled [rounded 000s] (% change)		Car Mode Share [% rounded] (% change)		CO_2 from cars [rounded 000 tonnes] (% change)	
District	2016	2025	2016	2025	2016	2025
Bradford	242 (0.4%)	263 (0.8%)	64 (-9.6%)	63 (-12%)	90 (-20%)	95 (-22%)
Calderdale	98 (0.2%)	103 (0.3%)	67 (-9.2%)	67 (-12%)	40 (-20%)	41 (-23%)
Kirklees	185 (0.1%)	193 (0.2%)	68 (-8.6%)	67 (-11%)	78 (-19%)	80 (-21%)
Leeds	461 (1.7%)	500 (3.3%)	61 (-10.7%)	60 (-14%)	201 (-20%)	210 (-22%)
Wakefield	171 (1.1%)	185 (0.2%)	71 (-7.5%)	70 (-10%)	99 (-17%)	129 (-19%)
West Yorkshire	**1,157 (1.0%)**	**1,243 (1.5%)**	**65 (-9.5%)**	**64 (-12%)**	**509 (-19%)**	**692 (-21%)**

3.4 Package 3 included interventions to improve journeys by all modes, particularly sustainable modes, combined with measures to reduce the need to travel and to encourage investment in low carbon vehicles. Area wide improvements to facilities for and accessibility by public transport and active travel modes contributes to jobs growth whilecar mode share and CO_2 emissions fall.

Package 4: Enhancing the Transport System						
	Jobs Filled [rounded 000s] (% change)		Car Mode Share [% rounded] (% change)		CO_2 from cars [rounded 000 tonnes] (% change)	
District	2016	2025	2016	2025	2016	2025
Bradford	242 (0.5%)	263 (0.7%)	71 (1.2%)	73 (2.2%)	113 (-0.6%)	126 (3.5%)
Calderdale	98 (-0.1%)	103 (-0.1%)	74 (-0.1%)	76 (0%)	48 (-4.3%)	52 (-2.8%)
Kirklees	185 (0.1%)	193 (0.1%)	75 (0%)	76 (0.2%)	93 (-3.3%)	100 (-1.1%)
Leeds	463 (2.3%)	503 (4.1%)	69 (0.7%)	70 (1.2%)	253 (0.6%)	283 (5.9%)
Wakefield	170 (0.4%)	185 (0.2%)	77 (0.1%)	78 (0.4%)	116 (-2.4%)	129 (-0.1%)
West Yorkshire	**1,158 (1.1%)**	**1,247 (1.8%)**	**72 (0.5%)**	**73 (0.9%)**	**623 (-1.2%)**	**692 (2.6%)**

3.5 Package 4 included interventions to improve jouneys by all modes but without a focus on sustainable modes. Selective improvements to public transport, particularly in the core centres reduces the impact on car mode share. The highway capacity improvements contributes to jobs growth but with adverse impacts on CO_2 emissions.

Summary of Findings from Package Tests

3.6 Integrated land use (i.e. focusing development along public transport corridors) can generate significant additional employment when aligned with public transport improvements, whilereducing emissions per job.

3.7 Significant impriovements to facilities for public transport and active travel modes can contribute to employment and also reduce CO_2 emissions.

3.8 Travel behaviour change (e.g measures to encourage mode change and reduced trip making) helps to release capacity on the highway network which can then support the generation of new jobs. However, this generates new trips which offsets any CO_2 reductions so total emissions are little changed.

3.9 Targeted highway capacity improvements can be very effective in supporting the generation of new jobs but with additional CO_2 emissions. Area wide improvements are less effective if these do not focus on traffic congestion.

4 Option Testing

4.1 Three options were tested to shape the development of the Implementation Plan 2011-2014:

- Option 1: Focus on maintaining and managing assets
- Option 2: Focus on tackling congestion
- Option 3: Focus on carbon reduction

4.2 The results of this stage of testing are shown on the coloured charts in section 1 above and in detail in the tables below.

Option 1: Focus on Maintaining and Managing Assets						
	Jobs Filled [rounded 000s] (% change)		Car Mode Share [% rounded] (% change)		CO_2 from cars [rounded 000 tonnes] (% change)	
District	2016	2025	2016	2025	2016	2025
Bradford	241 (0.1%)	261 (0.2%)	70 (-0.2%)	72 (0.6%)	102 (-10.0%)	113 (-7.1%)
Calderdale	98 (0.0%)	103 (0%)	74 (-0.1%)	76 (-0.1%)	45 (-10.0%)	49 (-9.2%)
Kirklees	185 (0.0%)	194 (0.3%)	74 (-0.8%)	75 (-0.8%)	86 (-10.3%)	92 (-9.5%)
Leeds	454 (0.3%)	494 (2.2%)	68 (-0.3%)	69 (-0.4%)	227 (-9.8%)	247 (-7.6%)
Wakefield	170 (0.1%)	185 (0.2%)	76 (-0.7%)	77 (-0.7%)	106 (-10.2%)	118 (-8.8%)
West Yorkshire	**1,148 (0.2%)**	**1,236 (1.0%)**	**71 (-0.4%)**	**72 (-0.3%)**	**567 (-10.0%)**	**619 (-8.2%)**

4.3 Option 1 focused on maintaining the condition of the transport asset base and ensuring that development is concentrated in sustainable, accessible and safe locations and delivered with a layout that enables sustainable travel choices. Halting the decline in available highway capacity helps generate additional jobs but with little change for car mode share and reduced impact on CO_2 emissions. A key driver of the employment growth was the re-allocation of development land to those zones with good public transport accessibility.

Option 2: Focus on Tackling Congestion						
	Jobs Filled [rounded 000s] (% change)		Car Mode Share [% rounded] (% change)		CO_2 from cars [rounded 000 tonnes] (% change)	
District	2016	2025	2016	2025	2016	2025
Bradford	242 (0.4%)	263 (0.8%)	60 (-15%)	59 (-17.4%)	91 (-20%)	99 (-18.8%)
Calderdale	98 (0.1%)	103 (0.1%)	63 (-15%)	62 (-18.0%)	40 (-20%)	42 (-21.5%)
Kirklees	185 (0.0%)	194 (0.3%)	63 (-15%)	62 (-18.1%)	78 (-19%)	81 (-20.2%)
Leeds	462 (2.0%)	516 (6.8%)	58 (-16%)	55 (-21.2%)	204 (-19%)	218 (-18.5%)
Wakefield	170 (0.6%)	185 (0.2%)	66 (-14%)	65 (-16.9%)	97 (-18%)	105 (-19.0%)
West Yorkshire	**1,157 (1.0%)**	**1,260 (2.9%)**	**61 (-15%)**	**59 (-19.1%)**	**509 (-19%)**	**545 (-19.1%)**

4.4 Option 2 included a wide range of intervention aimed at reducing congestion and improving public transport options. It also included interventions to reduce/limit travel and to ensure new development is appropriately focused. Reducing congestion, without significant increases in highway capacity, contributes to jobs growth with substantial reductions in car mode share and CO_2 emissions. Re-allocation of development land to those zones with good public transport accessibility remains the biggest driver of job growth.

Option 3: Focus on Carbon Reduction						
	Jobs Filled [rounded 000s] (% change)		Car Mode Share [% rounded] (% change)		CO_2 from cars [rounded 000 tonnes] (% change)	
District	2016	2025	2016	2025	2016	2025
Bradford	242 (0.2%)	262 (0.5%)	61 (-14%)	59 (-17.0%)	86 (-24%)	90 (-26.0%)
Calderdale	98 (0.0%)	103 (0.2%)	64 (-13%)	63 (-16.6%)	38 (-23%)	40 (-26.1%)
Kirklees	184 (-0.0%)	194 (0.3%)	64 (-14%)	63 (-17.2%)	74 (-23%)	75 (-25.9%)
Leeds	459 (1.4%)	502 (3.9%)	59 (-14%)	56 (-19.3%)	193 (-23%)	197 (-26.4%)
Wakefield	170 (0.5%)	185 (0.1%)	67 (-13%)	65 (-16.2%)	92 (-22%)	97 (-24.9%)
West Yorkshire	**1,153 (0.7%)**	**1,245 (1.7%)**	**62 (-14%)**	**60 (-17.8%)**	**484 (-23%)**	**500 (-25.9%)**

4.4 Option 3 focuses more on developing new low carbon technologies, highway asset management and congestion relief do not contribute to this option. As a result the contribution to jobs growth and mode shift benefits are more limited than in option 2 but CO_2 emissions show greater reductions.

5 Testing the Draft Implementation Plan

5.1 The Implementation Plan includes a wide range of interventions aimed at maintaing the transport asset base, reducing congestion and improving public transport and active travel options. It also includes interventions to reduce/limit travel and ensure development is appropriately focused and enables sustainable travel choices. The impacts of a Bus Quality Contract Scheme were not tested as it was considered unlikely that a scheme would be implemented in full by March 2014. Neverthless,a number of key elements of such a scheme (e.g. Traffic Light Priority and other bus priority measures, smartcards and improved customer information) will be implemented and were tested.

5.2 The results of this stage of tests are shown in the coloured charts in section 1 above and in more detail in the following table.

Draft Implementation Plan 2011-14						
	Jobs Filled [000s] (% change)		Car Mode Share [% rounded] (% change)		CO_2 from cars [rounded 000 tonnes] (% change)	
District	2016	2025	2016	2025	2016	2025
Bradford	242(0.5%)	262(0.5%)	67(-5.2%)	68(-4.2%)	103(-9.4%)	115(-5.7%)
Calderdale	98(0.3%)	103(0.3%)	70(-4.9%)	72(-4.4%)	45(-9.4%)	50(-6.9%)
Kirklees	185(0.3%)	194(0.4%)	71(-4.8%)	72(-4.3%)	87(-9.5%)	94(-6.9%)
Leeds	462(2.0%)	504(4.2%)	64(-6.4%)	65(-6.2%)	228(-9.4%)	253(-5.3%)
Wakefield	172(1.4%)	185(0.4%)	73(-4.9%)	74(-4.3%)	110(-7.4%)	122(-5.6%)
West Yorkshire	**1,159 (1.2%)**	**1,248 (1.9%)**	**68 (-5.5%)**	**69 (-5.1%)**	**573 (-9.1%)**	**635 (-5.8%)**

5.3 Overall the results of this tests align with those of Option 2; contributing to high levels of jobs growth (13,000) and to reductions in both car mode share (4%) and CO_2 emissions (57,000 tonnes) by 2016.

Appendix E.
Plan Proposals

Transport Assets

Proposal 1
Prioritise asset management and maintenance standards according to a **hierarchy of key transport route networks and users** that best supports the Plan
Proposal 2
Work with partners to ensure that all assets are **maintained** and **managed** to a standard that is **suitable and sufficient** for their **desired use**.
Proposal 3
Adapt assets to be **resilient to predicted weather effects caused by climate change** over the long term.
Proposal 4
Use new **network management** practices to **minimise congestion and ensure efficient recovery from disruption**.
Proposal 5
Minimise the **carbon footprint and emissions** of assets and associated management and maintenance practices.

Travel Choices

Proposal 6
Work with partners to **reduce length and frequency of trips** by supporting measures to provide access to services, employment and goods online and in local communities.
Proposal 7
Implement a **targeted programme of travel behaviour change** including **marketing, information, education** and **support activities**.
Proposal 8
Develop and provide **tailored, interactive, readily available information and support** that encourages and incentivises more sustainable travel choices on a regular basis.
Proposal 9
Provide **tailored education and training** to support **habitual behaviour change** to more sustainable travel modes.

Proposal 10
Work with health sector and other partners to **promote the benefits of active travel** and support greater participation in walking and cycling.
Proposal 11
Strengthen **demand management and enforcement** to gain maximum benefit from measures to enable more sustainable choices.
Proposal 12
Work with Planning Authorities to ensure **that development is concentrated in sustainable, accessible and safe locations** and delivered with a layout that enables sustainable travel choices.

Connectivity

Proposal 13
Define and develop **a core, high quality, financially sustainable network of transport services that will provide attractive alternatives to car travel**.
Proposal 14
Improve **interchange and integration** including the development of **transport hubs**.
Proposal 15
Develop and use **integrated ticketing and smartcard technology** to facilitate **seamless travel across modes**.
Proposal 16
Introduce a new **framework for local bus services** as part of an **integrated transport system**.
Proposal 17
Develop a new model for transport planning at a **community level to enhance local accessibility**.
Proposal 18
Improve safety and security, seeking to **minimise transport casualties**
Proposal 19
Facilitate coach travel for inter-urban journeys, including **tourism** and **shopping trips** to West Yorkshire.
Proposal 20
Address **barriers to travel**, including the use of **concessionary fares schemes**.

Proposal 21
Support the **efficient and sustainable movement of freight**.
Proposal 22
Define, develop and manage **networks and facilities** to encourage **cycling and walking**.

Enhancements

Proposal 23
Investment to **support strategic economic objectives** through delivery of the **City Region Transport Strategy**.
Proposal 24
Get better use from the existing network including investing in **additional capacity** to address congestion and overcrowding at key locations.
Proposal 25
Investment to support **local economic objectives, Local Development Frameworks and Housing Growth Areas**.
Proposal 26
Support the development of infrastructure for **new low carbon technologies**.

Appendix F.
Evidence and Issues Reference Materials

Appendices F: E1 to F: E10 show evidence and issues relating to economic growth.

Appendix F: E1 - Business Needs

Access to markets, customers and clients, availability of qualified staff, and transport links with other cities (*source: Eddington Transport Study; DfT, December 2006*).

- Transport plays a key role in the top three factors impacting on business location (*source: as above*).

E1.1: Factors affecting European Business Location (Eddington Transport Study)	Overall
Easy access to markets, customers and clients	63%
Availability of qualified staff	59%
Transport links with other cities and internationally	55%
The quality of telecommunications	50%
Cost of staff	36%
Tax and financial incentives	31%
Availability of office space	27%
Value for money of office space	29%
Languages spoken	27%
Ease of travelling around and within city	26%
The quality of life for employees	19%
Freedom from pollution	15%

Appendix F: E2 - Access to Bradford and Leeds

The biggest journey-to-work flows are intra-district, followed by trips to Leeds and Bradford (*source: 2001 Census*).

- The biggest journey-to-work flows coincide with the worst road congestion and rail overcrowding (*source: as above*).

E2.1: Travel to Work Data (2001 Census)						
	To					
From	Bradford	Calderdale	Kirklees	Leeds	Wakefield	Total
Bradford	149,782	4,644	4,104	21,273	1,513	181,316
Calderdale	7,030	63,324	6,203	4,359	763	81,679
Kirklees	8,747	8,332	122,490	17,518	6,009	163,096
Leeds	15,282	2,063	6,007	270,461	9,129	302,942
Wakefield	1,859	627	5,489	21,077	96,267	125,319
Total	182,700	78,990	144,293	334,688	113,681	854,352

There are significant levels of travel to work in West Yorkshire from the wider Leeds City Region (*source: Leeds City Region Connectivity Study Phase 1, June 2010*).

Most jobs and workers are in the main cities and towns (*source: National Trip End Model*).

- Leeds and Bradford have the largest labour markets and the majority of existing jobs (*source: as above*).

E2.2: Jobs and Workers (National Trip End Model)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Jobs	2010	28,397,082	1,036,152	206,505	90,945	165,463	415,303	157,934
Workers	2010	25,209,366	929,186	176,257	77,581	149,324	372,714	153,308
Jobs	2026	30,464,243	1,157,070	234,994	101,151	181,507	467,192	172,226
Workers	2026	28,130,005	1,100,879	220,229	89,723	165,712	457,352	167,863

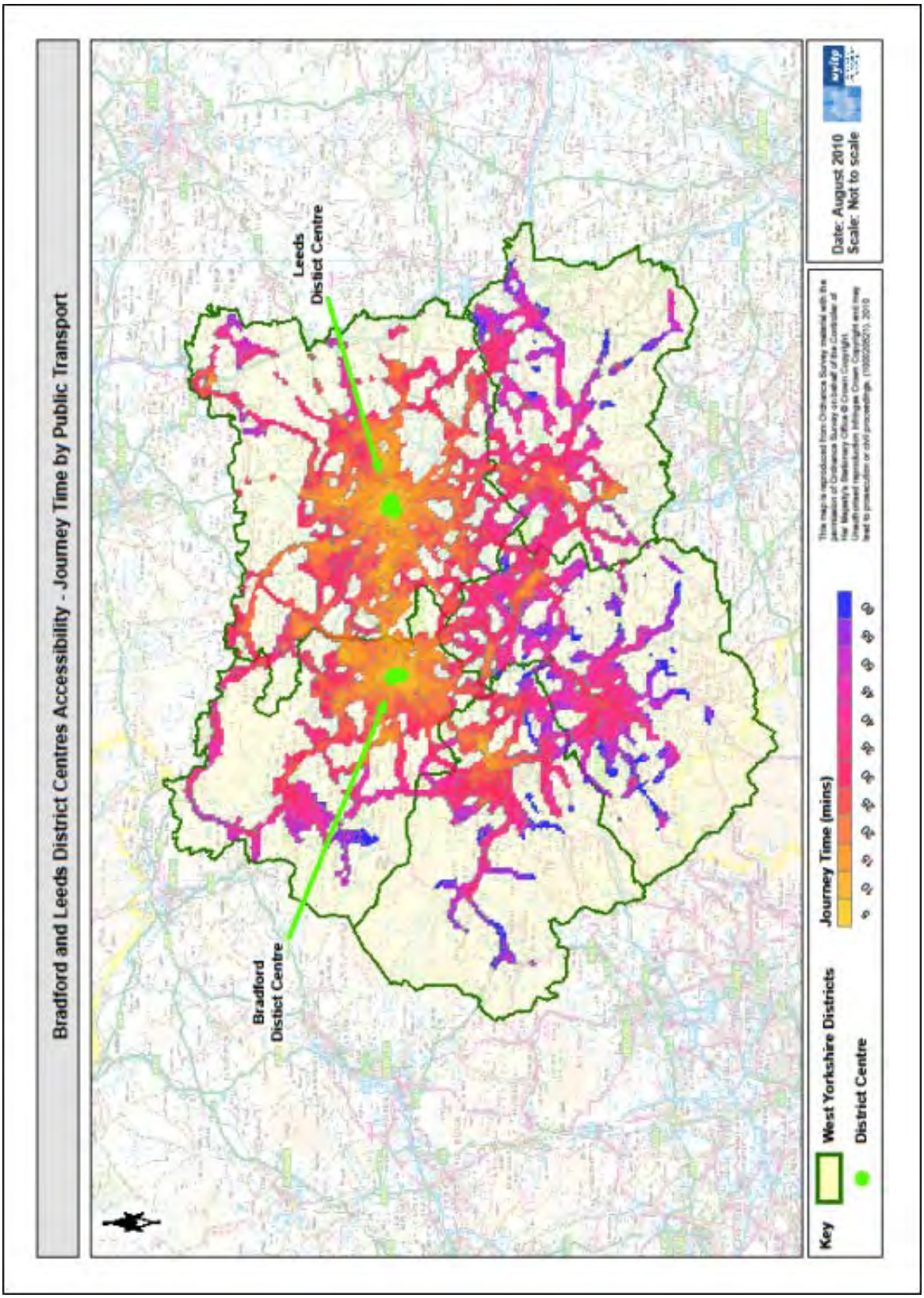
There are a number of proposed 'growth points' for housing and jobs throughout West Yorkshire, which could impact on travel conditions (s*ource: Second Round Growth Points Partnerships for Growth; CLG, July 2008*).

E2.3: Location			
	New Growth Point	Urban Eco-Settlement	Project Details
Aire Valley, Leeds		Y	7,700+ homes
Bradford - Shipley Corridor		Y	5,000+ homes
North Kirklees / South Dewsbury		Y	4,800+ homes
Calderdale District	Y		Between 1,000 and 2,000 homes
Wakefield District	Y		Up to 6,060 homes

Lack of interchange between different modes and services is a key concern for the public (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

Appendix F: E2 - Access to Leeds and Bradford - Map

Public transport access is good except from more remote areas.



Appendix F: E3 - Access to Halifax, Huddersfield and Wakefield

West Yorkshire has a higher percentage of manufacturing jobs than the national average (*source: Nomis, Office for National Statistics*).

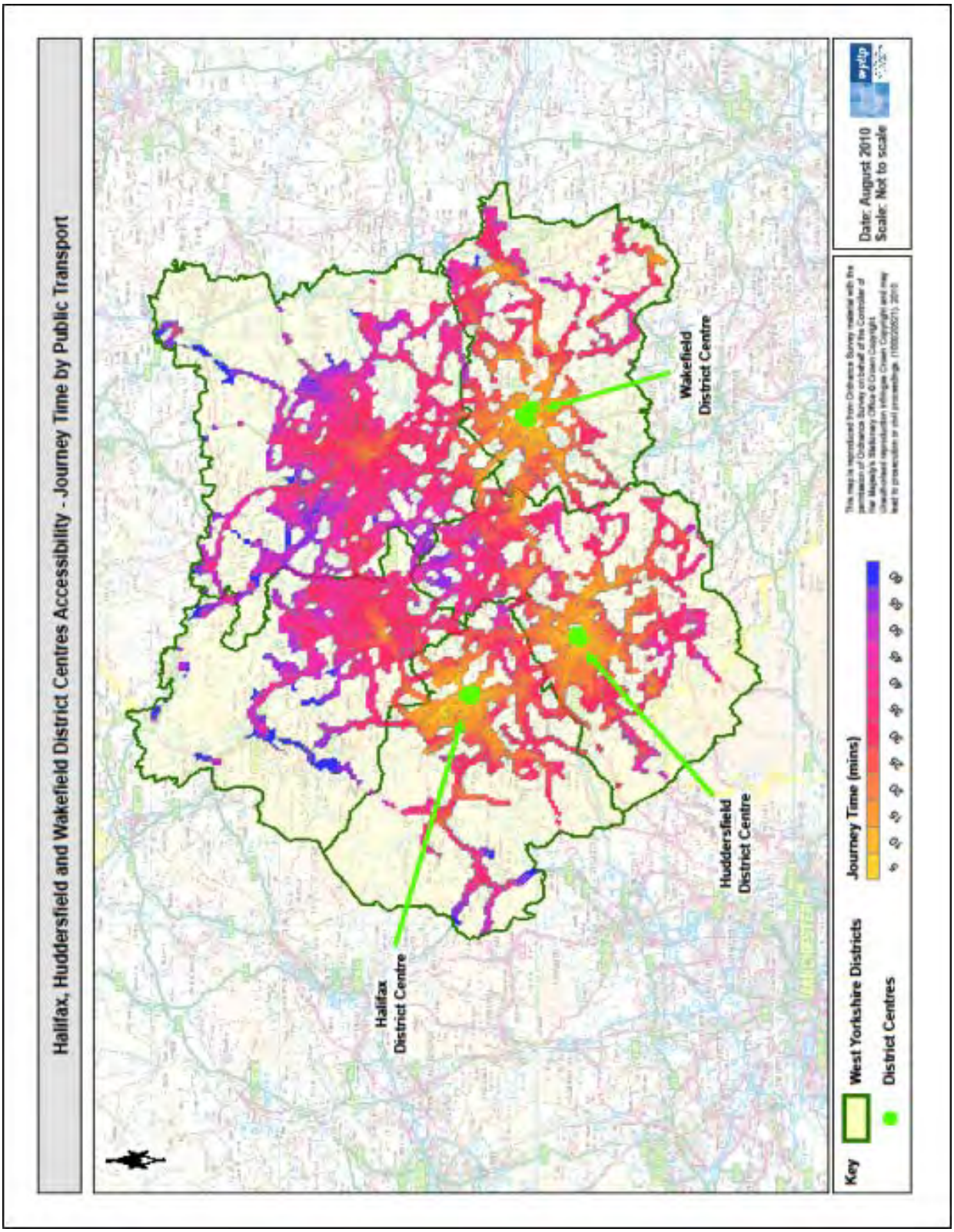
- Leeds has a higher percentage of services jobs than the national average, and lower manufacturing jobs (*source: as above*).
- West Yorkshire has 4.7% of the UK manufacturing jobs (*source: as above*).

E3.2: Employee jobs by industry (*NOMIS, Office for National Statistics*)								
	Year	**GB**	**WY**	**Bradford**	**Calderdale**	**Kirklees**	**Leeds**	**Wakefield**
Manufacturing	2008	10.2	13.0	15.1	18.7	20.2	8.6	11.7
Construction	2008	4.8	4.8	3.4	4.7	5.1	5.1	5.3
Services	2008	83.5	81.7	80.5	76.2	73.9	85.6	81.9
Tourism	2008	8.2	7.0	7.0	7.0	6.8	7.1	7.0

Lack of integration between modes is a key concern for the public (s*ource: WYLTP3 Consultation Feedback Report, Metro, 2011*).

Appendix F: E3 - Access to Halifax, Huddersfield and Wakefield - Map

Public transport access is good except from more remote areas.



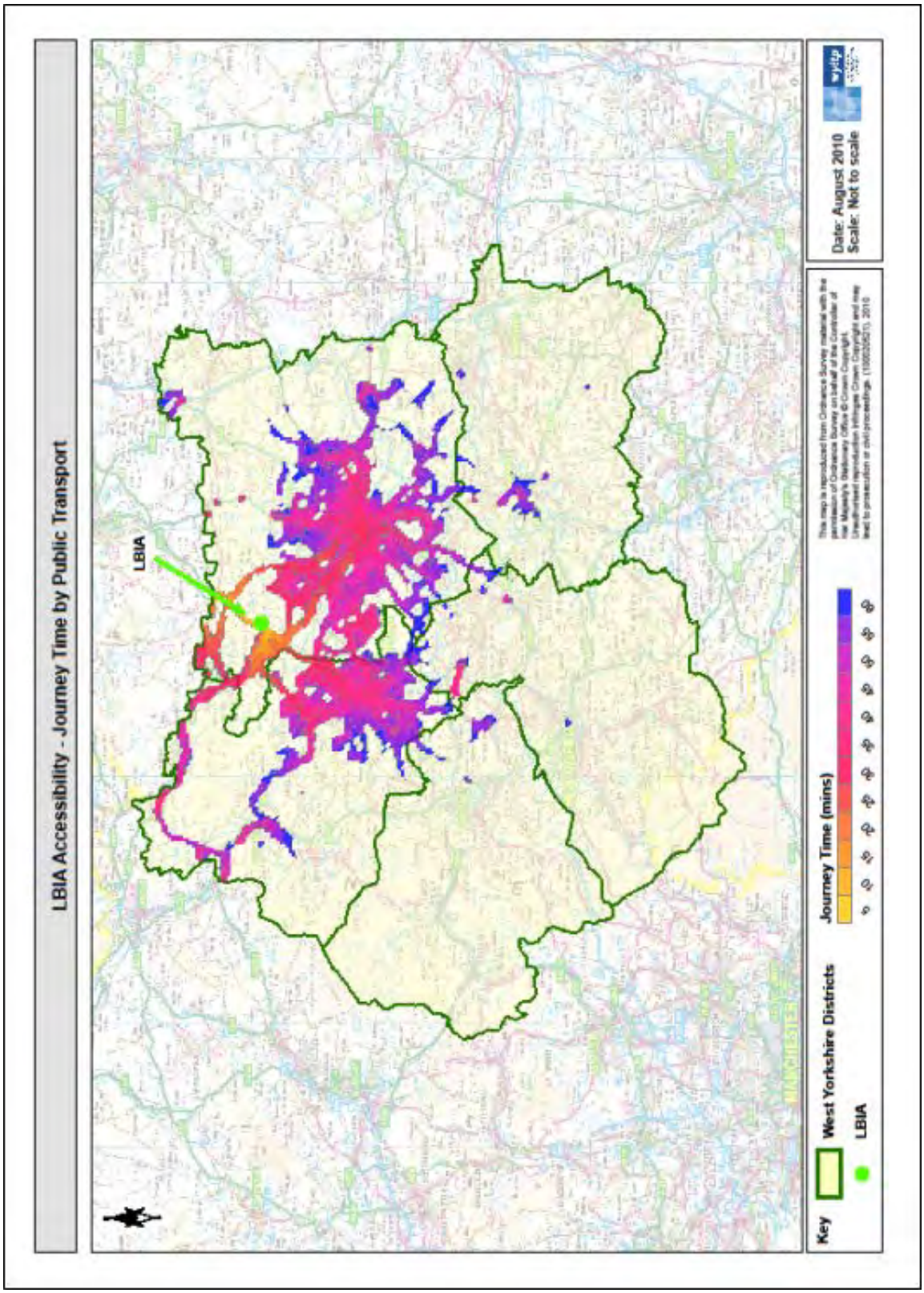
Appendix F: E4 - Access to Airports and Sea Ports

Good access can encourage inward investment (*source: Competitive European Cities*).

- External connections are important, since exporting remains critical to success (*source: as above*).
- Airports are critical, as they facilitate face-to-face communication, which has not been supplemented by technological communications (*source: as above*).
- Almost all international business travel is by air, and Europe and North America are the most important destinations for business (*source: Leeds City Region; Connectivity Study Phase 1, June 2010*).
- More air passengers from Yorkshire and Humber use Manchester Airport than Leeds Bradford International Airport (*source: as above*).
- Heathrow is the UK's key hub airport (*source: Economic Impacts of Hub Airports; British Chamber of Commerce, July 2009*).
- Amsterdam is the dominant hub for travel to North America (*source: as above*).

Appendix F: E4 - Access to Airports - Map

Public transport access to Leeds Bradford International Airport is poor, except from city centres.



Appendix F: E5 - Access to Other City Regions

The motorway network in WY is heavily congested and slow at peaks (*source: Highways Agency Network Analysis Tool*).

- Road congestion is worst on the motorway corridors approaching Leeds (*source: as above*).
- Road speeds based on data from the AA website (see Table E6.2 below) (*source: Paper 1: Baseline Data Analysis; Leeds City Region Connectivity Study Phase 1, May 2010*).

E5.1: Road Speeds (mph)						
	To					
From	London	Birmingham	Manchester	Newcastle	Sheffield	Hull
Bradford	54	55	46	51	49	56
Halifax	52	52	44	58	43	56
Huddersfield	53	55	42	57	43	56
Leeds	54	54	46	54	48	54
Wakefield	54	54	43	58	48	52

Rail routes to London, Manchester and Sheffield are slow (*source: Economic Case for High Speed Rail to Leeds City Region and Sheffield City Region, September 2010*).

- A direct high speed rail route to the Leeds City Region would have greater economic benefits than a less direct option (*source: as above*).
- Improvements to the existing rail routes are needed in advance of high speed rail (*source: as above*).
- A 20 minute reduction in train journey times between Manchester and Leeds would be worth £6.7 billion across the whole North of England (*source: The Northern Way: Trans Pennine Connectivity Study, Working Paper 3, March 2010*).
- Rail journeys are slow from West Yorkshire to Manchester and Sheffield (*source: Leeds City Region Connectivity Study Phase 1, June 2010*).

E5.2: Rail Speeds (mph)						
From	To					
	London	Birmingham	Manchester	Newcastle	Sheffield	Hull
Bradford	47	32	27	36	22	24
Halifax	43	28	25	34	20	25
Huddersfield	46	30	31	31	20	33
Leeds	69	45	35	35	32	33
Wakefield	71	45	20	20	29	22

Appendix F: E6 - Highways Performance

Businesses value reliability highly *(source: Eddington Report; DfT, December 2006)*.

E6.1: Factors affecting European Business Location (Eddington Transport Study)	
	Overall
Easy access to markets, customers and clients	63%
Availability of qualified staff	59%
Transport links with other cities and internationally	55%
The quality of telecommunications	50%
Cost of staff	36%
Tax and financial incentives	31%
Availability of office space	27%
Value for money of office space	29%
Languages spoken	27%
Ease of travelling around and within city	26%
The quality of life for employees	19%
Freedom from pollution	15%

Congestion is a key issue for the people of WY (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

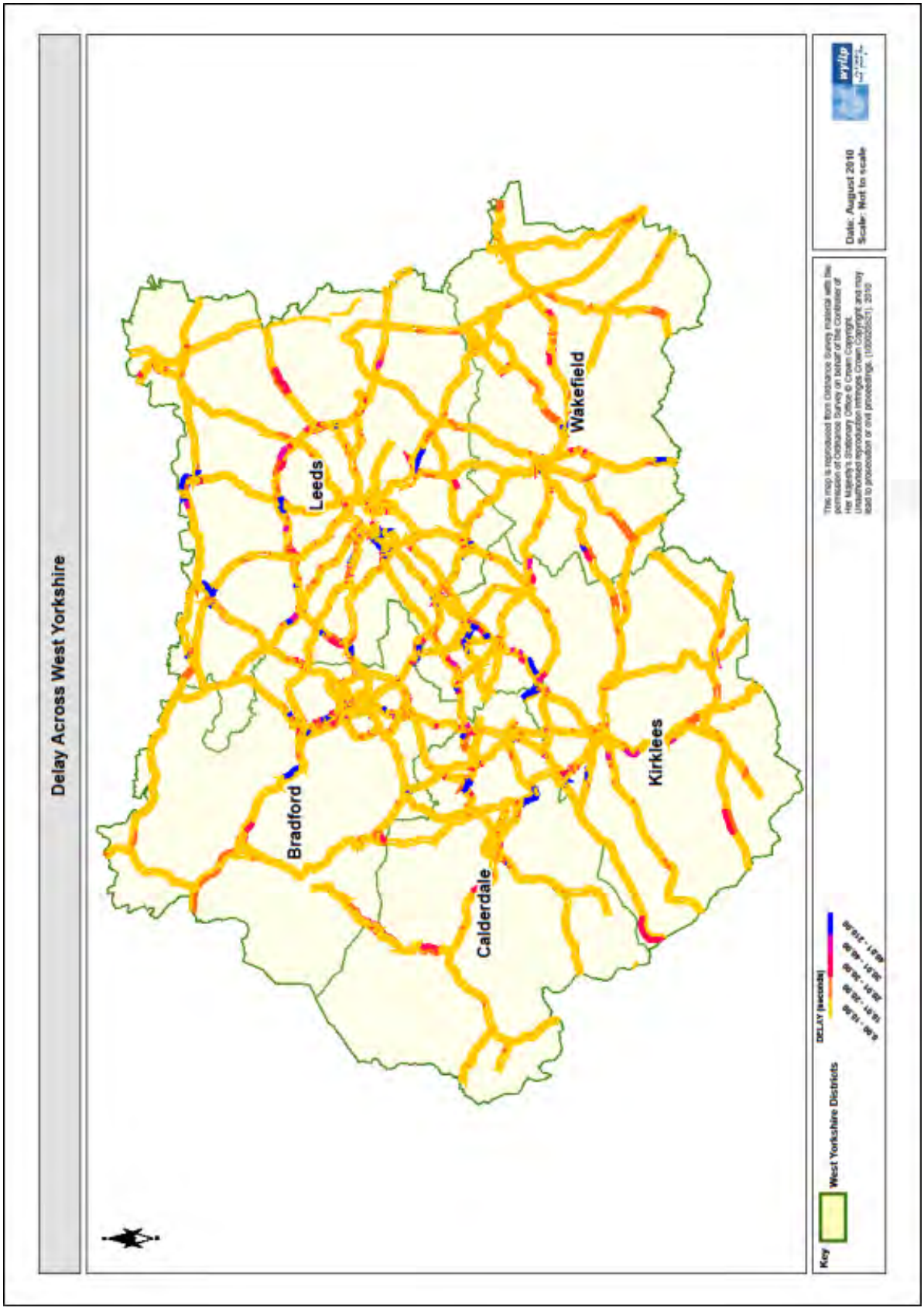
- Congestion is an issue for both car users and bus users (*source: as above*).

The duration of peak period road congestion in WY is increasing (*source: Transport for Leeds Project Report, July 2010*).

- The level of peak hour traffic approaching the city centre had not increased over the last 15 years (*source: as above*).
- The duration of the peak periods are getting longer, with commuting trips in particular now starting a lot earlier (*source: as above*).
- Over half of the network is operating at or below 70% of the speed limit in the morning peak period (from C-Jams data provided by the DfT) (*source: West Yorkshire Local Transport Plan 2 Monitoring Report 2009*).
- Over one quarter of the network is operating at less than 50% of the speed limit in the morning peak period (from C-Jams data provided by the DfT) (*source: as above*).

E6.2 Proportion below speed limit in morning peak (WYLTP2 Monitoring Report 2010)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
50%	2008	N/A	0.26	0.27	0.23	0.23	0.30	0.22
60%	2008	N/A	0.37	0.37	0.33	0.34	0.41	0.33
70%	2008	N/A	0.49	0.49	0.44	0.46	0.54	0.43
80%	2008	N/A	0.62	0.63	0.57	0.59	0.67	0.57
90%	2008	N/A	0.76	0.77	0.69	0.73	0.80	0.70
100%	2008	N/A	0.87	0.88	0.80	0.85	0.89	0.83

Appendix F: E6 - Highway Performance - Map



Appendix F: E7 - Road Works

Businesses in WY are concerned about poor road conditions (*source: Business Focus Group report, 2010, undertaken by Ipsos Mori as part of the Transport for Leeds research*).

- Quotations by business representatives stating their concern about the poor condition of the highways such as potholes (*source: as above*).
- Pot holes can be dangerous for cyclists and motorcyclists (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).
- The road condition is mixed (*source: DfT Highway Condition Index*).

E7.1: Index of Roads in Good Condition								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
All Classified Roads	2006/07	100	N/A	103	103	93	97	109
All Classified Roads	2007/08	97	N/A	111	100	93	103	107
All Classified Roads	2008/09	97	N/A	109	101	95	102	N/A

A third of all serious road congestion can be caused by road works (*source: The Future of Urban Transport, DfT, November 2009*).

- 5% of serious congestion in London is due to accidents (*source: as above*).
- 36% of serious congestion in London is due to streetworks (*source: as above*).
- 2% of trunk road delays in London in 2007/08 were due to flooding on one day (*source: as above*).

The condition of 'A' roads has improved, form 10% to 5% where maintenance is required (*source: West Yorkshire Local Transport Plan 2 Monitoring Report 2009*).

- The condition of all classified roads in four out of the five West Yorkshire Districts is above average when compared nationally (*source: as above*).
- The condition of 'A' roads has improved, form 10% to 5% where maintenance is required (*source: as above*).

E7.2: Roads and walking routes where maintenance should be considered								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Principal Roads	2008/09	N/A	4.5%	3.0%	6.0%	5.0%	5.0%	3.0%
Non-Principal Classified Roads	2008/09	N/A	7.9%	6.0%	11.0%	9.0%	9.0%	6.0%
Unclassified Roads	2008/09	N/A	12.7%	5.0%	14.0%	12.0%	16.0%	15.0%
Primary and Secondary Walking Routes (excluding ROW)	2008/09	N/A	14.8%	21.0%	5.0%	16.0%	17.0%	8.0%

Deterioration modelling shows that it is better value for money in the long term to undertake preventative maintenance (*source: 'Rough Roads Ahead', American Association of State Highway and Transportation Officials, 2009*).

- Deterioration modelling shows that it is better value for money in the long term to undertake preventative maintenance than let the assets reach a point where they are life expired or where significant renewal is required (s*ource: as above*).
- Any reduction or break in investment could reduce the condition of assets and cost more to put right at a later date (s*ource: as above*).

Appendix E8: Bus Performance

Bus punctuality has improved in WY, but it is still a key concern for people in WY (*source: West Yorkshire Local Transport Plan 2 Monitoring Report 2009*).

- Bus punctuality and customer satisfaction have improved significantly over the last 5 years (*source: as above*).

E8: Bus Performance							
		2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Bus Punctuality (LTP Mandatory Indicator M2)	The percentage of bus departures that is on time at origin and intermediate timing points.	82.3	-	82.6	85.7	88.5	88.6
Satisfaction with bus services (LTP Mandatory Indicator M3)	Score (out of 10) taken from Metro's annual customer satisfaction tracker survey	6.73	6.87	6.77	7.21	7.63	7.69

- Buses turning up late or not at all (source: WYLTP3 Consultation Feedback Report, Metro, 2011).

Bus use is falling in WY (*source: West Yorkshire Local Transport Plan 2 Monitoring Report 2009*).

- Bus patronage in West Yorkshire has declined by 8.8% between 2001/02 and 2009/10(*source: as above*).

High fares and concern about value for money are discouraging more rail and bus use in WY (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

- High fares are discouraging people from using bus and rail (*source: as above*).

Network instability is a key concern for people in WY (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

- Withdrawal of services including peak services (*source: as above*).
- Concerns from shift workers (*source: as above*).
- Services are not going where people want (*source: as above*).

Bus occupancy is variable in WY (*source: Transport for Leeds Project Report, July 2010*).

- Bus occupancies are variable (*source: as above*).
- The average occupancy inbound in the morning peak is around 65%, but some buses are full and some with much lower levels of occupancy This is primarily due to platooning as a result of congestion (*source: as above*).

- Significant spare capacity was evident in contra-peak flows (s*ource: as above*).

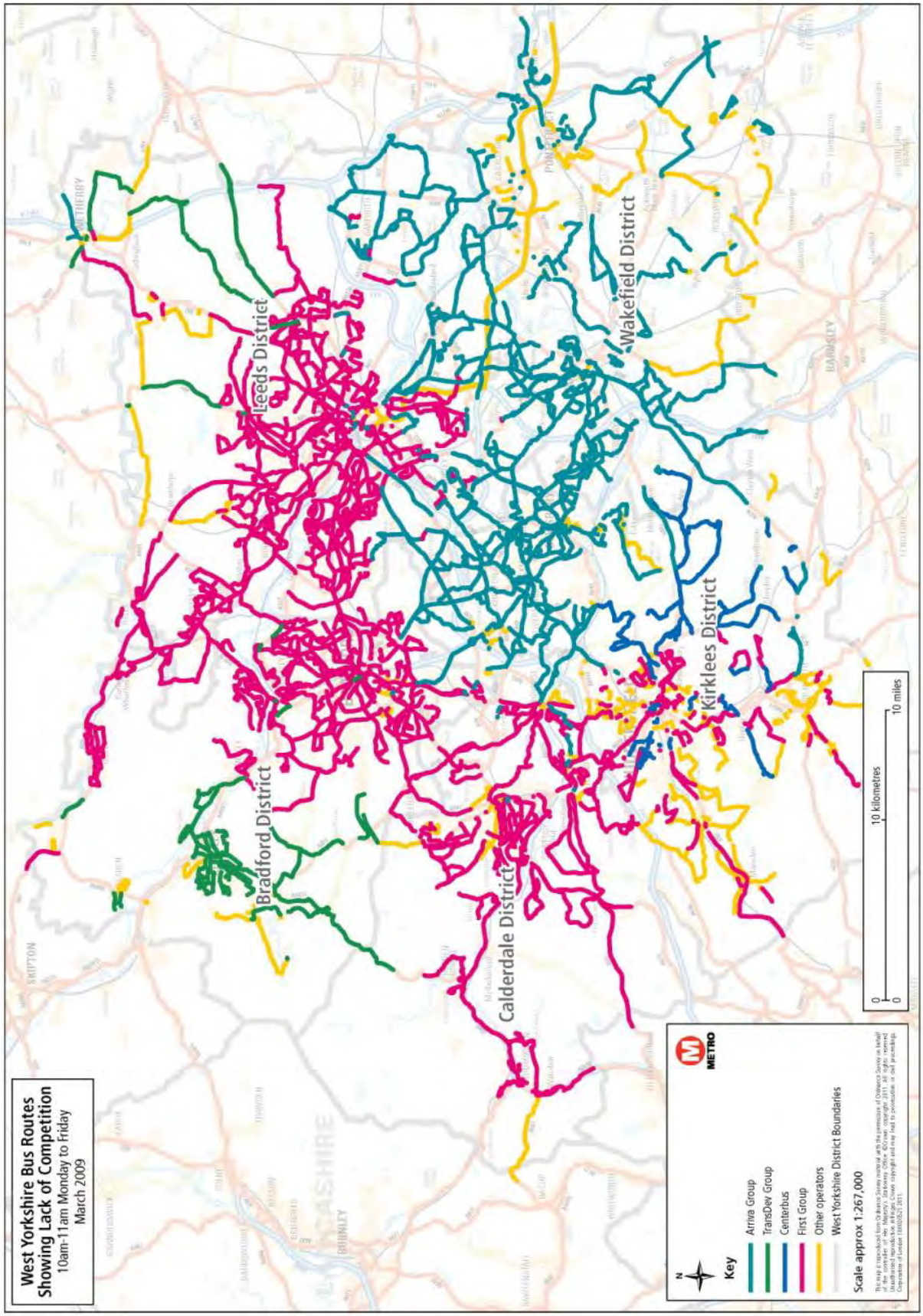
There is a lack of competition in the bus services market making it difficult to demonstrate value for money (s*ource: Metro 2011*).

Most people support the introduction of a Quality Bus Contract Scheme (s*ource: Bus Quality Contracts informal consultation, Metro, 2010*).

There is a relatively high level of access to public transport in WY (s*ource: Metro, 2010*).

- A relatively high level of access to public transport for a county with a significant rural population as 91.7% of West Yorkshire's population live within 400 metres of a bus stop with at least an hourly service (s*ource: as above*).

Appendix F: E8 - Bus competition - map



Appendix F: E9 - Rail Performance

Rail performance has improved in WY, but it is still a key concern for the public (*source: Northern Rail*).

- Rail performance has improved significantly over the last 5 years (s*ource: as above*).

E9: Rail Performance (Northern Rail)					
	2005/06	**2006/07**	**2007/08**	**2008/09**	**2009/10**
Rail Punctuality PPM is a measure that combines punctuality and reliability for the Northern Franchise.	87.18%	87.74%	87.59%	90.45%	91.27%

- Trains arriving late, public information announcements / display screens not always accurate (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

Overcrowding is a key concern for the public, and discourages more rail use (s*ource: WYLTP3 Consultation Feedback Report, Metro, 2011*).

- Overcrowding in rush hour, particularly in / out of Leeds is seen as unpleasant and dangerous (s*ource: as above*).

Trains approaching Leeds have the worst overcrowding outside London (s*ource: Network Rail Strategic Business Plan, October 2007*).

- Trains approaching Leeds have the worst overcrowding outside London (s*ource: as above*).

Appendix F: E10 - Economic Growth - National Context

There is a compelling link between the transport system and prosperity (*source: Eddington Transport Study, DfT; December 2006*).

- There is a compelling link between the transport system and prosperity throughout history and that this continues to hold true for the UK (*source: as above*).

West Yorkshire's economic performance is 10% below the national average, ranging from 24% below in Bradford to 12% above in Leeds (*source: Office for National Statistics*).

E10.1: Economic Performance (Office for National Statistics)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
GVA Per Head (NUTS 3.2)	2007	£20,430	£17,895	£15,249	£15,617	£15,617	£22,387	£15,617
GVA per head indices (NUTS 3.3)	2007	100.0	90	76	78	78	112	78

Transport plays a key role in the top three factors impacting on business location (s*ource: Eddington Transport Study, DfT; December 2006*).

- Business needs good access to markets, customers, clients, qualified staff and other cities (s*ource: as above*).

E10.2: Factors affecting European Business Location (Eddington Transport Study)	
	Overall
Easy access to markets, customers and clients	63%
Availability of qualified staff	59%
Transport links with other cities and internationally	55%
Quality of telecommunications	50%
Cost of staff	36%
Tax and financial incentives	31%
Availability of office space	27%
Value for money of office space	29%
Languages spoken	27%
Ease of travelling around and within city	26%
The quality of life for employees	19%
Freedom from pollution	15%

Reliability is highly valued by business travellers and commuters (s*ource: Eddington Transport Study; DfT, December 2006*).

Freight movements could be better managed through improved reliability (*source: as above)*.

The transport sector accounts for 7% of UK GVA (s*ource: Office for National Statistics).*

- Transport, storage and communication accounts for 7% of UK GVA (s*ource: as above).*

Spending per head on transport is considerably higher in London than in the North of England (s*ource: 2010 pteg Funding Gap report*).

- A total of £641 is spent on transport for every Londoner, around two and a half times the spending per head on transport in the North (s*ource: as above*).

Appendices F: C1 to F: C10 show evidence and issues relating to carbon reduction.

Appendix F: C1 - Cars

Car use is high in parts of WY (*source: West Yorkshire Local Transport Plan 2 Monitoring Report 2009*).

- AM Peak hour car use across cordons around key centres is high, ranging from 56% of trips in Leeds to 75% of trips in Wakefield (*source: as above*).

C1.1: AM Peak Mode Share (%) on radials to main centres (Source: WYLTP2 Monitoring Report 2009)								
	Year	GB (NTS 2009)	WY	Bradford	Halifax	Huddersfield	Leeds	Wakefield
Car	2009	66%	-	71.5%	68.0%	63.8%	55.7%	75.5%
Bus	2009	7%	-	16.0%	20.8%	21.3%	22.8%	11.2%
Train	2009	3%	-	7.2%	5.3%	8.1%	16.9%	8.0%
Walk (excluding rights of way)	2009	23%	-	4.7%	5.1%	6.0%	3.2%	4.3%
Cycle / Motorcycle	2009	2%	-	0.6%	0.8%	0.7%	1.4%	1.0%

Car occupancy is low in WY (*source: TAG unit 3.5: The Economy Objective, DfT April 2009*).

- The national average car occupancy between 7am and 10am was 1.37, based on the National Travel Survey 1999-2001 (*source: as above)*.
- Average morning peak period car occupancy in West Yorkshire ranges from 1.23 in Leeds to 1.28 in Halifax and Bradford (*source: West Yorkshire Local Transport Plan 2 Monitoring Report 2009*).

Congestion is an issue in WY (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

- An issue for both car users and bus users (*source: as above*).

There are not enough incentives to encourage people out of their cars (*source: WYLTP3 Consultation Feedback Report, Metro, 2011).*

- Not enough incentive to encourage people out of their cars (*source: as above)*.

Appendix F: C2 - Buses

See Appendix F: C1 for mode shares.

Buses can be very carbon efficient per passenger km (*source: Metro 2010*).

Bus use is falling in WY (*source: West Yorkshire Local Transport Plan 2 Monitoring Report 2009*).

- Bus patronage in West Yorkshire has declined by 8.8% between 2001/02 and 2009/10 (*source: as above*).

High fares are discouraging bus use in WY (*source: MetroFacts Annual Statistics Reports 2008/09*).

- Bus fares have risen by about 50% in the last five years (*source: as above*).
- High fares are discouraging people from using the bus (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).
- There is a desire for simplified ticketing and multi-modal smart cards (*source: as above*).

There is a lack of integration between different bus services and between other modes of transport (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

- Lack of interchange between different modes and services (*source: as above*).
- There is a desire for more real time displays at bus stops (*source: as above*).

Appendix F: C3 - Lorries and Vans

Nationally, most freight is moved by road (*source: Freight Modal Choice Study; DfT, April 2010*).

- Road transport carries 84% of goods moved (tonne lifted) (*source: as above*).
- Nationally, lorries carry two-thirds of goods moved, and rail carries 9% (*source: Delivering a Sustainable Transport System: The Logistics Perspective, DfT, December 2008*).
- Van ownership in the Yorkshire and Humber Region has grown by 46% since 2000 (*source: Development of the West Yorkshire LTP3 Freight Strategy, Aecom, 2010*).
- Most freight is moved by road on the motorways (*source: as above*).
- There are two important multi-modal freight terminals in West Yorkshire, at Leeds Stourton and Wakefield Euro Terminal (*source: as above*).
- Key freight generating locations in West Yorkshire include Leeds FLT, Wakefield Europort and Ferrybridge power station (*source: Freight Modal Choice Study, DfT; April 2010*).
- The Hull and Humber Ports are economically important international gateways for freight (*source: Leeds City Region Connectivity Study Phase 1, June 2010*).
- The ports of Liverpool, Teeside, Immingham and Hull are key international gateways of national importance serving North America, Irish and North European markets (*source: DRAFT National Networks Trans-Pennine Connectivity Study - Phase 1 Executive Summary; Aecom, October 2010*).
- The ports complex of Grimsby and Immingham is the largest in the UK (*source: as above*).

Lorries produce over three times as much carbon as rail freight (per tonne km) (*source: Delivering a Sustainable Transport System: The Logistics Perspective; DfT, December 2008*).

There is spare capacity to move freight on the Aire and Calder Navigation Canals (*source: Development of the West Yorkshire LTP3 Freight Strategy, Aecom, 2010*).

Appendix F: C4 - Cycling and Motorcycling

See Appendix F: C1 for mode shares.

Cycling is only about 1% of morning peak trips to urban centres in WY.

- Motorcycling is becoming more popular for commuting and leisure (*source: The Government's Motorcycling Strategy; DfT, February 2005*).
- Motorcycles compare favourably on most environmental parameters (*source: as above*).
- Lack of infrastructure, safety and lack of education are seen as discouraging more cycling and walking (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

Pot holes are causing concern, especially for cyclist and motorcyclists (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*)

Appendix F: C5 - Walking

See Appendix F: C1 for mode shares

Walking is 3% - 6% of morning peak trips to urban centres in WY.

Maintenance is needed on 15% or primary and secondary walking routes *(source: West Yorkshire Local Transport Plan 2 Monitoring Report 2009)***.**

C5.1: Rights of Way (Source: BVPI 178 2009/10)								
	Year	GB (NTS 2009)	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Length of ROW available to walkers (km)	2009/10	-	4801	1100	1377	1046	806	472
Length of ROW available to cyclists (km)	2009/10	-	721	85	229	130	178	99
Percentage meeting minimum standards	2009/10	-	-	68.0%	66.1%	57.4%	76.6%	63.1%

Over half the footpath network in WY does not meet minimum standards (*source: BVPI 178 2009/10*).

Lack of infrastructure, safety and lack of education are seen as discouraging more cycling and walking (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

C5.2: Roads and walking routes where maintenance should be considered								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Principal Roads	2008/09	-	4.5%	3.0%	6.0%	5.0%	5.0%	3.0%
Non-Principal Classified Roads	2008/09	-	7.9%	6.0%	11.0%	9.0%	9.0%	6.0%
Unclassified Roads	2008/09	-	12.7%	5.0%	14.0%	12.0%	16.0%	15.0%
Primary and Secondary Walking Routes (excluding ROW)	2008/09	-	14.8%	21.0%	5.0%	16.0%	17.0%	8.0%

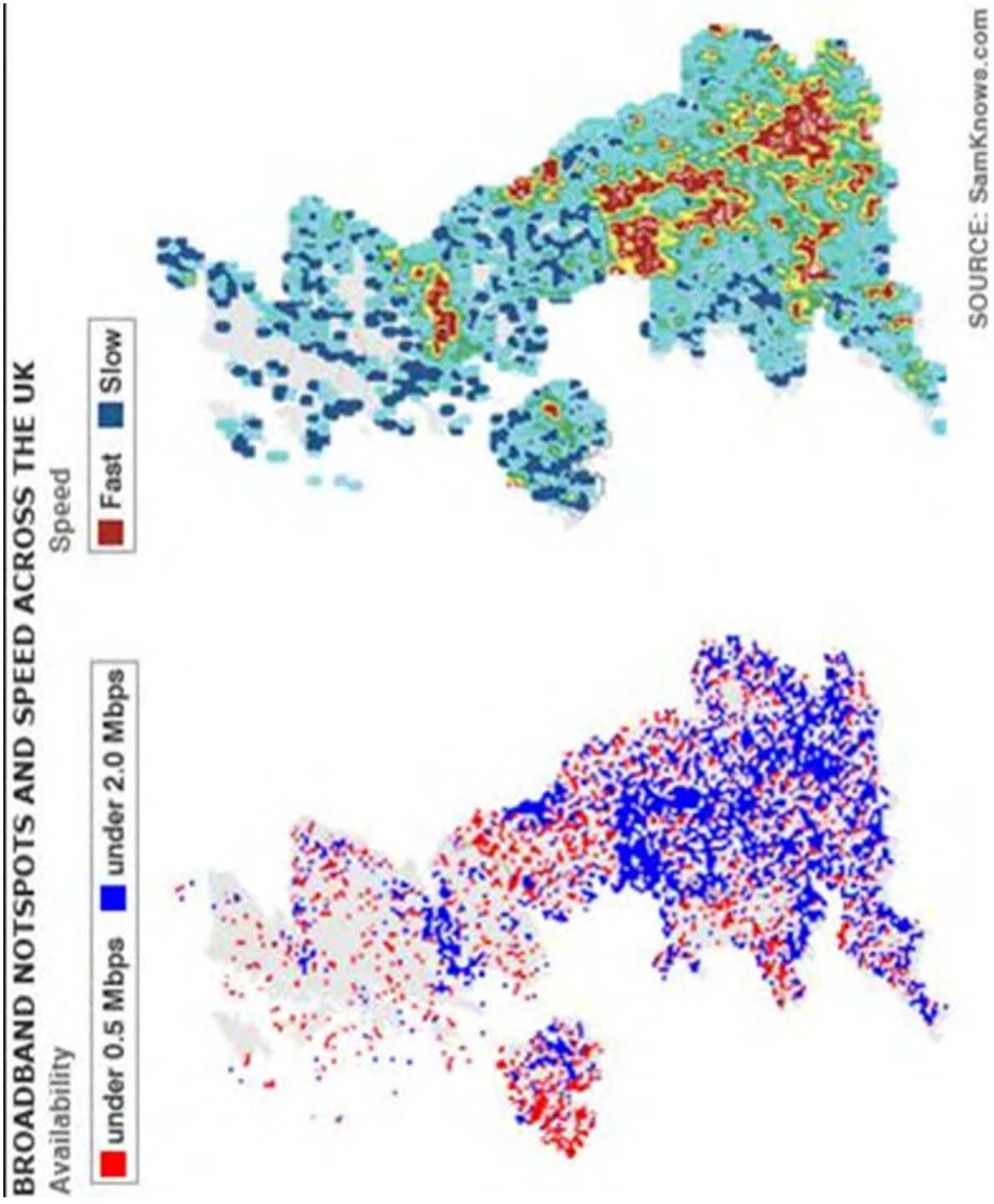
Appendix F: C6: The Need to Travel

Home working may be constrained by broadband coverage and speeds (*source: Samknows.com*).

- Broadband coverage is poor or not available in some more rural areas (s*ource: as above*).
- The percentage of people working at home has not changed significantly between 2002 and 2007(*source: National Travel Survey*).

C6: Trends in working and shopping from home (National Travel Survey)							
	2002	2003	2004	2005	2006	2007	2008
Always works from home	3	3	3	3	3	3	N/A
Work at home at least weekly	4	4	4	5	5	5	N/A
Work at home less often	11	10	10	10	10	10	N/A
Can't work from home	82	83	83	82	81	81	N/A
Percentage of households ordering goods at home	64	66	67	N/A	N/A	N/A	73

Appendix F: C6 - The Need to Travel - Maps



Appendix F: C7 - Distance Travelled

Long car trips generate disproportionately more carbon than short trips (*source: Carbon Pathways Analysis, DfT, 2008*).

- Although car trips longer than 10 miles account for a relatively small percentage of the total journeys, they are responsible for generating a disproportionately large amount of carbon (*source: as above*).

People are traveling further (*source: West Yorkshire Local Transport Plan 2 Monitoring Report 2009*).

- There was a 39% increase in the distance travelled to work in West Yorkshire between 1991 and 2001 (*source: as above*).

Appendix F: C8 - Low Emission Vehicles

Very few low emission vehicles (*source: DfT Vehicle Licensing Statistics*).

- The number of low emission vehicles in use is low at present (*source: as above*).

C8: UK Cars registered for the first time (DfT Vehicle Licensing Statistics)						
Year	Petrol	Diesel	Petrol/Gas	Hybrid Electric	Other	Avg CO_2
2004	67%	33%	0%	0%	0%	171.3
2005	63%	37%	0%	0%	0%	169.7
2006	61%	38%	0%	0%	0%	167.7
2007	59%	40%	0%	1%	0%	164.7
2008	56%	43%	0%	1%	0%	158.2

Electric trains have lower emissions than diesel, but only 30% of the WY network is electric (*source: Low Carbon Transport: A Greener Future; Dft, July 2009*).

- Electric trains offer better environmental performance than diesel equivalents (*source: as above*).
- Only 30% of the rail route miles in West Yorkshire have electric power supply (58 miles out of 190 miles) (*source: Metro, 2010*).

Only 60% of the West Yorkshire bus fleet has emission levels that meet Euro III standard or above (*source: Metro, 2011*).

Appendix F: C9 - Transport Assets

Building, maintaining, operating, and managing transport assets generate carbon emissions (*source: Metro, 2010*).

Appendix F: C10 - Carbon Reduction - National Context

Road transport accounts for 21% of overall carbon emissions in West Yorkshire (*source: National Indicator 186*).

C10: Carbon Emissions (National Indicator 186)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Total Carbon emissions kt CO_2	2007	432727	13703	2955	1325	2411	4808	2204
Road Transport	2007	104748	2826	604	276	455	1090	401
% Road Transport	**2007**	**24%**	**21%**	**20%**	**21%**	**19%**	**23%**	**18%**

Cars, lorries and vans account for 97% or road transport emissions, and buses account for only 3% (*source: Low Carbon Transport Innovation Strategy, DfT, May 2007*).

- Car trips generate for 59% of UK road transport carbon emissions, heavy good vehicle for 24%, light goods vehicles for 14% and buses for 3% (*source: as above*).

The Government has set a legally binding target of at least an 80% cut in greenhouse gas emissions by 2050, and a reduction of at least 34% by 2021 (*Source: Climate Change Act 2008*).

- A legally binding target of at least an 80% cut in greenhouse gas emissions by 2050, to be achieved through action in the UK and abroad (*source: as above*).
- A reduction in emissions of at least 34% by 2020 (*source: as above*).
- Both these targets are against a 1990 baseline (*source: as above*).

To achieve the Government's target, substantial progress is needed on cleaner fuels, more efficient vehicles and smarter driver choices (*source: The King Review of Low Carbon Cars, October 2007*).

It is generally accepted that technology and the use of low emission vehicles will not be sufficient to meet the Government's targets (*source: Low Carbon Transport: A Greener Future; Dft, July 2009*).

- The scientific consensus is that by 2050 we must strive to reduce global greenhouse gas emissions by at least 50% (*source: as above*).

The benefits of strong early action far outweigh the costs (*source: The Stern Review on the Economics of Climate Change, October 2006*).

Appendices F: Q1 to F: Q9 show evidence and issues relating to quality of life.

Appendix F: Q1 - Road Safety

WY road casualty rates are higher than the national average (*source: Reported Road Casualties Great Britain: 2009*).

Q1: Casualties per Capita 000s (Reported Road Casualties GB: 2009)								
	Year	GB	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
All severities	2009	222,146	9,211	2,342	831	1,698	3,057	1,283
All KSI	2009	26,912	973	211	120	160	321	161
Child KSI	2009	2,671	151	41	20	24	43	23
Population	2010	59,306,542	2,206,882	509,371	202,449	401,319	771,281	322,457
All severities (per head of population)	2009	3.75%	4.17%	4.60%	4.10%	4.23%	3.96%	3.98%
All KSI (per head of population)	2009	0.45%	0.44%	0.41%	0.59%	0.40%	0.42%	0.50%
Child KSI (per head of population)	2009	0.05%	0.07%	0.08%	0.10%	0.06%	0.06%	0.07%

Safety for cyclists is a key concern for the public and discourages more cycling (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).

- Cycling on roads is perceived as dangerous and discourages more people from taking it up (*source: as above)*.
- Motorcycling is becoming more popular for commuting and leisure (*source: The Government's Motorcycling Strategy; DfT, February 2005*).
- Motorcyclists are our most vulnerable road users (*source: as above)*.

Appendix F: Q2 - Security

The walk to or from a car park, bus stop or rail station is often perceived as the most insecure part of the journey (*source: Crime and Disorder on Public Transport, DfT, October 2008*).

- Surveys reveal that the walk to and from a stop or station is often perceived to be the most insecure part of the journey.

Appendix F: Q3 - Obesity

Obesity is rising rapidly (*source: The Future of Urban Transport; DfT, November 2009*)**.**

- Obesity is rising rapidly, with 30% of children and 60% of adults defined as either overweight or obese in 2007 (*source: as above*).

Two thirds of adults do not meet recommended activity levels (*source: The Future of Urban Transport; DfT, November 2009*).

- Two thirds of the adult population do not meet the recommended activity levels (*source: as above*).

Few cycling and walking trips

- See Appendix F: C1 for transport mode shares.

Appendix F: Q4 - Air Quality

Emissions have reduced since 1990, but air quality does not meet European standards in some part of WY (*source: West Yorkshire Air Quality Review 2009*).

- 26 AQMAs relate to road traffic emissions of NO2 that exceed the annual average standard (source: as above).
- 2 AQMAs have been declared because the daily PM10 standard has been exceeded (source: as above).
- Since 1990 emissions have fallen; SO2 by 86%; PM10 by 53%; and NO2 by 49% (source: An Invitation to Shape the Nature of Britain (Discussion Document); DEFRA, July 2010).
- Between 1990-2001 this has helped avoid 4,200 premature deaths and 3,500 hospital admissions per year but air pollution still reduces life-expectancy by an average of 7-8 months (source: as above).

Q4: Air Quality (West Yorkshire Air Quality Review 2009)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
AQMAs	2009	-	28	4 for NO_2 2 exceeding	6 for NO_2	1 for NO_2 1 for PM_{10}	7 for NO_2 1 for PM_{10}	8 for NO_2
Areas of Concerns	2009	-	37	1 Traffic	4 Traffic	6 Traffic	8 Motorway 17 Traffic	1 Traffic

Appendix F: Q5 - Noise Pollution

6% of the population of WY are at risk of adverse health impacts (*source: Noise Action Plan for West Yorkshire, DEFRA, March 2010*).

- It is estimated that over 6% of West Yorkshire's population live in conditions where day time transport noise is above 65dB, a level at which noise begins to interfere with normal conversations (*source: as above)*.
- At least 1,800 residents live in locations where noise levels are a risk to health and where new development would not normally be allowed because the traffic noise exceeds 76dB (A) (*source: as above)*.

Q5: Road Traffic Noise Impacts (Noise Action Plan for West Yorkshire)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Total Population	2010	59,306,542	2,206,882	509,371	202,449	401,319	771,281	322,457
People at risk of adverse health impacts	2010	NA	141,000	NA	NA	NA	NA	NA
People exposed to noise > 76dB	2010	NA	1,800	400	100	300	900	100
% People at risk of adverse health impacts	2010	NA	6%	NA	NA	NA	NA	NA
% People exposed to noise > 76dB	2010	NA	0%	0%	0%	0%	0%	0%

- West Yorkshire has been identified to have a Noise Action Plan, based on strategic noise mapping (*source: as above*).

Appendix F: Q6 - Unemployment and Pay Levels

WY has higher unemployment than the national averages (*source: The English Indices of Deprivation 2007*)**.**

- All Districts have a relatively high number of people who are income and employment deprived (*source: as above*).

Q6.1: Indices of Deprivation (1 is worst and 354 is best) (The English Indices of Deprivation 2007)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Rank of Average Score	2007	1 to 354	N/A	32	107	82	85	66
Rank of Extent	2007	1 to 354	N/A	31	98	75	67	62
Rank of Local Concentration	2007	1 to 354	N/A	11	71	59	48	68
Rank of Income Scale	2007	1 to 354	N/A	4	73	12	5	37
Rank of Employment Scale	2007	1 to 354	N/A	6	74	15	4	11

- West Yorkshire has higher unemployment that the national average, with the highest rates in Leeds and Bradford (*source: Nomis, Office for National Statistics*).

Q6.2: Unemployment								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Economically Active	2008	78.9%	77.7%	74.5%	80.0%	78.7%	77.7%	79.7%
Unemployed	2008	7.4%	7.8%	8.8%	7.9%	7.5%	8.3%	8.0%

Average pay in West Yorkshire is 9% below the national average, ranging from 14% below in Bradford to 5% below in Leeds (*source: Office for National Statistics*).

Q6.3: Economic Performance (Office for National Statistics)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Gross Weekly Pay (Full Time) by residence	2009	£491	£446	£410	£466	£455	£465	£422

Appendix F: Q7 - Attainment of Skills

WY has lower attainment of skills than the national average, particularly in Bradford and Wakefield (s*ource: Nomis, Office for National Statistics*).

Q7: Skills Attainment								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
NVQ1 and above	2008	78.9%	76.8%	71.1%	78.4%	77.6%	80.2%	75.0%
NVQ4 and above	2008	29.0%	24.4%	21.4%	23.7%	27.7%	27.6%	17.2%

- Education attainment has improved at schools served by MyBus by between 2% and 4% (s*ource: MyBus Major Scheme 2004-08 Evaluation Report to the DfT, Metro*).
- Education attendance has improved at schools served by MyBus by between 5% and 6% (*source: as above*)

Appendix F: Q8 - Access for All

Car ownership is lower than the national average in WY (*source: National Trip End Model*).

F2: Car ownership (National Trip End Model)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
No Car	2010	26%	30%	31%	30%	28%	31%	28%
1 Car	2010	45%	45%	46%	46%	46%	43%	46%
2 Car	2010	23%	21%	20%	21%	22%	21%	22%
3+ Car	2010	6%	4%	4%	4%	4%	5%	4%

Motorcycles can offer a more affordable alternative to a car, especially where public transport is limited (*source: The Government's Motorcycling Strategy; DfT, February 2005*)**.**

- Motorcycling is becoming more popular for commuting and leisure (*source: as above*).

People with mobility difficulties face physical barriers to public transport (*source: MetroFacts Annual Statistics Reports 2008/09*)**.**

- Most buses in West Yorkshire are low floor easy access (*source: as above*).
- By 2015 all buses weighing up to 7.5 tonnes will have to be accessible to disabled people (*source: DPTAC: Door to Door - a travel guide for disabled people*).
- By 2016 all full size single deck buses weighing over 7.5 tonnes will have to be accessible to disabled people (*source: as above*).
- By 2017 all double deck buses will have to be accessible to disabled people (*source: as above*).
- All coaches and rail vehicles will have to be accessible to disabled people by 1 January 2020 (*source: as above*).

Appendix F: Q9 - Leisure and Green Space

Kirklees and Bradford have relatively low levels of green space enjoy (*source: Understanding Resilience; Experian, September 2010*).

- Kirklees and Bradford have relatively low levels of green space for people to enjoy (*source: as above*).
- There are 33 SSSIs in WY (*source: Natural England, 2011*).
- 10% increase in local green space can generate reduction in health complaints in local community (equivalent to 5 year change in average age) (*source: An Invitation to Shape the Nature of Britain (Discussion Document); DEFRA, July 2010*).
- Networks of green infrastructure help to manage surface water run off and flooding; filter air pollution and cool city air (between 6 -12ºC) (*source: as above*).
- Biodiversity - many habitats are declining and species threatened (*source: as above*).
- Water supply - greater unreliability and unpredictability in face of climate change and demographic change (*source: as above*).

Impact of transport on the built environment (*source: Metro 2010*).

Appendices F: F1 to F: F7 show evidence and issues of doing nothing.

Appendix F: F1 - More People and More Dispersed

Population, housing and jobs growth in WY will be faster than the national average (s*ource: National Trip End Model*).

- West Yorkshire has 3.7% of the UK population (s*ource: as above*).
- Growth in population in West Yorkshire is predicted to be much faster than the national average (s*ource: as above*).
- Over half of the population live in Leeds and Bradford, and these two cities have the fastest predicted growth rates (s*ource: as above*).

F1.1: Population Growth (National Trip End Model)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Total	2010	59,306,542	2,206,882	509,371	202,449	401,319	771,281	322,457
<16	2010	19%	20%	23%	20%	21%	18%	19%
16 to 64	2010	65%	66%	64%	65%	65%	68%	65%
65+	2010	16%	14%	13%	15%	15%	14%	16%
Total	2026	65,693,512	2,554,943	610,858	232,995	446,203	910,004	354,883
<16	2026	19%	20%	24%	19%	21%	19%	18%
16 to 64	2026	61%	63%	62%	62%	61%	67%	61%
65+	2026	20%	16%	15%	19%	18%	15%	21%
Total Growth 2010-26		**11%**	**16%**	**20%**	**15%**	**11%**	**18%**	**10%**

- Leeds and Bradford have the largest labour markets and the majority of existing jobs (*source: National Trip End Model*).

F1.2: Jobs and Workers (National Trip End Model)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Jobs Growth	2010-26	7%	12%	14%	11%	10%	12%	9%
Workers Growth	2010-26	12%	18%	25%	16%	11%	23%	9%

The number of people per house will drop in WY (*source: National Trip End Model*).

- The number of people living in each house is predicted to drop, and the greater dispersal of people will lead to more trips (*source: as above*).

F1.3: Household Growth (National Trip End Model)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
Households	2010	26,078,575	943,536	202,995	89,215	173,298	332,891	145,136
Households	2026	30,308,072	1,130,542	250,031	101,300	202,978	404,542	171,691
Total Growth 2010-26		16%	20%	23%	14%	17%	22%	18%
2010 Population / Household	2010	2.52	2.71	3.01	2.61	2.57	2.73	2.45
2026 Population / Household	2026	2.17	2.26	2.44	2.30	2.20	2.25	2.07

Appendix F: F2 - More Car and Rail Use

Car ownership in WY will increase (*source: National Trip End Model*).

F2: Car ownership (National Trip End Model)								
	Year	UK	WY	Bradford	Calderdale	Kirklees	Leeds	Wakefield
No Car	2010	26%	30%	31%	30%	28%	31%	28%
1 Car	2010	45%	45%	46%	46%	46%	43%	46%
2 Cars	2010	23%	21%	20%	21%	22%	21%	22%
3+ Cars	2010	6%	4%	4%	4%	4%	5%	4%
No Car	2026	23%	25%	26%	25%	25%	26%	24%
1 Car	2026	46%	46%	47%	46%	47%	44%	48%
2 Cars	2026	24%	23%	22%	23%	24%	24%	23%
3+ Cars	2026	6%	5%	5%	5%	5%	6%	5%

Bus use will fall in WY (*source: Transport for Leeds Project Report, July 2010*).

- It is anticipated that operators will continue to increase bus fares in excess of inflation. It is anticipated that operators will continue to reduce bus frequencies on core routes *(source: as above)*.
- Many lower frequency services would be cut altogether *(source: as above)*.
- Lack of interchange between different modes and services (*source: WYLTP3 Consultation Feedback Report, Metro, 2011*).
- There is a desire for more real time displays at bus stops (*source: as above*).
- There is a desire for simplified ticketing and multi-modal smart cards (*source: as above*).

No increase in walking and cycling (*source: WYLTP3 Consultation Feedback Report, Metro, 2011).*

- Lack of infrastructure, safety and lack of education are seen as discouraging more cycling and walking (*source: as above*).
- Pot holes are a concern, especially for cyclists and motorcyclists (*source: as above*).

Rail use predicted to increase in WY (*source: Northern Route Utilisation Strategy, Network Rail, 2010).*

- Potential for 20% growth in the number of passengers into Leeds Station in the next four years, and by as much as 68% by 2029 *(source: as above).*

Appendix F: F3 - More Road Freight Movements

Regional freight growth of 27% by 2026 *(source: The Logistics Sector in the Yorkshire & Humber Region, Hull University, 2010)*.

- The amount of freight lifted nationally increased by 9% between 1997 and 2007 *(source: as above).*
- Regional freight growth is expected to grow by 27% with an employment growth of 4.6% over 16 years (based on the Regional Econometric Model Experian, January 2010) *(source: as above).*
- Domestic freight movement in the UK will rise by a quarter between 2006 and 2020 *(source: as above) (source: Transport Challenges and Opportunities, briefing paper on the freight transport sector, cfit, 2010)*.

65% growth in vans by 2025(*source: Delivering a Sustainable Transport System: The Logistic Perspective, DfT, December 2008*).

- 65% growth in light good vehicles by 2025 *(source: as above).*

Appendix F: F4 - More Need to Travel

Broadband coverage and speeds may constrain home working *(source: Metro, 2010)*

- Broadband coverage will continue to improve but an increase in home working and shopping will be dependent on employers and retailers *(source: as above).*

Land use planning may not reduce the need to travel (*source: Regional Improvement and Efficiency Programme - Integrating Transport Planning in the Leeds and Sheffield City Regions*).

- Transport and land use planning do not always work well together, which contributes to increasing the need to travel, the distances travelled and the mode chosen *(source: as above)*.
- The need to travel and the distance travelled could increase, unless our cities and towns are planned better *(source: as above).*

Appendix F: F5 - Longer Trips

Land use planning may not reduce the distance travelled (*source: Regional Improvement and Efficiency Programme - Integrating Transport Planning in the Leeds and Sheffield City Regions*).

- Transport and land use planning do not always work well together, which contributes to increasing the need to travel, the distances travelled and the mode chosen *(source: as above).*
- The need to travel and the distance travelled could increase, unless our cities and towns are planned better *(source: as above).*

Appendix F: F6 - Few Low Emission Vehicles

There will only be more low emission vehicles with incentives, charging infrastructure, improved performance and reduced running costs *(source: Investigation into the Scope for the Transport Sector to Switch to Electric Vehicles and Plug-in-Hybrids, BERR & DfT, October 2008).*

- Mass market production of electric vehicles is unlikely to occur before 2014 *(source: as above).*
- Uptake after 2014 would require improvements in performance, charging infrastructure and reduced costs *(source: as above).*
- The Government has a range of policies to support the development and commercialisation of lower carbon vehicles and their associated technologies *(source: Low Carbon and electric Vehicles, DfT web-site, September 2010).*

Appendix F: F7 - More Road and Rail Delays

Adverse weather and other effects of climate change could mean more road and rail delays due to maintenance works *(source: West Yorkshire Climate Proofing study, LCC & Kirklees 2010)*

- Predicts more frequent severe weather events will affect West Yorkshire *(source: as above).*
- In West Yorkshire, there have been 24 severe weather events between 2000- 2010 where transport was severely affected *(source: as above).*

Appendix G.
Description of Key Targets and Indicators

For the ten key indicators, it is proposed to set targets with milestones for each of the three-year Implementation Plan periods. At this stage, it is not possible to propose firm targets beyond the first three-year Implementation Plan as the future funding is not yet known, so the targets in later years indicate the proposed direction of travel only. Details of this work will be developed further and consulted on during the first Implementation Plan period.

1. Satisfaction with all Transport

This indicator makes use of market research and customer surveys to measure satisfaction across a range of transport modes (e.g. car, car sharing, bus, rail, cycle and walk) and assets (e.g. bus stops, stations, rail stations, pavements, road conditions, etc.). A representative baseline survey will be undertaken in summer 2011, to set the initial satisfaction scores against which future surveys will be tracked on a ten point scale. The headline indicator is a combined indicator comprising the individual satisfaction levels for each of the elements which will be weighted according to the importance attached to each. The baseline data also provides the sub-indicators to be used as technical / diagnostic indicators to help inform investment decisions. The data will be collected and reported annually.

2. Bus journey time

This indicator measures the proportion (length) of the West Yorkshire core bus network where journey time variability in the peak period (7.30am - 9.30am, weekdays, excluding school holidays) is equivalent to inter-peak conditions. Data are derived from buses equipped with automatic vehicle location (AVL) and extracted from the database for one month in autumn. The range of bus journey times, excluding the top and bottom 5% of journeys, is expressed as a proportion of the average journey time for each bus route. The data are aggregated across all routes on the core bus network to determine the proportion of the network currently operating below the level of variability typically experienced in inter peak conditions. The data are collected and reported annually.

3. Car journey time reliability

This indicator measures the proportion (length) of the West Yorkshire core road network where peak period (7.30am - 9.30am, weekdays, excluding school holidays) journey time variability is similar to that experienced in inter peak conditions. Data for this indicator comes from Trafficmaster data provided annually by the DfT. These data are derived from over 60,000 vehicles equipped with satellite navigation devices currently operating on the UK highway network. The range of vehicle journey times, excluding the top and bottom 5% of journeys, is expressed as a proportion of the average journey time for each route segment. The data are aggregated across all roads on the core highway network to determine the proportion of the

network currently operating below the level of variability experienced in inter peak conditions. The data are collected and reported annually.

4. Access to Labour Market

This indicator measures the ability of employers to recruit. For this indicator West Yorkshire is divided into zones; within each zone there is an 'accessible workforce', which represents the pool of potential workforce lying within an accessible travel range. The size of this pool is affected by the number of workers living in a particular zone (with the number and location of homes changing over time) and the transport costs of moving between zones (i.e. time and costs of travelling to a zone, which is affected by congestion, fares and journey times). The methodology to project the target and monitor performance against delivery is based on use of the Urban Dynamic Model. There will be an update and rerun of the UDM every three years, using latest figures for the distribution of housing and employment, journey times and other key factors such as fares and parking charges.

5. Principal Road Condition

The indicator measures the percentage of the West Yorkshire Principal Road Network where maintenance should be considered. The indicator has featured in previous Local Transport Plans. Data are gathered using the national 'Scanner' (Surface Condition Assessment for the National Network of Roads) methodology. 'Scanner' machines are driven along the road length to audit a range of measures such as texture/cracking/longitudinal variation. Collectively these measures are combined to produce an overall score. The road length either meets the acceptable threshold or it is below and in need of maintenance. The data are reported annually.

6. Low-carbon trips

This indicator measures the proportion of low-carbon trips crossing into the main district centres. For the LTP, 'low-carbon trips' encompasses rail, bus, walking, cycling, powered two-wheelers and cars with more than one person occupancy. Counts take place of cars, buses, cycles and pedestrians crossing cordon points on key arterial routes to the five West Yorkshire district centres of Bradford, Halifax, Huddersfield, Leeds and Wakefield, within the morning peak period (07.30 – 09.30, weekdays). Rail counts are undertaken at all rail stations that fall within the cordon areas. The cordon counts are carried out and reported every two years.

This indicator will be replaced over time by an indicator derived from satisfaction surveys.

7. Bus and Rail Patronage

This indicator measures the annual number of passengers using bus and rail within West Yorkshire. The bus figures are derived from Metro on-board surveys of bus services made within West Yorkshire. The bus trajectory is based on Simbus modelling undertaken by Metro. The rail figures are derived from Office of Rail Regulations annual station usage records for all West Yorkshire stations for all operators (using counts of entries to stations only). The rail

trajectory is informed by predictions from the Northern Route Utilisation Strategy (2010). The data are collected and reported annually.

8. All road casualties – People KSI

This indicator measures West Yorkshire road user casualties killed or seriously injured (KSI). The casualty data are collected by the West Yorkshire Police and processed on behalf of the five District Councils by the Police and Leeds City Council. The data are collected and reported annually.

9. Public transport access to local services

This indicator measures the proportion of the residential population within West Yorkshire that are within 30 minutes journey time of a local centre by public transport. There are 16 local centres defined within the Leeds City Region Transport Strategy which encompass Regional Cities (3), Sub Regional Cities and Towns and Growth Areas (3) and Principal towns (10). The DfT provided 'Accession' software is used to calculate accessibility. Bus and rail services are included. Figures are produced for the morning peak (7.30am - 8.30am, weekdays) and the inter-peak (10am – 11am, weekdays). The data are collated and reported annually, based on January service change data.

10. Air Quality (NOx, PM_{10} and CO_2 emissions)

This indicator measures annual road traffic emissions of NOx, PM_{10} and CO_2 across the West Yorkshire core highway network. The data are produced using Leeds City Council's West Yorkshire AirViro emissions model which takes account of number of vehicles, vehicle type and vehicle speeds across the core network. Air quality conditions for these emissions will be monitored separately. The data are collected and reported annually.

Appendix H.
Strategic Risk Log

1. Introduction

Risk management includes identifying and assessing risks, and then responding to them. The process set out below is based on the 'Orange Book: Management of Risk – Principles and Concepts' by HM Treasury, dated October 2004.

It will be impossible to eliminate all risks in delivery of the Plan. Therefore, this section sets out the process that will be used to manage risk throughout delivery.

2. Identifying Risks

Risks have been identified using the following risk categories. The categories are intended to ensure that a wide range of potential risks have been considered.

- **External** – arising from the external environment, not wholly within the LTP Partnership's control, but where action can be taken to mitigate the risk.
- **Internal** – where the LTP Partnership has an element of control.

Project risks will be identified by project managers as part of a separate process that is not covered in this section.

3. Strategic Risk Assessment

The assessment is given in the following Strategic Risk Log. It has been carried out by evaluating both the likelihood of the risk being realised, and the impact if the risk is realised, and then multiplying the two scores to give a Risk Index. The scoring system used for likelihood and impact is given below.

Likelihood	Impact	Score
Almost Certain	Severe	5
Likely	Major	4
Possible	Moderate	3
Unlikely	Minor	2
Rare	Insignificant	1
Nil	Nil	0

The resources available to manage risk are finite. Therefore, prioritisation has been carried out based on the colour coded system shown below.

Risk Index		Prioritisation
Above 14		Urgent
10 to 14		Requires Action
Below 10		Not Urgent

4. Residual Risks

The risk log below gives an assessment of the 'inherent' risk at the start of the Plan, and before any mitigation measures have been carried out. The 'residual' risks after mitigation measures have been carried out will be monitored as necessary throughout the life of the Plan.

Table H1: External Risks					
Risk No	Risks	Before mitigation			Mitigation
		Likelihood	Impact on Outcome	Risk Index	
	1. Third Party Delivery				
1.1	Bus operators reorganise or remove bus services	4	4	**16**	• Implement Bus Quality Contracts / Partnerships
1.2	Bus operators increase fares above inflation	4	4	**16**	• Implement Bus Quality Contracts / Partnerships
1.3	DfT does not fund WY Major Schemes (NGT, Castleford, Leeds IRR, Leeds Rail Growth)	3	5	**15**	• Work with DfT to optimise bids
1.4	Bus operators do not install smartcard ticketing technology on buses	3	4	**12**	• Implement Bus Quality Contracts / Partnerships
1.5	DfT does not deliver sufficient rail rolling stock in West Yorkshire	3	4	**12**	• Gather evidence of overcrowding. • Support lobbying of Government.
1.6	DfT does not deliver national schemes (High Speed Rail, Northern Hub, Motorway Hard Shoulder Running)	3	4	**12**	• Lobby HS2 and Government to include WY lines. • Exert media and political pressure for HS2 & Northern Hub. • Collect evidence to support HS2 and Northern Hub.
1.7	Competition Commission investigation of the bus industry may be unhelpful	3	4	**12**	• Monitor position, and outcomes of the Competition Commission work
1.8	Rail franchises do not meet local needs	3	3	**9**	• Support lobbying of Government. • Influence next round of rail franchises. • Consider effects of potential devolution of rail powers.
1.9	Network Rail does not deliver additional rail electrification in West Yorkshire	3	3	**9**	• Consider ways to influence franchise specification • Demonstrate why electrification is important • Influence Government to concentrate limited resources in WY.

1.10	Bus operator performance is worse than expected	3	3	**9**	• Use monitoring for early warning and to find causes • Work with partners to improve performance
1.11	Train operator performance worse than expected	3	3	**9**	• Use monitoring for early warning and to find causes • Work with partners to improve performance
1.12	Utility companies create more delays	2	3	**6**	• Use new network management practices
1.13	Police do not prioritise transport enforcement	2	3	**6**	• Engage with the Police • Consider further transfers of powers from the Police

	2. Legislation				
2.1	Insufficient incentives for low emission vehicles	3	4	**12**	• Lobby Government to increase incentives
2.2	Changes to Government processes increase time and cost of delivery	4	3	**12**	• Work with Government to minimise the impact of any changes
2.3	Insufficient incentives for freight to use rail	3	3	**9**	• Influence Government tax policies. • Consider need for intermodal freight terminals. • Consider need for freight consolidation centres.

	3. Economic / Financial				
3.1	Reduction in funding	3	5	**15**	• Ensure delivery of LTP3 is on time and budget • Develop consistent WY Development Guidance for developer contributions • Carry out Value Engineering • Local determination • Develop an approach to using the Voluntary Sector
3.2	Cost of oil increases more than expected	3	5	**15**	• Use monitoring for early warning • Lobby Government to redress balance
3.3	Cost of construction increases more than expected	2	5	**10**	• Undertake cross District / Metro joint procurement where possible and beneficial • Carry out Value Engineering
3.4	BSOG reduced further	2	5	**10**	• Lobby Government
3.5	Carbon budgeting increase delivery costs	3	3	**9**	• Review costs and benefits of adopting 'carbon accounting' into business cases and procurement exercises

	4. Technological and the Environment				
4.1	Technology becomes obsolete	3	4	**12**	• Engage with providers for early warning • Optimise procurement processes
4.2	Software support costs increase more than expected	3	3	**9**	• Engage with providers for early warning • Optimise procurement processes
4.3	Technology does not deliver carbon reductions	3	3	**9**	• Use monitoring for early warning • Redirect resources as necessary
4.4	Change to standards increases time and costs	3	3	**9**	• Engage with providers for early warning • Optimise procurement processes
4.5	No improvement to broadband coverage and speeds	2	3	**6**	• Lobby providers for improvements in West Yorkshire

	5. Planning Framework				
5.1	Land use planning does not reduce the need to travel	4	3	**12**	• Embed LTP3 in LDF Development Strategies • Develop consistent WY Development Guidelines
5.2	Land use planning does not reduce the distance travelled	4	3	**12**	• Embed LTP3 in LDF Development Strategies • Develop consistent WY Development Guidelines

	6. Environmental				
6.1	Poor weather conditions makes asset conditions worse than expected	3	4	**12**	• Develop a Transport Asset Management Plan • Adapt assets to be more resilient

Table H2: Internal Risks					
Risk No	Risks	Before mitigation			Mitigation
		Likelihood	Impact on Outcome	Risk Index	
	1. Programme and Project Delivery				
1.1	Insufficient in-house staff with necessary skills	3	4	**12**	Identify necessary skills Train staff
1.2	Faster than anticipated decline in asset condition	3	3	**9**	Review the costs and benefits of adopting 'whole life costing' principles into business case and procurement
1.3	Poor project management (time, budget, specification)	1	4	**4**	Ensure robust procedures are available to use Audit the use of project management procedures
1.4	Poor budget management	1	4	**4**	Ensure robust procedures are available to use Audit the use of budget management procedures
1.5	Failure to optimise investment decisions	1	4	**4**	Ensure robust procedures are in place Audit the use of project commissioning procedures
1.6	Poor governance and decision making has a negative impact on delivery timescales	1	4	**4**	Ensure robust procedures are in place Audit the use of project management procedures
1.7	Insufficient contingency planning and disaster recovery	1	4	**4**	Develop an Emergency Response Plan

	2. Partnerships				
2.1	Failure to deliver better integration between bus services and between transport modes	4	5	**20**	Implement Bus Quality Contracts / Partnerships
2.2	Lack of understanding of LTP3	3	4	**12**	• Work with partners to ensure wide understanding of LTP3
2.1	Stakeholders lose confidence in delivery partners	1	4	**4**	• Increase partnership working • Provide feedback on progress

	3. Acceptability				
3.1	Lack of buy-in to proposals	3	4	**12**	• Ensure that decision makers are fully briefed
3.2	Customers lose confidence in delivery partners	2	4	**8**	• Ensure that customers are fully engaged

	4. Procurement				
4.1	Suppliers go out of business	3	4	**12**	• Ensure procurement processes are robust
4.2	Suppliers do not deliver to specifications	3	4	**12**	• Ensure procurement processes are robust

	5. Monitoring / Feedback				
5.1	Air quality standards not met	4	3	**12**	• Use monitoring for early warning • Redirect resources as necessary
5.1	Failure to understand customer needs	2	4	**8**	• Continue to engage customers to understand needs • Adapt processes according to the transport user and route hierarchy
5.2	Monitoring methods unsuitable	2	3	**6**	• Follow best practice
5.3	Failure to understand freight needs	2	3	**6**	• Engage with the freight industry

Appendix I.
Glossary

This is a list of technical terminology used throughout this document, with their definitions.

Air Quality Management Areas	A place declared by a District Council where national air quality objectives are not likely to be achieved
Aire Valley	The area defining south east Leeds which is a priority for regeneration; developing housing, jobs and facilities.
Bus Quality Contract	A system of franchising similar to that used in London where the Transport Authority specifies routes, frequencies and fares.
carbon budget	A cap on the total quantity of greenhouse gas emissions emitted over a specified time. Where emissions rise in one sector or area, corresponding falls must be achieved in another.
clockface timetable	A regular timetable to enable people to plan their journey more easily without having to enquire about the train time every time they travel.
demand management	Methods to reduce the number and length of trips at certain times or in certain areas.
eco-settlement	New areas of sustainable and affordable housing that meet zero carbon standards across the development, are resource efficient and provide for a good range of local facilities that can be accessed easily without the use of a car.
growth zones	Locations for new development, housing and employment.
Hub	A place of transport interchange providing easy access to the whole transport network which can include cycle parking, taxi call points and access to car club vehicles, drop off points and at larger locations park and ride facilities.
Integrated Sustainability Appraisal	An assessment of the Plan's impact on the environment, biodiversity, health and equalities.
i-trace	Travel Planning Management Software
ITSO Smartcard	ITSO is a technical specification created to provide interoperability for smart ticketing in public transport, allowing functions such as pre-journey payment and demand forecasting.
Kirklees Strategic Economic Zone	An area of economic activity, development and regeneration on the A62, Huddersfield.
Local Development Framework	A plan created by District Councils outlining the locations and specifications for development in an area.

Local Enterprise Partnership	Cooperation between a number of stakeholders including local authorities business and education sectors with the joint aim of promoting economic growth in an area, focusing on housing, planning and transport.
Local Strategic Partnership	Collaboration between organisations from public, private, community and voluntary sector in a District Council area.
Low Emission Strategies	Adopting and implementing low emission policies and measures e.g. fuels and technologies.
Low Emission zones	Areas or roads where the most polluting vehicles are restricted from entering, via a ban or charge.
motorcycle	In this document, motorcycle is used to describe a 'powered two wheeler', which is defined below.
Multi Area Agreement	Cross boundary District Council partnership working at the regional (e.g. LCR) and sub-regional levels (West Yorkshire)
network management	Operation and procedures which keep the road system running smoothly.
Network Management Plan	A plan which sets out how a District Council meets the conditions set out in the legislated Network Management Duty.
Non-principal classified roads	District Council's B- and C-class roads
Passenger Consultative Committees	An ITA Committee of elected Members and representatives of the travelling public. There is a Committee for every District Council.
Powered two-wheeler	Wheeled motor vehicle, which includes motorcycles and scooters.
principal road network	Major roads that are managed by local authorities rather than the Highways Agency.
Performance or Punctuality Improvement Plans	Actions to tackle the causes of punctuality and reliability problems of bus services.
Regional Growth Fund	A new Government fund for proposals which increase investment, jobs and growth in an area.
Rights of Way Improvement Plan	A plan setting out how to manage and develop tracks and paths that can be accessed by the public at any time. All Rights of Way can be walked on, but some have extra rights to ride a horse, cycle or drive a vehicle.
SMS ticketing	Using the mobile phone texting service to buy and display a ticket to travel.
Sustainable Communities Strategies	A set of goals and actions which District Councils, representing the residential, business, statutory and voluntary interests of an area, wish to promote. An umbrella for all other strategies devised for the area.

Tax Increment Financing (TIF)	A public financing method which is used as a subsidy for redevelopment and community improvement projects. It allows local authorities to borrow funds to deliver enabling infrastructure against the projected income from business rates which would be generated by the future occupiers of the end development.
Tram-train	A light rail public transport system where trams are designed to run both on the tracks of an urban tramway network and on existing railways for greater flexibility and convenience.
Transport Assessments	A process that sets out transport issues relating to a proposed development. It identifies what measures will be taken to deal with the anticipated transport impacts of the scheme and to improve accessibility and safety for all modes of travel, particularly for alternatives to the car
Transport Asset Management Plan	A plan of how the network of highway and public transport assets are managed and maintained
'Travel to Work' Initiative	A project encouraging workplaces to develop travel plans to reduce car use and carbon dioxide emissions.
Urban Congestion Target Plan	The Plan sets out the action being followed across West Yorkshire to tackle congestion on 13 specifically chosen routes. These are monitored as part of the West Yorkshire element of the DfT's Public Service Agreement target
Urban Dynamic Model	A system dynamic based model that uses employment and housing changes to determine future traffic movements and measures jobs and carbon impacts.
Urban Traffic Management Control Systems	A specialist form of traffic management which integrate and co-ordinate traffic signal control over a wide area in order to control traffic flows on the road network.
vehicle actuated signs	Signs which show a display when an approaching vehicle is detected.
West Yorkshire Transport Climate Proofing Plan	A Plan which is being developed to analyse historic weather effects and predicted changes in the weather to determine future risks and impacts to the transport system.

Further information

If you have any queries about this document, or If you would like this information in other formats such as Braille, large print or in audio format (CD / MP3) or in other languages, please contact us:

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