Leeds
CITY COUNCIL

Aire Valley Leeds Area Action Plan
Transport Background Paper Update

Submission Draft
Leeds Local Development Framework
Development Plan Document
September 2016

www.leeds.gov.uk/ldf

Contents

1 Summary

1.1 This report summarises the forecast impacts of the proposed developments in the Site Allocations Publication Draft Plan and Aire Valley Leeds Area Action Plan (Submission Draft) on the transport network in Leeds.

1.2 The population of Leeds is forecast to increase by 14% between 2012-28 and alongside increased car ownership it is considered that this will result in an increase in traffic of between 14-22% across the District. However, at the same time the level of investment in transport infrastructure is increasing substantially.

1.3 Schemes prioritised in the West Yorkshire Plus Transport Fund, together with existing major transport schemes such as City Connect and Kirkstall Forge station, represent an investment of £570M. On top of this, DfT have allocated their £173.5M contribution towards NGT to Leeds for improvements to public transport while Highways England and the rail industry are also investing in additional capacity on the strategic road and rail networks.

1.4 In combination these programmes are being delivered to support the economic growth of Leeds, to provide good alternatives to the private car and to reduce carbon emissions, in line with the objectives of the Local Transport Plan and the Core Strategy.

1.5 In addition, a number of further interventions have been identified to mitigate the forecast impacts of growth at key junctions across the Leeds highway network. It is expected that contributions will be obtained from developers towards the delivery of these interventions, alongside contributions towards schemes within the WYPTF, public transport improvements and cycling and walking schemes, in line with Policy AVL12 of the AAP.

1.6 This report is an updated version of the background paper produced for the Site Allocations Plan (Publication Draft) and Aire Valley Leeds Area Action Plan (Publication Draft) with a greater emphasis on schemes relevant to the Aire Valley Leeds.

2 Introduction

2.1 This report sets out the work undertaken to understand the impacts of the proposed development sites contained within the Site Allocations Plan (Publication Draft) and Aire Valley Leeds Area Action Plan (Submission Draft) upon the transport system of Leeds. It documents the current conditions for travel, provides an overview of planned interventions and a forecast of conditions at the end of the plan period in 2028 if all development is delivered.

2.2 The evaluation assumes that all Identified and Allocated sites in the Plan will be built out by 2028. No sensitivity tests have been undertaken around the delivery timetable.

2.3 The sections below examine the transport changes from a high level, strategic view across the main road network in Leeds. Local issues and appropriate mitigation are assumed to be dealt with via the development control process of transport assessments.

3 Background

3.1 In recent years there has been a step change in devolved decision making affecting the delivery of transport investment across the Leeds City Region. The West Yorkshire Combined Authority (WYCA) was set up in 2014 to manage the £1 billion West Yorkshire Plus Transport Fund and support economic growth. In addition, as a member of RailNorth, WYCA will also be involved with the management of the Northern and TransPennine rail franchises from April 2016 onwards.

3.2 WYCA is currently in the process of developing a Single Transport Plan and an associated Bus Strategy for West Yorkshire. The new plan will be a twenty year vision for developing an integrated transport network that supports the Leeds City Region Enterprise Partnership's Strategic Economic Plan for sustained and healthy economic growth - especially for jobs and housing. The Single Transport Plan will update the current West Yorkshire Local Transport Plan (LTP3) and will set out a step change in the quality and performance of the transport system within West Yorkshire, and our connections with the rest of the UK.

3.3 The Bus Strategy will set out the how local bus services should contribute to the achievement of the growth ambitions set out in the SEP. It will set out required actions relating to integration (fares, ticketing, information and co-ordination), service standards, environmental standards and responsiveness to growth areas (housing and employment) identified in the SEP.

3.4 Transport for the North (TfN) is a new partnership involving the northern city regions, LEPs and Government. In combination with Highways England, Network Rail and HS2 Ltd, TfN is aiming to transform the Northern economy and create a 'Northern Powerhouse' through a long term investment in transport networks and infrastructure.

3.5 These significant changes will enable local decision makers to have a much greater level of control over transport investment, enabling the delivery of the key

pieces of infrastructure required to support the Leeds Core Strategy and accompanying Site Allocations Plan.

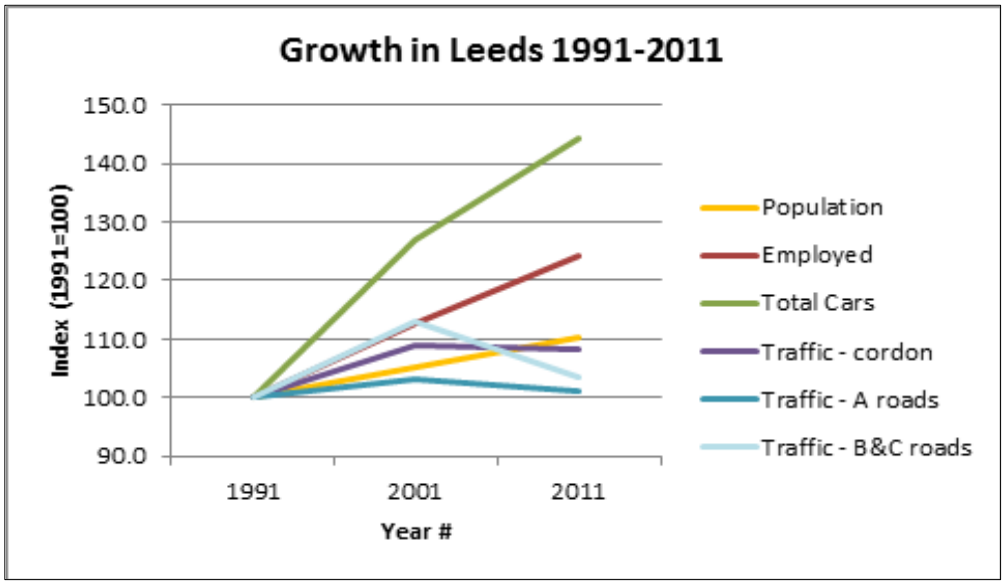
4 Historic Trends and Current conditions

4.1 The Core Strategy housing allocations represents a significant increase in population for Leeds District of around 14% between 2012 and 2028[1]. Past trends in Leeds, however, show that despite significant increases in population, employment and car ownership, traffic growth has not been as great.

4.2 Figure 1 shows that over the twenty years from 1991 the population of Leeds grew by 10%, the number of employed residents by 24% and the number of cars by 44%. However, all day traffic levels over the same period grew by only 8% on radial roads approaching Leeds city centre, while growth on a sample of A, B and C roads across the District was less than 5%.

4.3 An examination of peak traffic levels on radial routes approaching the city centre shows that the trend has been more marked with peak hour flows actually falling and peak period flows increasing by less than all day traffic. These changes reflect greater flexibility in the labour market, the growth of part time jobs, a shift away from the traditional 9-5 working day and the consequent growth in peak spreading. Figure 2 shows morning peak traffic levels since 1990.

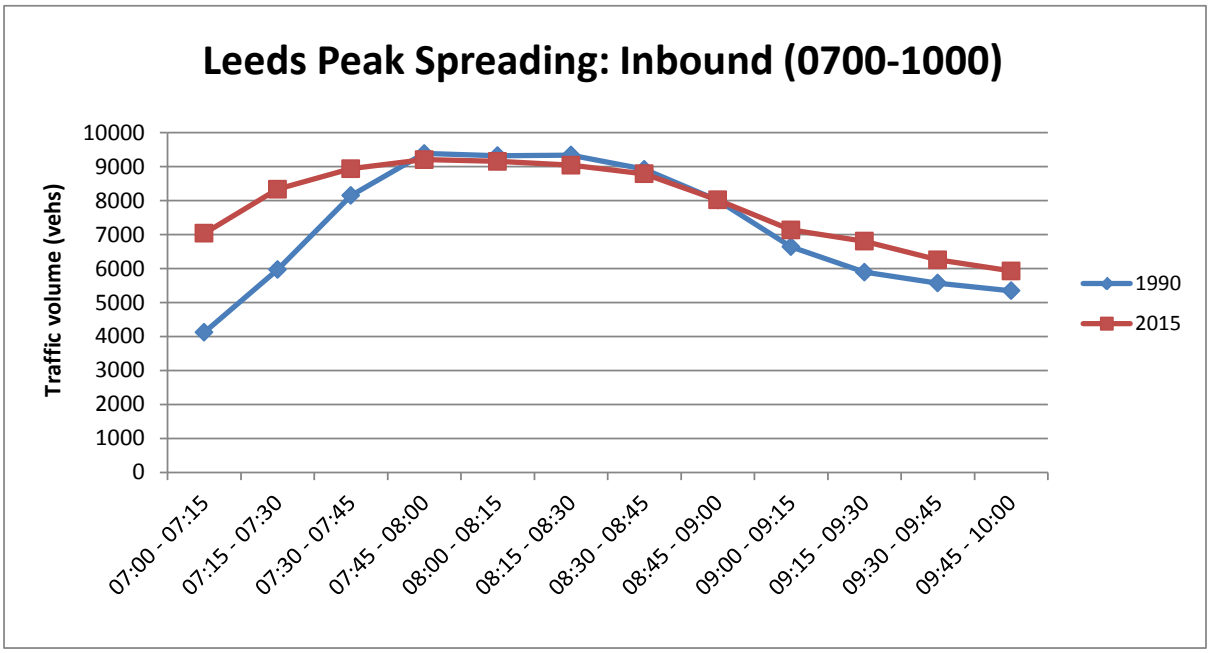
Figure 1



Source: Census, Leeds Central Monitoring Cordon and LCC Note 13.
Note cordon data relates to 1992, 2002 and 2012 as data not available for all years.

[1] From 757,655 (2012 mid-year estimate)(ONS) to 860,618 (Core Strategy forecast for 2028)

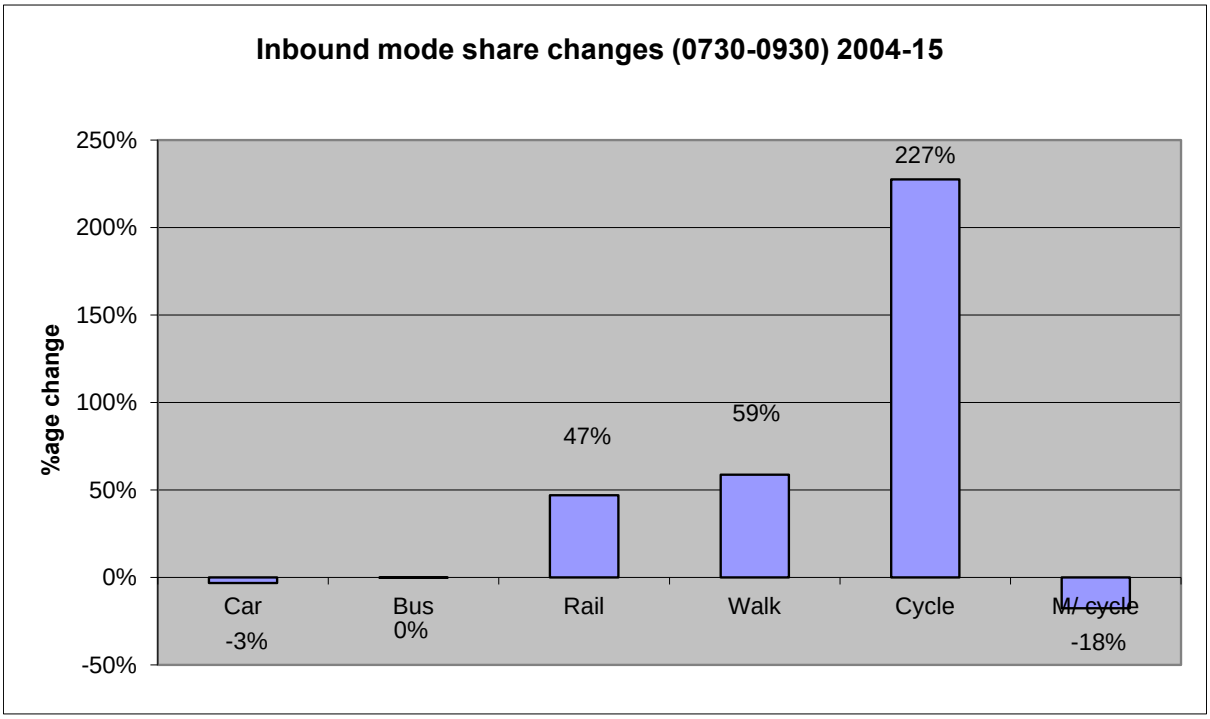
Figure 2



Source: Leeds Central Monitoring Cordon

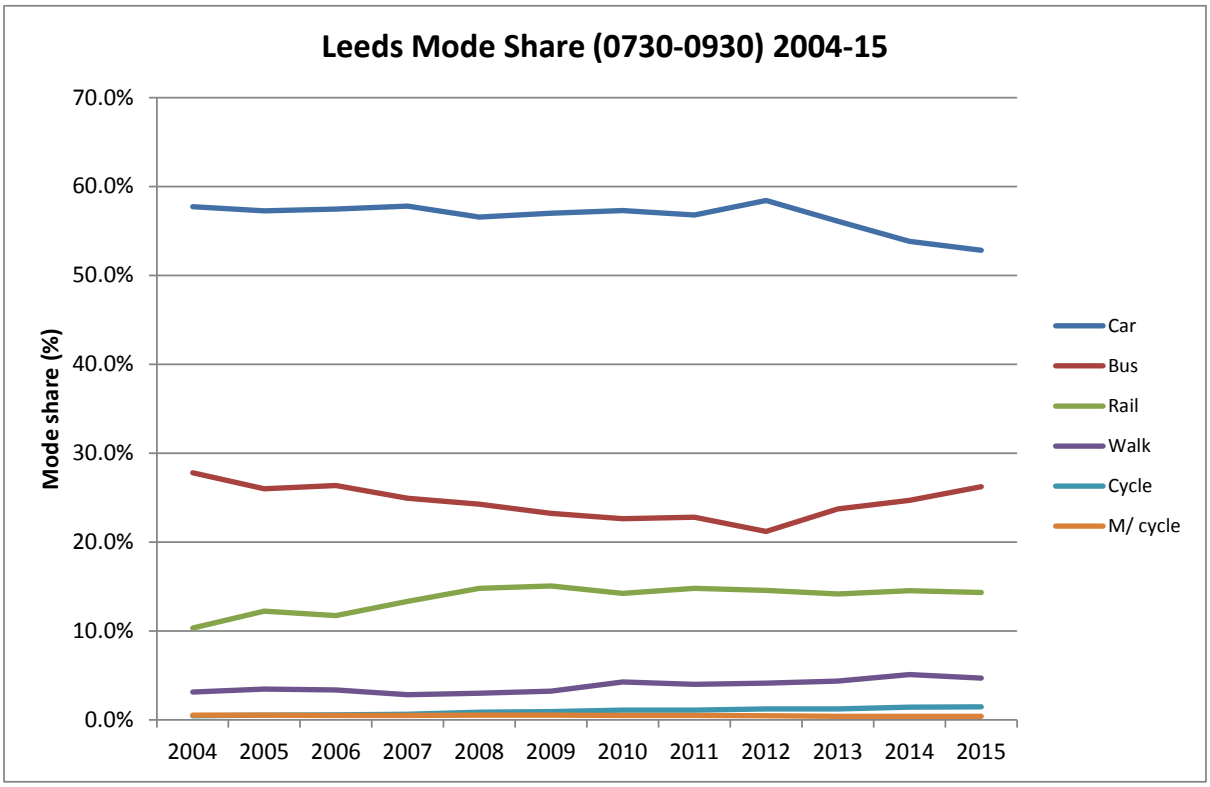
4.4 Over the past decade modal split surveys covering morning peak period journeys approaching the city centre show that there has been a significant growth in cycling, walking and rail usage, while car and motorcycle usage has fallen. Bus patronage declined steadily up to 2012 but has been increasing since then – see Figures 3 and 4.

Figure 3



Source: Leeds Monitoring Cordon Mode Split Surveys

Figure 4



Source: Leeds Monitoring Cordon Mode Split Surveys

4.5 Although car remains the principal mode it should be noted that not all the journeys recorded here are to the city centre as many vehicles use the inner ring road and M621 to travel to other destinations within the city. Census data shows that between 2001 and 2011 car commuting to the city centre fell in absolute terms by 9% although the number of people working there rose by 4%.

4.6 One key trend in terms of the city centre has been the growth in city centre living. Although not everyone who lives there works in the city centre, the majority of residents travel to work by sustainable modes so that only 24% travel by car compared with 65% across Leeds District[2].

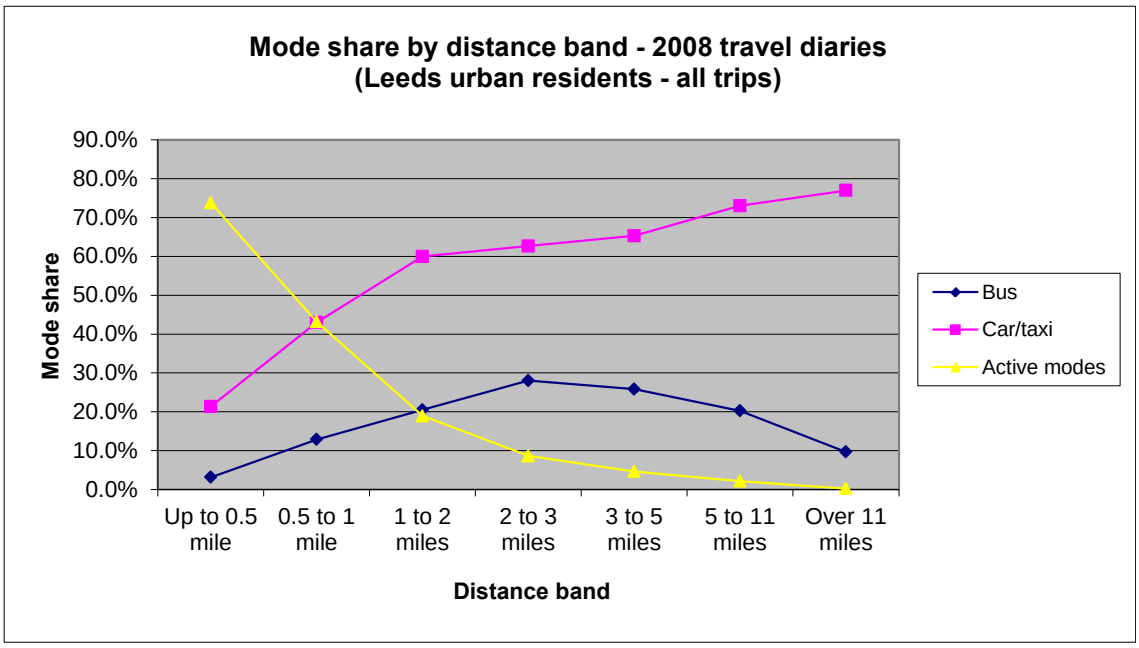
4.7 As a major city within a wider city region Leeds' transport activity reflects the many employment options available to residents. Analysis of census data[3] shows that 25% of Leeds residents (with a fixed place of employment) work outside the District and that 31% of people working in Leeds travel in from outside. This rises to 37% for those working in the city centre.

4.8 Within Leeds District 20% of residents either work at/from home or stay within their own ward; 18% work in the city centre. A very significant proportion therefore are travelling either to another ward within Leeds or outside the District. Catering for these journeys by sustainable modes is challenging and this is reflected in the high car mode share for these trips (75%).

[2] 2011 census QS701EW (excludes those working at/from home). City centre covers those living inside IRR.
[3] 2011 census WU03EW

4.9 Like other urban areas in the UK a high proportion of journeys made by Leeds residents are relatively short. Surveys in 2008 covering the main urban area of Leeds revealed that almost half (48%) were less than 2 miles and 72% were less than 4 miles. A high proportion of these short journeys are made by car as illustrated in Figure 5.

Figure 5

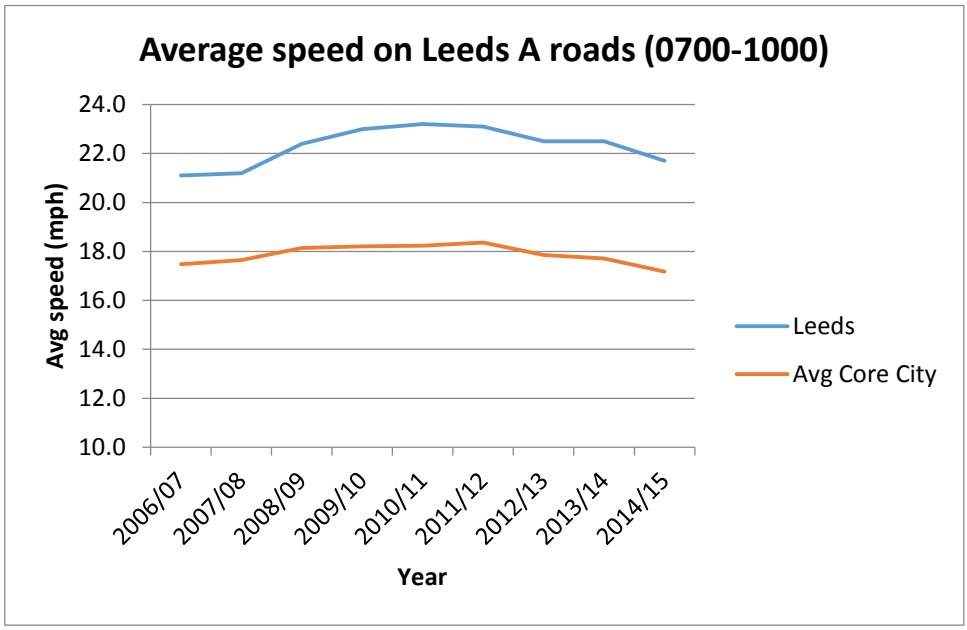


Source: Transport for Leeds Travel Diaries (2008)

4.10 The Department for Transport (DfT) provide all local authorities with data on vehicle travel times that has been collected from vehicles with GPS devices. This information is currently supplied to the DfT by TrafficMaster and allows average journey times and speeds to be analysed by individual road and time of day.

4.11 DfT published statistics show that average morning peak period (0700-1000) speeds on all local authority A roads in Leeds are faster than other comparable cities in England and have improved by around 3% between 2006-07 and 2014-15. In contrast the majority of other Core Cities have experienced a fall in speeds over this period. See Figure 6.

Figure 6



Source: DfT Cgn0206

4.12 Leeds City Council officers have undertaken a detailed analysis of the TrafficMaster data to derive journey times on radial and orbital routes in Leeds for three academic years: 2009-10, 2011-12 and 2013-14 (weekdays excluding school holidays). This shows that the routes consistently experiencing the highest levels of peak hour congestion (in terms of delay/km) are the A660, the A65 (between Rawdon and the Inner Ring Road) and the A61 (N), alongside the A62 and A657/A647 for inbound am peak journeys and the A61(S) and A65 (Rawdon to Menston) for outbound pm peak journeys.

4.13 When average peak hour journey times are compared with daytime free flow conditions congestion adds at least 80% to travel times on these routes – see Table 1 below. Across the whole urban main road network (excluding the M621) in 2013-14 congestion added 70% to journey times on inbound radial routes (0800-0900) and 68% to outbound radials (1700-1800).

Table 1 - Routes where peak hour congestion adds 80% or 1 min / km to journey times (2013-14)

Route	Congestion Delay (%)		Congestion Delay (mins / km)	
	0800-0900 inbound	1700-1800 outbound	0800-0900 inbound	1700-1800 outbound
A61 (N)	Over 90%	Over 100%	Over 1.2	Over 1.3
A61 (S)		100%		Over 1.3
M621 (E)		Over 140%		
A643			Almost 1.2	
M621 (W)	Over 120%			
A62	Over 110%		Over 1.6	
A58 (S)			Almost 1.0	
A647	Over 80%		Almost 1.0	
A657/A647	Almost 80%		Over 1.2	
A65a #				Over 1.0
A65b ##	Over 100%	Over 80%	Over 1.6	Over 1.2
A660	Over 80%	Over 120%	Over 1.4	Over 2.0
Inner RR Anti-clockwise		Almost 100%		Over 1.2

Notes: # Menston to S of Rawdon; ## Rawdon to City Centre. A61 (S) and M621 (E) affected by M1 Smart motorway construction.

4.14 Using the same journey time data, junctions that are seen as congestion hotspots have been analysed to gauge the current levels of delay. 96 sites were examined using the 2011-12 data for weekday morning and evening peak hour delays as well as 12 hour delays from 7am to 7pm. It should be noted that since this analysis was carried out improvement schemes have been undertaken at several of the junctions, including M1 junction 44, however, at the time of writing a full set of post-scheme data is not available to allow the impacts to be assessed.

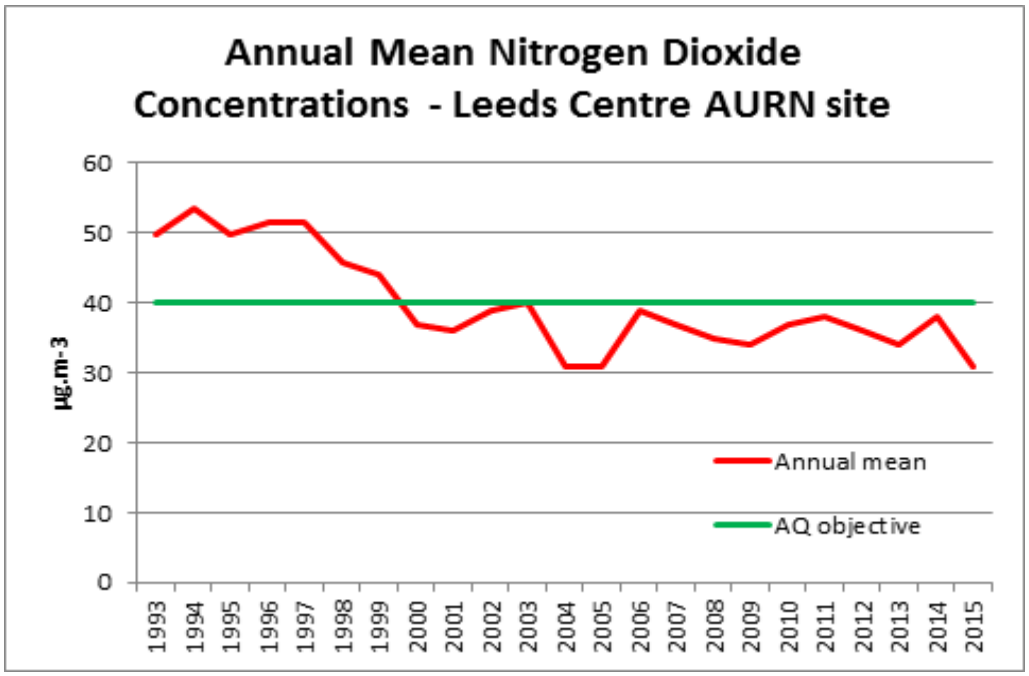
4.15 Figure 7 shows the location of the sites, highlighting those with the greatest levels of delay. The majority of these junctions are within the main urban area of

Leeds. Sites marked in orange 'with notable delays' have at least one approach with more significant delays than the other legs of the junction. In the main, junctions within the city centre were not assessed.

4.16 Carbon emissions across the local authority road network are estimated annually by the government. This shows a sustained downward trend in recent years in Leeds District and across West Yorkshire. The most recent data shows that between the peak in 2007 and 2013 carbon emissions due to traffic on local roads fell in Leeds by 15% and in West Yorkshire by 14%. These changes are in line with national trends.

4.17 Results from the city centre monitoring site for nitrogen dioxide (NO2) show that background air quality improved significantly during the 1990s but there has been little change since 2000 (Figure 8). Although background concentrations are unlikely to exceed EU Directive or UK AQ Regulation objectives, air quality remains a concern. Currently, there are six Air Quality Management Areas in Leeds (where residential properties close to heavily trafficked roads are exposed to concentrations of NO2 in excess of the AQ objective) and there are parts of the city failing to meet the EU Directive for NO2. As a consequence DEFRA has identified Leeds as one of five cities where Clean Air Zones will be required by 2020. In addition, while the standards set for particles (PM10 and PM2.5) are achieved; any reduction in these pollutants will have health benefits for the whole population.

Figure 8



Summary of significant trends:

- Traffic growth over the past two decades has consistently been significantly less than growth in car ownership and employment;
- Peak spreading and changes in employment patterns mean that peak hour flows on radial routes around Leeds city centre are lower now than in 1990;
- Rail and cycling levels have risen significantly over the past decade;
- Bus usage has fallen, however, there are signs of growth since 2012;
- A significant proportion of Leeds residents work outside Leeds District and equally a high proportion of jobs in Leeds are undertaken by people commuting into Leeds;
- Almost half of all the journeys made by residents within urban Leeds are less than 2 miles long;
- Morning peak traffic speeds on A roads across Leeds are faster than in other Core Cities, however, on the most congested radials journey times are twice as long in the peak as at other times of the day;
- Carbon emissions due to transport on Leeds' roads have fallen since 2007, however, previous falls in NO2 emissions have levelled off and there has been no improvement since the year 2000.

Figure 7 - Leeds Congestion Hotspot Junctions (2011-12)

Leeds Junction Analysis (2011-12)

N

Legend

Combined Rank

- Top 30
- Ranked 31-70
- With notable delays
- Other assessed junction
- Leeds Boundary

5 Strategy

5.1 Core Strategy Spatial Policy 11 provides a strategic framework for the delivery of new transport infrastructure across Leeds in line with the objectives of LTP3 and the Leeds City Region Transport Strategy. Specifically the delivery of schemes to enhance radial public transport, including rapid transit and park and ride, and targeted highway improvements to expand orbital capacity and target congestion hotspots. Interventions to improve access to the Aire Valley and Leeds Bradford international Airport are also included, as well as measures to support new developments and improve connectivity for cyclists and pedestrians.

5.2 SP11 also references interventions to address the needs of people with impaired mobility, improve road safety, address accessibility and support low carbon technologies. Lastly the policy supports the delivery of HS2 and the substantial connectivity enhancements that it will deliver in the longer term.

5.3 Transport Policies T1 and T2 contain measures to manage travel demand by the use of travel plans, the control of parking, requirements for developments to be located in accessible places and to contribute to infrastructure to mitigate their impacts and ensure that developments do not materially add to existing problems

5.4 The aim of the strategy is to provide choice and ensure that suitable alternatives to the private car are available – in particular for journeys to local services, education, employment, shopping and to the city centre – and to therefore increase the proportion of these trips made by sustainable modes. As shown earlier, the relatively high car mode share for many short journeys means that there is significant scope for increasing the use of walking and cycling; equally the high public transport accessibility of the city centre (together with planned improvements) should ensure that car usage can be reduced.

5.5 For travel to work the diversity of destinations outside the city centre makes it hard to cater for direct travel to these locations by public transport (unless residents live on the route of a direct bus or train service) and therefore it is important that they are linked directly to major public transport interchanges (such as the city centre) to facilitate these journeys. This is reflected in the Accessibility Standards in the Core Strategy. It is nevertheless recognised that for many people car will remain the primary mode for a high proportion of these journeys and therefore the provision of additional orbital highway capacity will be a key outcome of the strategy.

5.6 The Leeds Parking Supplementary Planning Document (SPD) provides more detail on Core Strategy Policy T1, including parking standards for new developments and the control of public long stay commuter parking in the city centre.

5.7 City centre living forms an important component of the spatial distribution of the housing locations in Leeds with a planned 11,974 dwellings being allocated to the city centre in the Site Allocations Plan. Of these, 3,269 fall within the Aire

Valley AAP area[4]. Census data shows that although not all city centre residents chose to work in Leeds city centre, the availability of good alternatives to the private car means that the vast majority (76%[5]) use sustainable modes to travel to work.

5.8 It has long been recognised that the interaction of transport and land use can have a significant effect on travel patterns. Thus delivery of significant infrastructure can encourage people to move to the local area to make use of the new facilities to access employment elsewhere. Historically rail investment around London lead to the growth in commuting. It has been estimated that people on average change jobs every 3 years and move home every 7 years – this means that there is significant scope for individuals and families to change their travel patterns during this process. It is considered that investment in sustainable modes such as buses, park and ride and rail will in turn have an effect upon local travel in and around Leeds and Leeds City Region.

6 Transport Interventions

Local Projects

6.1 The first West Yorkshire Local Transport Plan (LTP) was adopted in 2001 and since then investment in local transport has been guided by the strategies and policies within the plan and its two successors. The current plan (LTP3) runs from 2011-26. As highlighted in section 3 the WYCA is in the process of creating a Single Transport Plan that will update and incorporate LTP3.

6.2 A number of key interventions have been delivered in Leeds in recent years to address existing problems and to cater for future travel demand resulting from a growing economy. Key amongst these was the completion of Leeds Inner Ring Road in 2008; the opening of the A63 East Leeds Link Road in 2009; the delivery of the A65 Quality Bus Corridor in 2012; and the opening of the 800 space park and ride site at Elland Road in 2014. To the west of the city, works to signalise three key roundabout junctions at Thornbury Barracks, Rodley and Horsforth were completed during 2015 and two new rail stations, with associated park and ride, were completed at Apperley Bridge and Kirkstall Forge in 2015 and 2016 respectively. Within the city centre a new southern access to Leeds rail station was opened in early 2016.

6.3 The majority of these interventions are of particular relevance to the Aire Valley Area Action Plan area:

- The Inner Ring Road scheme, in combination with the M621, for the first time completes a full ring road around the city centre allowing through traffic to pass around it and providing a direct link between the A63 East Leeds Link Road and the M621. Future plans for the city centre, described below, will build upon this to remove through traffic and enhance the urban realm and local environment so that the city is better able to attract new investment.

[4] Site Allocations Plan Consultation Outcomes & Proposed Changes - Development Plan Panel 14 June 2016
[5] 2011 census QS701EW (LSOA within Leeds IRR, excludes those working at/from home)

- The A63 East Leeds Link Road (ELLR) provides a dual carriageway link through the Aire Valley between the city centre and the M1 to the east. This scheme therefore forms a key component in opening up the Aire Valley to investment in employment and housing, and supporting the Local Enterprise Zone. Plans are already well advanced to open a 1000 space park and ride site adjacent to the ELLR in 2017 (see below).

- The A65 Quality Bus Corridor (QBC) has significantly enhanced bus priority on this major radial route, complementing previous investment on the A61 Scott Hall Road and the A64 and A63 in east Leeds. The provision of good local bus services that are insulated from future congestion by priority measures is an important component of the city's transport strategy and will be key to the future growth of the city centre.

- Although rail based park and ride is common across West Yorkshire, Elland Road represents the first major investment in bus based park and ride in Leeds. Following its opening in 2014 the original 400 surfaced spaces are currently being expanded to 800, reflecting the success of the site. Providing a good alternative for car commuters to reach the city centre is key to reducing traffic levels on congested radial routes and improving the environment within the city centre.

- The Leeds Station Southern Entrance scheme provides a new entrance to the City Station from the Holbeck/South Bank area. This will directly support the Core Strategy's employment and residential growth plans for the city centre, and by enhancing rail connectivity forms a key element of the emerging city centre transport strategy.

- Leeds Rail Growth Package comprises two new stations with associated car parks on the electrified Airedale and Wharfedale lines. Apperley Bridge station provides an alternative option for travel to Leeds city centre (and other wider destinations) from the north west of Leeds and communities to the north east of Bradford and alongside Kirkstall Forge station will work to relieve traffic levels on the A65 Kirkstall Road.

6.4 As a city Leeds has a good track record of delivering major transport schemes however, this has to some extent been constrained by the need to seek government funding on a project by project basis and the lengthy timescales involved in gaining approval. Recent significant changes in government policy has led to the City Deal, the creation of the West Yorkshire Combined Authority, RailNorth and Transport for the North. These changes will facilitate more local decision making and in combination with the West Yorkshire Plus Transport Fund will result in a significant increase in investment and a more streamlined delivery process.

6.5 The £1 billion West Yorkshire Plus Transport Fund comprises £600m of Government funding over 20 years, £183m of other devolved transport funding previously secured through the City Deal and local contributions. It will underpin growth by improving the City Region's roads and railways and connecting people to jobs and goods to markets seamlessly.

6.6 Managed by the West Yorkshire Combined Authority (WYCA), the fund will be targeted at reducing congestion, improving the flow of freight and making it easier for people to commute to and from expected major growth areas. A package of transformational transport schemes which meet the WYCA and the LEP's aims of supporting economic growth has been identified and includes a number of major projects in Leeds. Four of these have been prioritised for early implementation: East Leeds Orbital Route and Outer Ring Road junction Improvements; A65-Airport-A658 Link Road; Leeds City Centre Package; and Aire Valley Temple Green Park and Ride.

6.7 The WYPTF projects will build upon other major schemes that are being delivered through direct investment by the Department for Transport, Highways England and Network Rail. These include: the City Connect cycle superhighway (DfT/LTP); M1 Junction 45 phase 2 improvement and M621 Junctions 1-7 improvements (Highways England RIS schemes); and TransPennine electrification (Network Rail).

6.8 In total these schemes represent a substantial investment in the city's transport infrastructure that will act as a catalyst and driver for Leeds and the City Region's economic growth and regeneration. All the schemes are in line with the transport infrastructure investment priorities specified in Core Strategy Spatial Policy 11 and again the majority are key to facilitating development in the Aire Valley:

- East Leeds Orbital Route (ELOR) is a proposed dual carriageway road from M1 Jn 46 to the A6120 to the west of the A58 Wetherby Road. The southern section of this route – Manston Lane Link – is to be provided by the Thorpe Park development. This scheme is directly tied to the East Leeds Extension housing proposals and will provide direct traffic relief to the existing outer ring road through Cross Gates and Seacroft. In addition to ELOR, improvements to five junctions on or adjacent to the A6120 are also contained within this package (A6120/King La; King La/Stonegate Rd; A6120/A61 Harrogate Rd; A61 Scott Hall Rd/Harrogate Rd and A6120/Roundhay Park La). In combination with ELOR these schemes form part of the Council's proposals for enhancing orbital highway capacity on the outer ring road and will thereby improve accessibility to the Aire Valley from the north of the city.

- Leeds City Centre Package is a key component of the emerging city centre transport strategy. The proposed scheme will provide additional orbital capacity on the inner ring road (specifically at Armley Gyratory) and, in combination with Highway England's RIS scheme, to the M621 to facilitate orbital movements and to enable traffic levels to be reduced within the city centre. To support this it is proposed to close City Square to general traffic and to reduce the scale of highways within the South Bank, reallocating road space to pedestrians, cyclists and public transport. The growth in city centre living and employment contained within the Core Strategy and Aire Valley Leeds AAP will require a new approach to the transport networks and urban realm to accommodate the greater levels of walking, cycling and public transport use associated with this growth. The emphasis here is to

significantly enhance the city centre as a place and reduce the dominance of highway infrastructure. The scheme is a key project to enable the city to be HS2 ready and will complement the proposals to increase rail usage, the Council's plans for park and ride and the enhanced cycling network contained within City Connect.

- The Temple Green Park and Ride proposal is scheduled to be operational by the summer of 2017 and represents the first phase of the Aire Valley Enterprise Zone Package. This scheme will provide a 1000 space car park served by a dedicated bus service to the city centre which will also serve other locations within the Aire Valley. This scheme, in combination with the Council's other park and ride proposals, is a key element in supporting the growth of the city centre as well as directly enhancing public transport connectivity to the Enterprise Zone.

- The City Connect Cycle Superhighway scheme will provide 23km of segregated cycle superhighway connecting Bradford to East Leeds via Leeds city centre, upgrades to the canal towpath between Kirkstall and Shipley and additional city centre cycle parking. The western section of the scheme opened in June 2016 with the eastern section opening planned for late summer 2016. The superhighway element represents a significant step change in provision for cycling and is expected to build upon the significant growth in cycling in Leeds in recent years. In addition further funding has been awarded for a second phase covering works in and around Leeds city centre, including links to the South Bank, with delivery planned during 2018. These schemes will directly support the increased use of sustainable modes across the city as well as the emerging city centre transport strategy.

- Highway England's Road Investment Strategy (2015/16-2020/21) contains proposals to improve capacity at M1 junction 45 and on the M621 between junctions 1 and 7. The M621 interventions form a key component of the Leeds City Centre Package and Leeds City Council are actively working with Highways England to ensure that delivery of these projects is coordinated. Works at M1 junction 45 are expected to start in 2017.

- The proposals for TransPennine electrification will deliver faster journey times and significantly more capacity between Manchester, Leeds and York. The upgrade is expected to provide capacity for 6 fast or semi-fast trains per hour, take up to 15 minutes off today's journey time between Manchester and York and be complete by 2022. When the work is finished, the whole route from Liverpool to Newcastle (via Manchester, Leeds and York) will be fully electrified and journey times will be significantly reduced compared to the current situation.

6.9 Plans for the New Generation Transport (NGT) trolleybus system have now been abandoned following the Secretary of State's decision in May 2016 not to approve the powers for the 14.8km scheme following a public inquiry. Within the Aire Valley the system was planned to run from a park and ride at Stourton into Leeds city centre via Belle Isle, Hunslet, Leeds Dock and Brewery Wharf.

The cancellation of the scheme also affects the proposals in the WYPTF fund for a future extension to directly serve the Aire Valley Enterprise Zone and Temple Green park and ride.

6.10 Nevertheless, the DfT have allocated their planned £173.5M contribution to NGT towards public transport schemes in Leeds and the Council will be submitting a strategic case to DfT in the autumn of 2016. In combination with allocated funding for other major projects and the WYPTF schemes this represents a total planned investment in local transport of over £740M.

6.11 Following the cancellation of the NGT scheme, Leeds City Council has instigated an extensive engagement and conversation on the future direction of transport provision across the city which includes reviewing and considering the measures for those corridors which were covered by the NGT proposals. The provision of a priority route and park and ride at Stourton remains an aspiration and is being considered within the overall review.

6.12 In addition to the interventions outlined above, a further group of Leeds projects have been prioritised within the West Yorkshire Plus Transport Fund as well as a number of other schemes where a proportion of the investment will have a direct role to play in facilitating the economic growth of the city. Of particular relevance to the Aire Valley are:

- Aire Valley Enterprise Zone Package Phase 2 – provision of a new north-south cross river link road between B6481 Pontefract Rd and A63
- East Leeds Parkway – strategic rail park and ride site east of Leeds
- Leeds City Station Gateway – enhancements to public realm and accessibility in line with the emerging station masterplan
- Rail Park and Ride Package – 2,000 additional spaces at stations across West Yorkshire (including Horsforth, Morley and Garforth) to accompany DfT investment in additional rail capacity.

<u>Strategic Road Network Projects</u>

6.13 Significant investment in the Strategic Road Network (SRN) by Highways England (formerly the Highways Agency) has also been undertaken in recent years and will continue through their Route Strategies. Key interventions comprise:

- M62 Smart Motorway Upgrade (Jn 25-30) – open autumn 2013
- M1 Jn 44 pinch point scheme – open spring 2015
- M1 Smart Motorway Upgrade (Jn 39-42) – open winter 2015/16
- M1 Jn 45 improvement – start on site 2017

- M621 (Jn 1-7) localised improvements and widening – start on site by 2020 (elements of this form part of the Leeds City Centre Package as described above)

- M1/M62 Lofthouse Interchange reconstruction (2020-25)

Rail Investment

6.14 New rail franchises for the Northern and TransPennine services started on 1 April 2016 and will be managed jointly by a RailNorth / DfT partnership team based in the North of England. RailNorth is a Limited Company set up by the 29 Local Transport Authorities in the north of England, including the West Yorkshire Combined Authority. The Northern franchise will run for nine years with the option of a one year extension. The TransPennine franchise will run for seven years with the option of a two year extension.

6.15 As shown earlier, there has been a substantial growth in rail travel in recent years and the industry is now planning for further growth into the future. This is reflected in the requirements for the new franchises which require the provision of additional capacity for travel into and out of Leeds during the peak periods. Rail commuters into Leeds will benefit from a 52% increase in the number of seats in the morning peak on TPE trains, and a 40% increase in the number of passengers that can be carried on Northern trains by the end of 2019[6]. This is equivalent to capacity for an additional 13,000 passengers – a 50% increase above current (Autumn 2015) levels[7]. This will be rolled out over a number of years with the Dec 2017 timetable bringing additional capacity for some 2,200 passengers. Further capacity expansion requirements are expected through the DfT High Level Output Specification for 2019-24.

6.16 The franchises will deliver over 500 new-build carriages, including brand new high spec 125mph intercity bi-mode trains (that run on both diesel and electric) for TransPennine Express, and a mix of new electric and diesel units for Northern. The Pacer units currently in use on the Northern network will be completely phased out by 2020. Trains will be longer with more seats, particularly on the most crowded routes into the North's largest cities. Northern stations will be improved, with at least £30 million of investment across the franchise.

6.17 In addition to these changes, Network Rail are working in parallel to increase the proportion of the electrified rail network within West Yorkshire. Electrification of the TransPennine route from Manchester to Leeds and York, along with the line from Leeds to Selby, was announced in 2011. Completion of these works is expected by 2022.

Transport for the North

6.18 Transport for the North (TfN) is a new partnership between northern city regions, LEPs and Government working closely with Highways England,

[6] Rail North briefing note and Franchise Agreements

[7] DfT annual survey shows 26,467 passenger arrivals at Leeds (0700-1000)(RAI0201).

Network Rail and HS2 Ltd. The Partnership's aim is to transform the Northern economy through the long term investment in transport networks to create the 'Northern Powerhouse'. TfN will allow the Northern cities to speak with one voice about our future vision and to be clear with Government about where investment is needed.

6.19 Transport for the North is on its way to becoming a statutory body. The following covers the current aspirations:

- Rail – a Northern Powerhouse Rail network connecting the northern cities, alongside the full HS2 Y shaped network which should be delivered as soon as possible. For the Leeds/Manchester/Sheffield triangle, journey times of 30 minutes between the 3 cities are envisaged including looking at new route options across the Pennines.

- Highways – a core free flowing east-west motorway network with a 'mile a minute' typical journey times for more reliable journeys between the major cities. This plan draws on Highways England's Roads Investment Strategy (RIS1) which includes upgrading the M62 to 4 lane 'smart' motorway between Leeds and Manchester and tackling hotspots around the M621. Strategic studies into upgrading key trans-Pennine road links that could relieve pressure on the M62 will be undertaken for the A66/A69 and a new road/tunnel link between Sheffield and Manchester. TfN will produce its prioritised investment proposals for the second Road Investment Strategy (2020 to 2025) for the North of England, working with the Department for Transport and Highways England.

- Smart North is the programme to deliver simplified fares, integrated ticketing, and improved online passenger information across all public transport modes in the North. It was allocated £150m over the life of this Parliament in the 2015 Spending Review.

- International Connectivity is about improving connectivity to the North's international gateways and beyond to global markets is required to support the North's businesses competing on the world stage. TfN's Chair, John Cridland CBE, has launched a Commission of business experts to identify the international connectivity needs of the North, taking into account the needs of key capabilities and the opportunities arising in global markets.

- TfN is working to identify the interventions to improve strategic freight connectivity and local connectivity to the strategic network that will support the overall Northern Transport Strategy.

<u>Additional Schemes Arising Directly from the Site Allocations</u>

6.20 In order to inform the Plan site requirements the Leeds Transport Model (LTM) has been used to forecast future highway conditions in 2028. The model tests included all the residential and employment sites contained within the Site

Allocations Plan (Publication Draft)[8] and Aire Valley Leeds AAP (Submission draft). Since this assessment was originally undertaken the modelling has been updated to reflect the cancellation of NGT and the outcome of further scheme feasibility work on schemes in the WYPTF. This analysis has led to the identification of a number of transport interventions that are likely to be required during the Plan period. These mitigation measures are deemed to be key schemes to facilitate the delivery of the housing targets. Once feasibility studies have been completed for these junctions a clearer picture of the scale and cost of these interventions will be available. At this stage, however, it has not been possible to model the schemes and assess the cumulative impact on the wider network.

6.21 Figure 9 shows these identified interventions, together with other major transport schemes, the planned WYPTF schemes and those from Network Rail. In line with Policy AVL12 in the Aire Valley Leeds AAP, contributions towards these schemes will be sought from developments where these are appropriate and directly related to individual sites.

Clean Air Zone

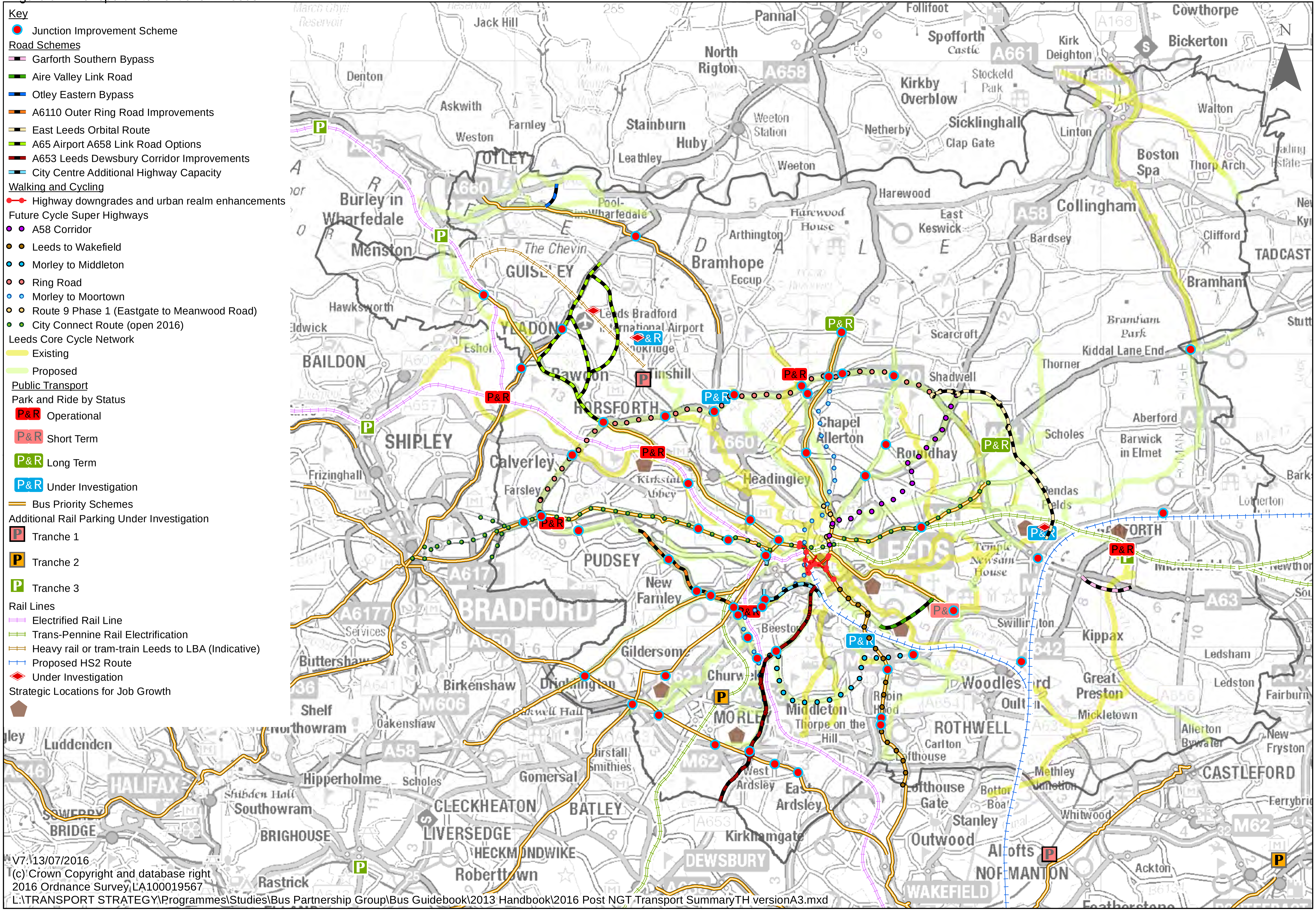
6.22 In December 2015 the Government announced plans to introduce Clean Air Zones (CAZ) in Birmingham, Leeds, Nottingham, Derby and Southampton by 2020. These Zones will not affect private car owners, but will see the most polluting vehicles, like old buses, taxis, coaches and lorries, discouraged from entering the zone through charges.

6.23 The Clean Air Zones will be targeted at areas of each city where the air quality problem is most serious. These Zones will reduce the pollution in city centres and encourage the replacement of old, polluting vehicles with modern, cleaner vehicles. In Leeds one of the main area of concern is the inner ring road, in particular the western section adjacent to Armley Gyratory. Leeds City Council is actively working with DEFRA to assess the situation and to develop a proposition for a CAZ.

6.24 Model tests have been run containing the majority of the major interventions described in the previous sections, including a number of the WYPTF schemes (where sufficient information is available to define them in the model). Once feasibility work has been completed it is planned to run a full Do Something test to show the forecast impacts of the Plan and supporting transport investment.

[8] At the time of undertaking the tests proposals for the Outer North East HMCA had not been confirmed. The tests therefore assumed a distribution of housing sites across the ONE based on information supplied by LCC Planning rather than the original Headley Hall proposal contained in the Publication Draft SAP.

Figure 9 – Transport Interventions in Leeds



6.25 The model tests indicate that by 2028 all day traffic levels within Leeds will grow by around 22% from 2012 levels with traffic on radials approaching the city centre increasing by 20%. Growth in the peak hours is forecast to be lower than this, with peak hour traffic forecast to rise by around 14% on the same radial routes. These are broadly in line with forecasts from the latest version of the National Trip End Model (NTEM 7.0) which predicts a 22% increase in weekday car traffic in Leeds when the same employment and household growth assumptions are applied[9].

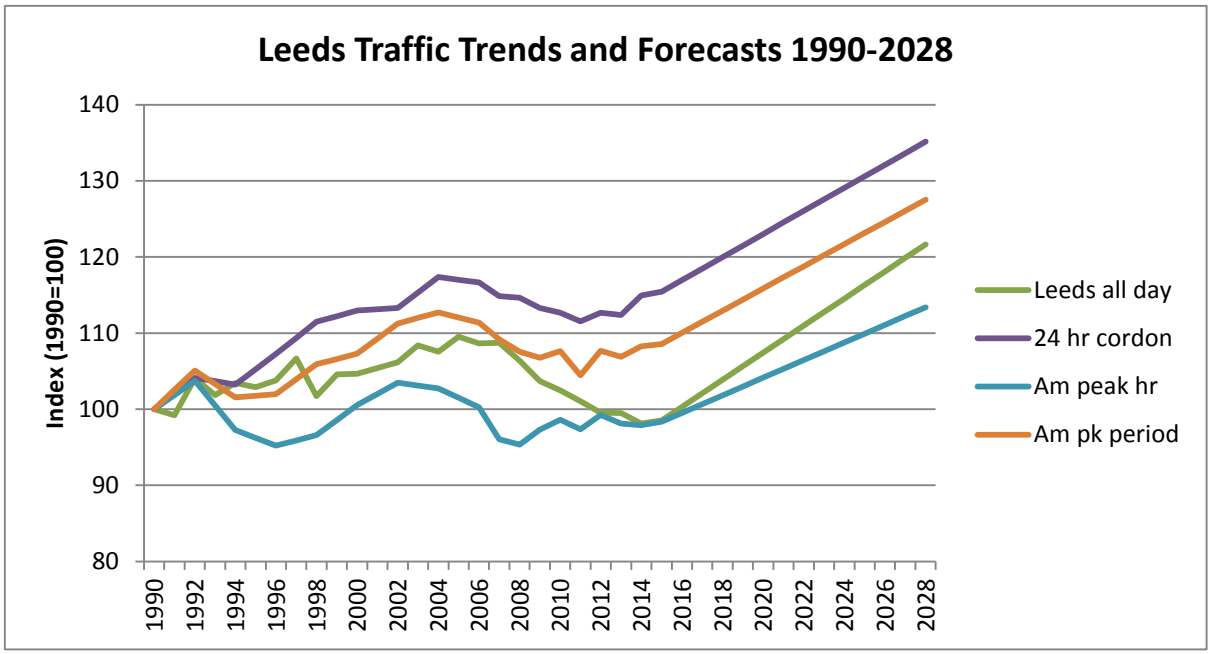
6.26 Historically, traffic growth forecasts at both a national and local level have tended to significantly over estimate growth. For example the previous version of the NTEM (NTEM 6.2) suggested that weekday car traffic in Leeds rose by 26% between 2001-15, when in fact the Leeds Monitoring Cordon around the city centre shows only a 2.5% increase since 2000 (data is not available for 2001). Data from DfT surveys covering A roads across the District shows a similar 2.6% growth in total traffic between 2001-13, and although growth since then has been more significant (11% for 2001-15) the increase nevertheless is less than half of the NTEM forecast. These forecasts therefore need to be viewed with some caution. It is considered that both the model and NTEM forecasts represent very much a worse case in terms of traffic growth, in particular with regards to radial peak hour traffic.

6.27 Figure 10 illustrates this, showing historic traffic from 1990-2015 and the forecast up to 2028. Although the impact of the economic downturn will have influenced traffic levels it is notable that the fall in Leeds commenced several years prior to 2008. It is also worth noting that the historic growth in all day traffic across the Leeds cordon has consistently exceeded the growth in peak period traffic.

6.28 Bearing in mind the past trends, it is considered that weekday traffic growth is likely to grow by at least the rate of population growth (14%) with the forecast of 22% from the Leeds Transport Model representing the upper limit. Peak traffic growth is likely to be less than this and within the main urban area significantly less.

[9] This has been undertaken using the alternative growth assumptions option in Tempro 7. The default NTEM forecast for Leeds is for 14% growth in weekday car traffic alongside lower growth in households and jobs.

Figure 10 – Historic and forecast traffic growth in Leeds (1990-2028)



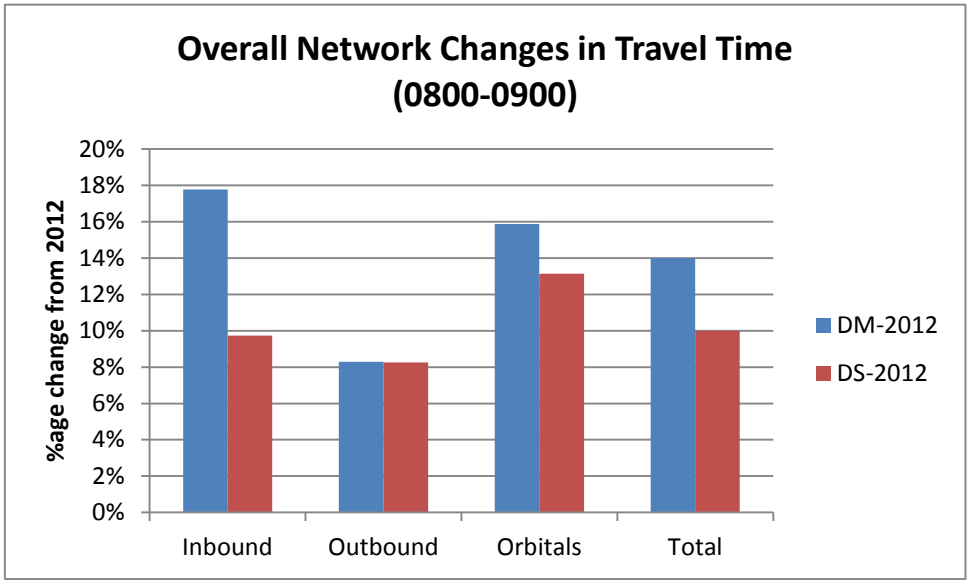
Sources: 24 hr cordon, am peak hr and am peak period – Leeds monitoring cordon (1990-2015); Leeds all day – Note 13 all sites (1990-2015)

6.29 Public transport trips to the city centre are forecast in the Leeds Transport Model to increase by 24% while overall public transport use is forecast to rise by 19%, broadly the same as vehicle traffic.

6.30 Peak journey times are forecast to increase by 2028, however, as Figures 11 and 12 demonstrate the WYPTF and other major scheme interventions, as well as schemes delivered since 2012, will have a significant impact on mitigating the impacts. The figures show the difference between a 2028 Do Nothing scenario where the network only includes schemes in place in 2012 and a 2028 Do Something scenario with the inclusion of planned interventions.

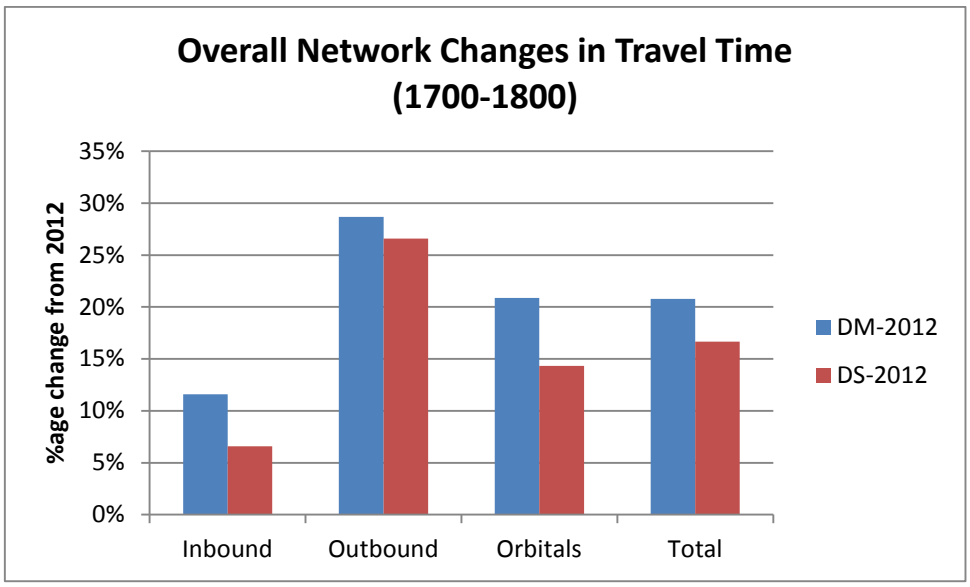
6.31 It should be noted that this analysis does not include the schemes identified during the modelling process, and that therefore the combined impact of all the proposed interventions will be greater. There will nevertheless remain additional congestion caused within Leeds that cannot be effectively mitigated against.

Figure 11 – Forecast changes in morning peak hour travel times between 2012 and 2028 (Do Nothing and Do Something)



Note: Network covers all main radial and orbital A and M roads. DN = 2028 Do Nothing (no changes from 2012); DS = 2028 Do Something (with planned interventions)

Figure 12 – Forecast changes in evening peak hour travel times between 2012 and 2028 (Do Nothing and Do Something)



Note: Network covers all main radial and orbital A and M roads. DN = 2028 Do Nothing (no changes from 2012); DS = 2028 Do Something (with planned interventions)

7 Conclusions

7.1 This report summarises the forecast impacts of the proposed developments in the Aire Valley Leeds Area Action Plan on the transport network in Leeds.

7.2 The population of Leeds is forecast to increase by 14% between 2012-28 and alongside increased car ownership it is considered that this will result in an increase in traffic of between 14-22% across the District. Past trends, however, suggest that traffic growth has tended to be well below forecasts, particularly in the peak hours, and so these figures must be regarded as a worst case scenario.

7.3 Nevertheless a significant step change in transport investment is planned across the city and the wider city region to support the economic growth of Leeds, provide good alternatives to the private car and to reduce carbon emissions. Schemes prioritised in the West Yorkshire Plus Transport Fund, together with existing major transport schemes such as City Connect and Kirkstall Forge station, represent an investment of £570M. On top of this, DfT have allocated their £173.5M contribution towards NGT to Leeds for improvements to public transport while Highways England and the rail industry are also investing in additional capacity on the strategic road and rail networks.

7.4 In addition to these projects, a number of further interventions have been identified to mitigate the forecast impacts of growth at key junctions across the Leeds highway network. It is expected that contributions will be obtained from developers towards the delivery of these interventions, alongside contributions towards schemes within the WYPTF, public transport improvements and cycling and walking schemes, in line with Policy AVL12 of the AAP.

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Leeds
CITY COUNCIL

Aire Valley Leeds Area Action Plan

Transport Background Paper Update

Submission Draft

Leeds Local Development Framework
Development Plan Document

September 2016